

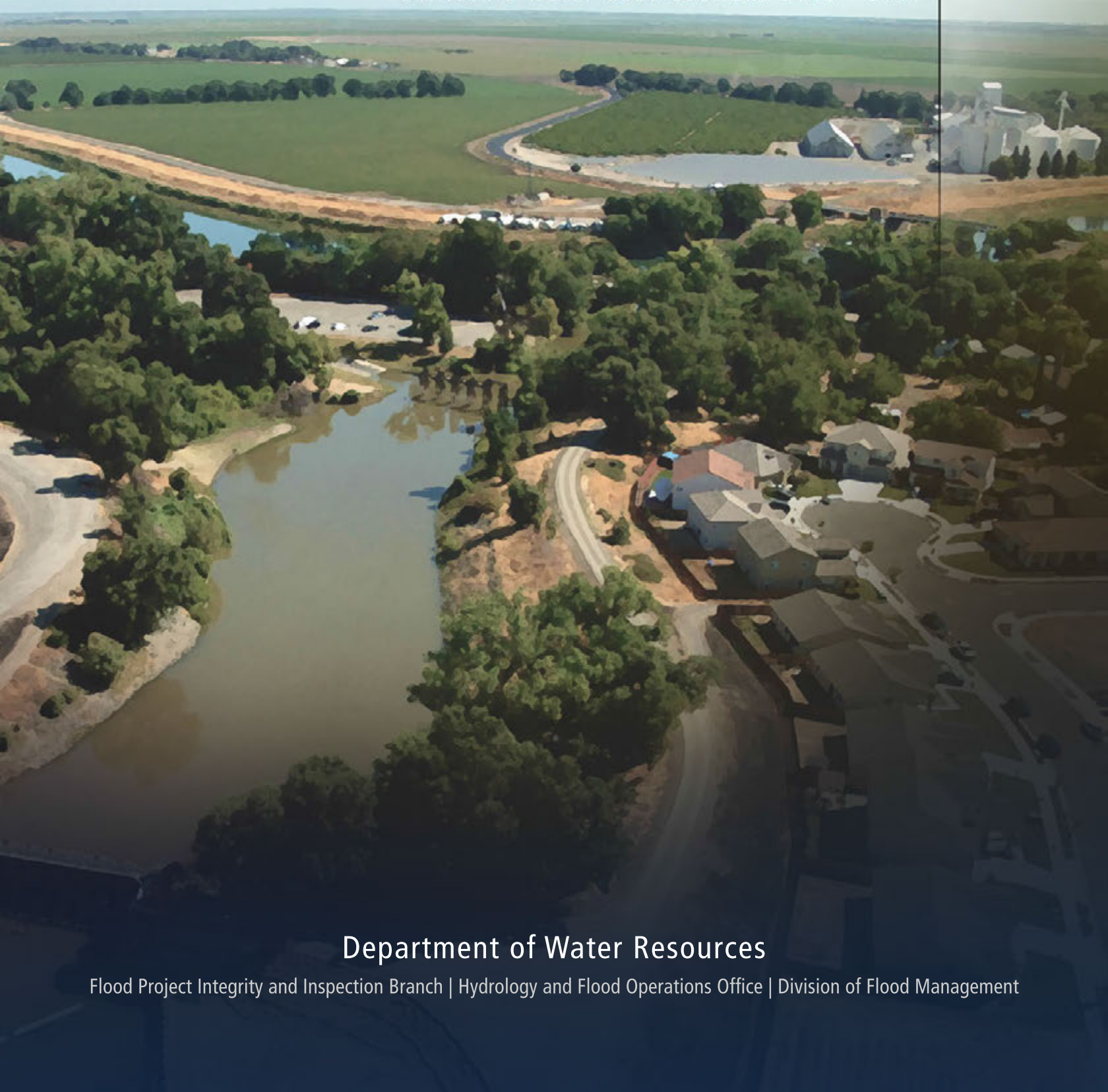
2015

# **INSPECTION AND LOCAL MAINTAINING AGENCY REPORT**

## **OF THE CENTRAL VALLEY STATE-FEDERAL FLOOD PROTECTION SYSTEM**

Code of Federal Regulations, Title 33, Section 208.10

California Water Code Sections 9140 - 9141



**Department of Water Resources**

Flood Project Integrity and Inspection Branch | Hydrology and Flood Operations Office | Division of Flood Management



Prepared and printed by  
**California Department of Water Resources**



## Distribution Information

Bound hard copy reports have been distributed to Local Maintaining Agencies and the Central Valley Flood Protection Board (CVFPB) members and staff. An electronic copy can be obtained from the websites of the Department of Water Resources (Department) at (<http://cdec.water.ca.gov/lma.html>) or the CVFPB (<http://www.cvfpb.ca.gov>). Counties, cities, and public libraries within the jurisdictional areas of Local Maintaining Agencies have been provided with electronic copies of the report as well. Additional hard copies can be obtained via mail request to: Department of Water Resources, Publications, P.O. Box 942836, Sacramento, CA 94236, 916-653-1097 or by e-mail request to Publications at: [imr-publications@water.ca.gov](mailto:imr-publications@water.ca.gov).

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## Reader's Guide

This report is a compilation of data collected by various programs but primarily the data gathered by FPIIB. It includes information on Project levee maintenance of the State-federal Flood Control System derived from programs such as DWR inspections, DWR's summary of LMA annual reporting derived from Assembly Bill 156 (2007), United States Army Corps of Engineers' (USACE) Inspections, DWR's Erosion Survey in the San Joaquin River, Flood System Repair Project's point of interest data, and the USACE's Sacramento Bank Project erosion data along with other relevant information. The report helps LMAs access their individual agency report as well as other agency's reports easily and conveniently. Because the report covers many programs and activities, this Reader's Guide has been provided to help the reader navigate the report.

The report consists of seven sections and twelve appendices (Appendix A through Appendix L). Appendices A through E are included in the hard copy of the report while Appendices F through L are included in electronic format (CD). A CD is attached to the back of the report.

Appendices A and B cover LMA summary profiles for the Sacramento and San Joaquin River Flood Control Systems. Each individual LMA summary profile contains a cover page with LMA contact information, an aerial map(s) of the levee segment(s), levee information, DWR inspection results, erosion surveys, USACE inspection results and current eligibility in the Rehabilitation and Inspection Program (RIP), and LMA summary reporting. The contact information presented in this report is for the highest authority within an LMA jurisdiction. The Directory of Flood Officials uses this contact information in the annual directory produced by the State-federal Flood Operations Center (FOC). A generic threat assessment and recommendation for each LMA has also been developed by DWR. Each of these appendices is preceded by system maps that show the boundaries of LMAs within the Sacramento and San Joaquin River Basins.

Appendix C covers other basins that do not belong to either the Sacramento or San Joaquin River Flood Control System. Non-Project levee reporting on maintenance from an LMA is also included in this section.

Appendix D covers relevant correspondence for the LMA reporting program.

Appendix E covers supplemental figures and tables with results from the inspection program.

Appendices F through L are self-explanatory and include Appendix F: Maintenance Requirements and Responsibilities of Inspection, Appendix G: Inspection Category Rating Descriptions, Appendix H: Fall 2015 Levee Maintenance Inspection Summary Reports, Appendix I: 2015 Channel Maintenance Inspection Summary Reports, Appendix J: 2015 Structure Maintenance Inspection Summary Reports, Appendix K: 2015 Pumping Plant Maintenance Inspection Summary Reports, and Appendix L: 2015 Supplemental Erosion Survey of the San Joaquin River System Detailed Reports.

It may be helpful for the reader to refer to the document titled State Plan of Flood Control Descriptive Document (November 2010), included as an attachment to the 2012 Central Valley Flood Protection Plan (CVFPP, July 2012). The information included in the State Plan of Flood Control Descriptive Document compliments this report.



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## Abbreviations and Acronyms

AB	Assembly Bill
CDEC	California Data Exchange Center
CO	Completely Obstructing
CVFMP	Central Valley Flood Management Planning
CFR	Code of Federal Regulations
CVFPB	Central Valley Flood Protection Board
CVFPP	Central Valley Flood Protection Plan
CVRWQCB	Central Valley Regional Water Quality Control Board
CWC	California Water Code
DFG	Department of Fish and Wildlife
DWR or Department	Department of Water Resources
FCC	Federal Communications Commission
FCSSR	Flood Control System Status Report
FCWCA	Flood Control and Water Conservation Agency
FEMA	Federal Emergency Management Agency
FloodSAFE	California's comprehensive program to improve public safety through integrated flood management
FOC	State-federal Flood Operations Center
FPIIB	Flood Project Integrity and Inspection Branch
FSRP	Flood System Repair Program
IRWMP	Integrated Regional Water Management Planning
LB	Left Bank
LD	Levee Districts
LM	Levee Mile
LMA/LMAs	Local Maintaining Agency/Agencies
LMR	Levee Mile Reports
LOM	Library of Models
MA	Maintenance Areas
NA	Named Areas
NEMDC	Natomas East Main Drainage Canal
NLIP	Natomas Levee Improvement Program
NULE	Non-Urban Levee Evaluation
O&M	Operation & Maintenance
OMRRR	Operation, Maintenance, Repair, Rehabilitation and Replacement
PI	Periodic Inspection
PL 84-99	Public Law that defines federal rehabilitation assistance for flood control works
PO	Partially Obstructing
RB	Right Bank
RIP	Rehabilitation and Inspection Program
RD	Reclamation Districts
RM	River Mile
RS	Rock Site
SAFCA	Sacramento Area Flood Control Agency
SJAFCA	San Joaquin Area Flood Control Agency
SJRFCS	San Joaquin River Flood Control System
SPFC	State Plan of Flood Control
SPRR	Southern Pacific Railroad
ST	State Maintained Area
UCIP	Utility Crossing Inventory Program
USACE	U.S. Army Corps of Engineers

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# 1 INTRODUCTION

## 1.1 Purpose and Scope of Inspection Program

Congress authorized the Sacramento River Flood Control Project (SRFCP) in 1917, and subsequent supplemental authorizations (e.g. Sacramento River major and minor tributaries, American River levees, etc.) have added components to the SRFCP over the years. The San Joaquin River Flood Control System consists of a number of separate federally authorized flood control projects, most of which have been built since the 1940's (e.g. Merced and Fresno county stream groups, Lower San Joaquin River, federal projects and State designated floodways on virtually all the Sierra rivers draining into the San Joaquin Valley and the Tulare Lake Basin). The two major river flood control systems have combined totals of approximately 1,600 miles of federal Project levees, 1,200 miles of designated floodways (148,000 acres), several thousand acres of project channels, and 53 other major flood protection works (as an example overflow weirs, flood relief structures, outfall gates, and pumping plants).

The federal government acting through the United States Army Corps of Engineers (USACE) designed and constructed many of these federal levees and other flood control works; some existing levees were also incorporated into the Sacramento and San Joaquin protection systems through the passage of federal statute. The State generally provides lands, easements, and rights-of-ways when necessary for project construction. An exception to this process is the Lower San Joaquin River Flood Control Project that was designed and constructed to federal standards by the State (substituting physical works for acquisition of more costly flowage easements required for the authorized federal project). Local public entities, called Local Maintaining Agencies (LMAs) within both river systems have the responsibility, liability, and duty to maintain and operate the levees and other flood protection works on a day-to-day basis in accordance with guidelines provided in the USACE's Standard Operations and Maintenance (O&M) Manual and each applicable supplement for individual project units. The only flood protection features for which operation and maintenance is not performed by local entities are those SRFCP works maintained by the Department of Water Resources (DWR) in accordance with Water Code § 8361, and those SRFCP levees within maintenance areas that are maintained by DWR, with local beneficiaries paying the costs, under Water Code § 12878.

DWR, under the authority of Water Code § 8360, § 8370, and § 8371, performs a verification inspection of the maintenance of the SRFCP levees performed by the local responsible agencies, and reports to the USACE periodically regarding the status of levee maintenance accomplished under the provisions of Title 33, Code of Federal Regulations (CFR), Section 208.10. While there are no specific water code provisions directing DWR to inspect and report on Maintenance of the San Joaquin River Flood Control System, DWR has performed inspections and provided reports for many years as a matter of practice that is consistent with Title 33, CFR. The inspections thus verify, for both river basins, that local agencies are performing their legal and statutory responsibilities pursuant to Water Code § 12642 and § 12657, and are meeting their legal obligations under assurance agreements with the State to operate and maintain their flood control projects "on any stream flowing into or in, the Sacramento Valley or the San Joaquin Valley". The State inspects and reports only on the status of maintenance practices and on observable levee conditions. The State does not routinely conduct field studies to assess the structural integrity of the levees or their foundations as part of its annual inspection program. However, in support of the State's system-wide planning efforts and flood

### Maintenance Inspection Reporting

#### **2015 Inspection and Local Maintaining Agency Report of the Central Valley State-Federal Flood Protection System.**

Annual report prepared by DWR based on DWR's fall and summer inspections and levee information submitted by the LMA - this report.

#### **San Joaquin River Flood System Erosion**

**Report.** Annual report prepared by DWR based on supplemental inspections conducted by FPIIB personnel-this report.

**Levee Mile Report.** Reports generated from inspections detailing maintenance deficiencies found during the inspection. A Levee Mile Report is generated for each unit and includes photos of some issues noted. These reports are available on the Flood System Inspection page on the California Data Exchange Center's webpage.

**Reports to the CVFPB.** Verbal presentations by FPIIB outlining inspection activities.

project implementation, the State utilized funding from the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E) to conduct extensive geotechnical data collection efforts and studies to assess the structural integrity of the levees and their foundations under the urban and non-urban levee evaluations programs.

The *Inspection and Local Maintaining Agency Report of the Central Valley State-Federal Flood Control System* has been produced for many decades and has undergone a series of changes. This report is also known as the *Status of Project Levee Maintenance* in some documents.

- Beginning in 2003, the DWR Flood Project Inspection Section (FPIS) and subsequently the Flood Project Integrity and Inspection Branch (FPIIB) has conducted a field survey of the waterward erosion sites and reported them. In addition, the obvious signs of structural weakness such as longitudinal cracks in the crown or slope of the levee, sloughing, or any other noticeable sign of movement within the cross section of the levee are also reported.
- In 2007 the inspection criteria and tools were modified to be more consistent and document deficiencies in a geo-referenced database format and reports on individual LMAs were modified to provide more complete documentation.
- This report was modified in 2012 to include information submitted by LMAs pursuant to California Water Code (CWC) § 9141 and added general threat assessment and recommendations in new Summary Profiles for each Area. Other information is also shown in the profiles.
- In 2013 this report was modified to include information gathered by the FPIIB as a part of the Utility Crossing Inventory Program. The FPIS conducts two comprehensive levee inspections and one channel and structure inspection each year. Information from USACE erosion surveys on the Sacramento River is also included. Deficiencies are noted and each agency receives a rating for the facilities within its maintenance responsibilities based on the fall inspections.
- In 2013 the erosion criteria was modified to help field personnel evaluate site conditions objectively, more clearly document site conditions during field and office based assessments, and more accurately rate the erosion sites. In addition, the modified erosion criteria is more consistent with erosion criteria used in other programs within DFM.

DWR completes spring inspections in May, documenting the location, size, type, and rating of maintenance deficiencies while working with the LMAs to assist in planning maintenance activities prior to the flood season. DWR completes annual fall inspections in November, verifying the status of previously noted as well as any additional deficiencies that should be corrected to help ensure adequate performance during the flood season. LMAs conduct inspections in the winter and summer, completing the requirement to conduct four inspections each year. Project facilities are inspected at least four times each year and there are other inspection reports for different uses (see side bar, page 6). DWR compiles this information for use by stakeholders and will report to the CVFPB on inspection activities as requested.

The USACE conducts two inspection programs, Routine Inspections and Periodic Inspections (PI). Both of these inspections look at the condition of levees less frequently than DWR does, but the USACE is able to take more time and do a more thorough inspection. The USACE also determines overall ratings differently than DWR, by systems. The USACE defines systems as being comprised of levees that protect a common area. This can include multiple units or LMAs. The USACE uses the overall ratings from these inspections to determine eligibility in its Rehabilitation and Inspection Program (RIP), which is also known as PL 84-99. This report includes the ratings and eligibility status in the RIP for systems impacting LMAs in the LMA summary profiles.

## 1.2 *Highlights of Inspection Program for 2015*

DWR applied inspection criteria and overall rating methodology similar to those used in inspections since 2007. Overall, the system showed continued maintenance improvements between 2007 and 2010 but deficiencies jumped higher in 2012 and have fluctuated near that level since then.

- The results of the 2015 levee inspections show 42 of the 106 Areas receiving Unacceptable ratings, matching results from 2014. The number of Areas receiving Acceptable ratings decreased from 38 in 2014 to 32 in 2015. The number of Areas receiving Minimally Acceptable ratings increased from 26 in 2014 to 32 in 2015.
- The results of the 2015 erosion survey show 43 of the 105 erosion sites receiving Unacceptable ratings, decreasing from 46 in 2014. The number of erosion sites receiving Minimally Acceptable ratings decreased from 46 in 2014 to 41 in 2015. The number of repaired erosion sites increased from 17 in 2014 to 19 in 2015.
- There was a decrease in the overall length of deficiencies in 2015 compared to 2014. The overall length of issues decreased relatively significantly in the San Joaquin system, while the Sacramento system remained largely the same as 2014. The overall decrease in deficiencies is primarily due to an effort to better control vegetation along the levees in the San Joaquin system.
- DWR continues to follow USACE inspection criteria for most categories, but uses the Levee Vegetation Management Strategy described in the 2012 Central Valley Flood Protection Plan and the Urban Levee Design Criteria for vegetation issues.
- The 2015 inspection yielded 16 channels, 44 structures and 12 pumping plants rated as Acceptable; 10 channels and 8 structures, and one pumping plant rated as Minimally Acceptable; and no channels, structures or pumping plants rated as Unacceptable.
- Inspectors also inspect Central Valley Flood Protection Board encroachment permits for compliance with regulations on behalf of the CVFPB. Inspectors closed 8 permits in 2015.
- In 2015 a project was started to update the Levee Logs using database tools similar to the inspection tool. The goal of the project is to create a geo-referenced inventory of all the features and items on the SPFC levees as well as confirm the locations of items in other databases like the CVFPB encroachment permit database. To date, 550 miles of levees have been surveyed with the corresponding levee logs either finalized or under review for completion. It is anticipated that the levee log update effort will near completion in 2016 depending on resources.
- A new levee mile calculator was created in 2014 and is now available online as part of the FERIX website (Flood Emergency Response Information Exchange). It can be accessed at: <http://ferix.water.ca.gov/webapp/LeveeMile>. As part of that effort, a review of levee alignments was conducted to ensure the alignments were as defined in the USACE O&M manuals.
- In 2015 LMAs were again encouraged to use the online LMA Reporting Application to report findings from their summer and winter inspections. Information added to inspections by the LMAs is available in the field for DWR inspectors during the following inspections.
- FPIIB continued to perform Qualitative Assurance/Quality Control (QA/QC) of the UCIP field data.
- FPIS staff review available data, including inspections and erosion sites, and provide general statements of potential threats in each Area as well as recommendations for future maintenance on a specific Area. These "Threat Assessment & Recommendations" are included in Appendices A and B.
- DWR processed data from the Flood System Repair Program and uses it as Points of Interest. This data is included for each LMA in Appendices A and B. This information can be used by LMAs and other emergency responders to monitor these locations during a high water event.

In this report, detailed analyses of inspection results are included as appendices. A background discussion of the State-federal flood protection system—including relationships between federal, State, and local agencies and the responsibilities outlined in Project O&M Manuals—is also included in Appendix F.

Additional FPIIB 2015 highlights:

- FPIIB continued monthly coordination meetings with the USACE to answer questions that both groups have regarding inspections, maintenance practices and recently enacted regulations. The CVFPB and DWR's Flood Maintenance Office continued their significant participation in these meetings during 2015.
- FPIIB staff continued to coordinate with and support the FOC in conducting and preparing emergency exercises and assisting in Flood Fight Methods training. As of December 8, 37 courses had been taught with an additional 22 courses scheduled. This ultimately will provide 1,700 personnel with flood fight training; a nearly 210% increase over previous years. Inspectors also assisted in many of the Preseason Meetings held by the FOC. All this while still providing general preparedness in responding to any flood emergency.
- In 2015 the USACE and its contractors wrapped up their Periodic Inspections for the foreseeable future. FPIIB coordinated with the LMAs, the CVFPB, and the USACE and its contractors throughout the Periodic Inspection process, primarily by facilitating communication between these entities.
- DWR continues to improve its inspection program, undergo activities detailing the maintenance condition of features, and work with the LMAs to help ensure a functional flood protection system. DWR's inspection program has been made available to interested LMAs for their use.
- A copy of this annual report and other related reports have been published on-line at: [http://cdec.water.ca.gov/current\\_reports.html](http://cdec.water.ca.gov/current_reports.html).

### **1.3 Purpose and Scope of LMA Reporting Program**

To enhance the state response to flood emergencies, California Assembly Bill (AB) 156 (Laird, 2007) Flood Control was introduced in the 2007-2008 Legislative Session. Governor Schwarzenegger signed the bill and Secretary of State Bowen chaptered it on October 10, 2007 (Chapter 368, Statutes of 2007). In addition to other CWC, Sections 9140-9141 were added as the result of AB 156. The purpose of Section 9140 is to receive critical, maintenance and operation information from the local agencies about the levees they maintain so that the State can better prepare for the emergency response during flood events. The purpose of Section 9141 is not only to make this information available to the Flood Responders but also to make this information available to the general public. From 2008-2011, the program developed annual reports covering only this activity. However, from 2012 on, LMA reports are combined with reports from the inspection program and other programs as recommended by the CVFPB at their March 2012 Board meeting.

DWR identified 86 LMAs that are required to submit information to DWR pursuant to California Water Code (CWC) Sections 9140 and 9141. These 86 LMAs encompass 106 unique geographical areas that are called Areas in this report.

LMAs submit specific information to DWR by September 30 of each year regarding the levees they operate and maintain. DWR summarizes the information submitted by LMAs and provides the report to the CVFPB by December 31 of each year. The information submitted by LMAs includes levee conditions and operation and maintenance activities. This information is (1) essential for a comprehensive understanding of the flood protection system in the Central Valley, and (2) critical to flood control system evaluation, assessment, and emergency response. The program is also known as the Five-part Reporting Program as it requires LMAs to submit information on five parts as specified in the code.

## 1.4 Highlights of LMA Reporting Program for 2015

The LMA reporting program includes a compilation of information received from LMAs on the Project levees and certain non-Project levees they maintain in the Sacramento and San Joaquin River Basins.

The statistics provided for the LMA reporting program are based on the following criteria: "LMAs with at least a partial response were considered to have provided reports," which means that if an LMA responds only to one of the five parts, the LMA is considered to have reported. DWR is working with the LMAs to encourage improved and complete reporting. DWR is encouraging the LMAs to provide more comprehensive information in their reports because this information is being used to prepare for flood emergency response. More comprehensive reports mean better information on their levees, improving the emergency response from the State. DWR's grant programs, particularly the ones administered in the Division of Flood Management/DWR, are also using the LMA reporting performance as a basis of increased cost-share criteria for their grants.

Appendices A and B include summary profiles of individual LMAs that maintain Project levees along the Sacramento River and the San Joaquin River, respectively. These profiles include maintenance activity summary reports (known as five-part reporting) as well as other program results like inspection, erosion, etc. DWR will use this information to evaluate levees, monitor levee conditions throughout the system, and provide threat assessments (if applicable) to individual LMAs. The information will also be used by the comprehensive FloodSAFE California initiative to improve public safety and manage residual flood risk. The highlights of the LMA Reporting Program for 2015 are:

- Although submission of annual reporting to DWR is required by law, five LMAs did not respond to this requirement as shown in table 1-1.

**Table 1-1: Non-reporting LMAs**

Sacramento Basin	San Joaquin Basin
Honcut Creek Eastern Area	Madera County Flood Control and Water Conservation Agency
Yolo County Public Works	
Lake County Watershed Protection District	Reclamation District 2075

- 95 percent of LMAs, representing 94 percent of the Areas, complied with the reporting requirement. Table 1-2 summarizes the information LMAs submitted to DWR in 2015.
- 3 out of 81 Areas (4 percent) from the Sacramento Basin and 2 out of 25 Areas (8 percent) from the San Joaquin Basin did not report in 2015. Further details on reporting statistics are shown in Figure 6-2.
- Since 2008, DWR has been facilitating electronic submission and strongly encouraging LMAs to use the LMA Reporting Website. In 2015 about 79 percent of reporting LMAs reported electronically. Details of DWR outreach activities for electronic submission and other activities are provided in Figure 6-3.
- To minimize the LMAs' burden for reporting, DWR continues to enhance and update the web application. The two programs, Inspection and LMA reporting, have been integrated for online users. The data entry for Part 3 of the LMA reporting application has been enhanced to not only allow LMAs to provide their information but also to report on individual inspection issues noted by DWR. DWR inspectors see this feedback during the next inspection cycle. Part 3 of the individual summary profiles highlights the LMAs' corrected and ongoing corrective actions (wherever available).
- 100 Areas reported their maintenance activities for the previous fiscal year, 2014-15. Key reported maintenance activities are vegetation control, rodent control, levee crown grading and access road maintenance, encroachment control, minor structure repair, levee repair, and seepage control.



**Table 1-2: Summary of Information Reported by LMAs**

Reporting Categories	Reporting Measurement Type	Number of Occurrences
<b>Reporting</b>	LMAs subject to reporting requirements	85
	LMAs submitted reports	80
	Geographical Areas subject to reporting requirements	106
	Reports received on geographical Areas	101
	Areas reporting information relevant to condition or performance	83
	Areas reporting conditions that might compromise level of flood protection	90
	Areas reporting summary of activities during the previous fiscal year	100
	Areas reporting summary of activities for the current fiscal year	95
	Areas reporting an estimated budget for maintenance during the current fiscal year	93
<b>Maintenance and Repair Activities Reported</b>	Areas reporting routine annual vegetation maintenance	89
	Areas reporting rodent/animal control	74
	Areas reporting levee crown grading/access road maintenance	41
	Areas reporting encroachment control	52
	Areas reporting minor structure (mile markers, gate, barricades, miscellaneous signs)maintenance or repair	28
	Areas reporting levee repairs (hole grouting, erosion repair, revetment, rip-rap, slope repair)	40
	Areas reporting seepage control	2
<b>Levee Conditions Reported</b>	Areas reporting encroachment issues	60
	Areas reporting erosion, channel migration, or revetment issues	54
	Areas reporting seepage and sand boil issues	13
	Areas reporting levee compaction, settlement, or freeboard issues	9
	Areas reporting sedimentation issues	9

- 95 Areas reported a summary of their maintenance activities for the current fiscal year, 2015-16. Key reported maintenance activities are vegetation control, rodent control, levee crown grading and access road maintenance, encroachment control, minor structure repair, levee repair, and seepage control.
- A number of LMAs provided information on the levee conditions. Key reported issues are encroachment, erosion, seepage and sand boils, levee settlement or freeboard reduction, and sedimentation.
- As indicated earlier, the level of compliance by the LMAs submitting information for this report is less than 100 percent. The quality of reporting for some LMAs is also unsatisfactory. DWR is encouraging LMAs to improve the quality of their reports because the quality of their report will improve the flood emergency response. DWR is also tying the level of cost-share eligibility in grant programs administered by DWR to the quality of LMA reporting to provide further incentive for compliance.
- In 2015, DWR provided individual feedback to each LMA and created a best example report. 43 Reporting Areas received in-depth feedback on their 2014 report.

- Due to the absence of a responsible agency, the maintenance of 1.5 miles of Project levee in Honcut Creek Eastern Area is not currently assigned to any LMA pending a decision by the CVFPB.
- RD 2099, 2100, and 2102, commonly known as Three Amigos, have been excluded from any analysis this year (refer to Appendix D), however DWR acknowledges the fact that the formal process of decertification by the USACE has not taken place yet. These three districts were bought by the U.S. Fish and Wildlife Service over 10 years ago, and are part of the San Joaquin River National Wildlife Refuge. The levees have been breach by floodwaters and no longer hold back water.
- Starting in 2015, NA 65 (Turlock Irrigation District), will no longer be considered an LMA with levee maintenance responsibilities. At the inauguration of the LMA Reporting Program in 2008, a Joint Power of Agreement (JPA) was found that nominated Turlock Irrigation District to be the maintainer of this Spur Levee; therefore, the Department considered Turlock Irrigation District to be the maintainer. However, it was found that Turlock Irrigation district did not give assurances to the CVFPB. Also, USACE's 2015 revised O&M manual list this Spur Levee under the responsibility of RD 2091. Therefore, the Department will no longer consider Turlock Irrigation District as the maintainer of this Spur Levee. This Spur Levee will now be considered Unit 2 of RD 2091.
- This year, 6 LMAs- 5 from the Sacramento River Basin and 1 from San Joaquin River Basin, reported on their non-Project levees. DWR will continue to perform outreach to the LMAs on non-Project levees and will encourage them to report information on other types of non-Project levees.

## **1.5 Outcomes and Benefits of the Levee Inspection and the LMA Reporting Programs**

As mentioned, the Levee Inspection Program inspects approximately 1,600 miles of Project levees twice a year, 106 erosion sites yearly, and 7,500 levee penetrations on a variable schedule. The Program identifies and monitors potential threats to the integrity of the State Plan of Flood Control system. AB 156 requires that Local Maintaining Agencies (LMAs) submit an annual report on the state of their levees to DWR. The information collected by the LMA Report provides a local understanding of system performance, as well as information on their operation and maintenance practices.

Both the Inspections and the LMA Reporting Program provide detailed information about the location and extent of critical levee distress. This information is essential to the flood preparedness activities that ensure timely and appropriate response for flood emergencies.

Outcomes of the programs are:

- Improved coordination with the Local Maintaining Agencies (LMAs), the Central Valley Flood Protection Board (CVFPB), and the US Army Corps of Engineers (USACE)
- Improved levee maintenance by the LMAs
- Improved relationships with the LMAs, which facilitates emergency response efforts
- Up to date information on the levee system, which supports emergency response efforts

Some of the benefits provided to the public by the programs are:

- Reduced risk of flooding which threatens life and property
- Additional certainty for future economic investments and growth in the region protected by the SPFC
- Potential increased property values

## 2 2015 LEVEE MAINTENANCE INSPECTION RESULTS

The results of the 2015 levee maintenance inspections show that the number of Areas whose ratings changed was small, with the ratings declining slightly. More LMAs received worse ratings in 2015 than those who received better ratings. The length of deficiencies noted decreased in 2015 compared to 2014, but remained on par with results from 2012 and 2013. The decrease in deficiencies was largely due to an increased effort in the San Joaquin basin to control vegetation.

Overall, vegetation control is the most pervasive issue the LMA's are dealing with. Complications from funding shortfalls, restrictions on burning, and environmental impact concerns for endangered species continue to contribute to this problem.

FPIIB continues to improve the accuracy and usability of its tools and data to inspect and rate Areas. Each Area received one of three possible ratings based on the state of its levees:

- **Acceptable (A)** – No immediate work required, other than routine maintenance. The flood protection project will function as designed and intended with a high degree of reliability, and necessary cyclical maintenance is being performed adequately.
- **Minimally Acceptable (M)** – One or more deficient conditions exist in the flood protection project that needs to be improved or corrected. However, the project will essentially function as designed with a lesser degree of reliability than what the project could provide.
- **Unacceptable (U)** – One or more deficient conditions exist that may prevent the project from functioning as designed, intended, or required.

DWR rates individual items noted during inspections using similar ratings. The inspection criteria were revised in 2012. No significant changes were made to these criteria subsequently. For more detailed information regarding the inspection criteria, please see Appendices F and G.

DWR continues to research the authorities and responsibilities for maintaining features of the State-Federal Flood Protection System. As a result of this research, minor adjustments to the alignments of the levee crowns were made in the levee mile calculation tool. This resulted in minor changes to the lengths of various levees and those are reflected in this report. State Plan of Flood Control (SPFC) levees and structures are expected to be adjusted in the future through discussions between DWR, the USACE, and the CVFPB.

Table 2-1 and Figure 2-1 show the numbers of Areas receiving each rating for 2011 through 2015.

**Table 2-1: Summary of Levee Maintenance Ratings for 2011 to 2015**

	2011	2012	2013	2014	2015
<b>A=Acceptable</b>	45	47	42	38	32
<b>M=Minimally Acceptable</b>	24	18	24	26	32
<b>U=Unacceptable</b>	37	41	40	42	42

Ratings for each Area are included in Table 2-2. The number of Areas receiving Unacceptable ratings remained the same, the number of Areas receiving Acceptable ratings decreased by six, and the number of Areas receiving Minimally Acceptable ratings increased by six.

The amount of erosion found throughout the system was similar to prior years. DWR has implemented the Flood System Repair Program (FSRP) to assist LMAs through cost shares for projects that repair issues like erosion and drainage pipe failures. DWR also continues to develop and distribute information on how the Sutter and Sacramento Maintenance Yards are addressing rodent control. DWR and other agencies continue to conduct research into both the potential harm and usefulness of woody vegetation on the levees.

Figure 2-2 shows the number of Areas that received better, unchanged, or worse ratings from 2011 through 2015. Ratings appear to be on a slight, but steady decline since 2012 with 2015 being no exception. LMRs contain more detailed information on each LMA's rating and the identified issues that lead to that rating. Appendix F provides a detailed explanation of the threshold percentages and the determination of overall ratings.

Vegetation deficiencies make up the majority of deficient levee miles for 2015, followed by a significant amount of erosion, animal control, and crown surface issues. The remainder of deficient miles comes from encroachments and other items.

Appendix E provides supplemental figures showing further analysis for the two basins and types of deficiencies, including comparisons of the lengths of levee with deficiencies of each category for each year since 2011.

Issues noted by inspectors in the field have one of three Issue Types, Enforcement, Design/System Obsolescence, or Maintenance, associated with them depending on DWR's opinion of the LMA's ability and responsibility to deal with the issue. LMAs may not be able to address some encroachments due to limitations in resources and relationships with the landowners.

Inspectors document some of these encroachments and assign an Issue Type of Enforcement to them. In 2015, 27.04 miles of Unacceptable and 166.6 miles of Minimally Acceptable issues typed as Enforcement were identified. The vast majority of these issues are encroachments with some landowner maintained vegetation. An Issue Type of Design/System Obsolescence may be assigned if an issue is the result of how the structure was originally designed and constructed or for other reasons beyond maintenance responsibilities. In 2015, 1.23 miles of Unacceptable issues and 19.15 miles of Minimally Acceptable

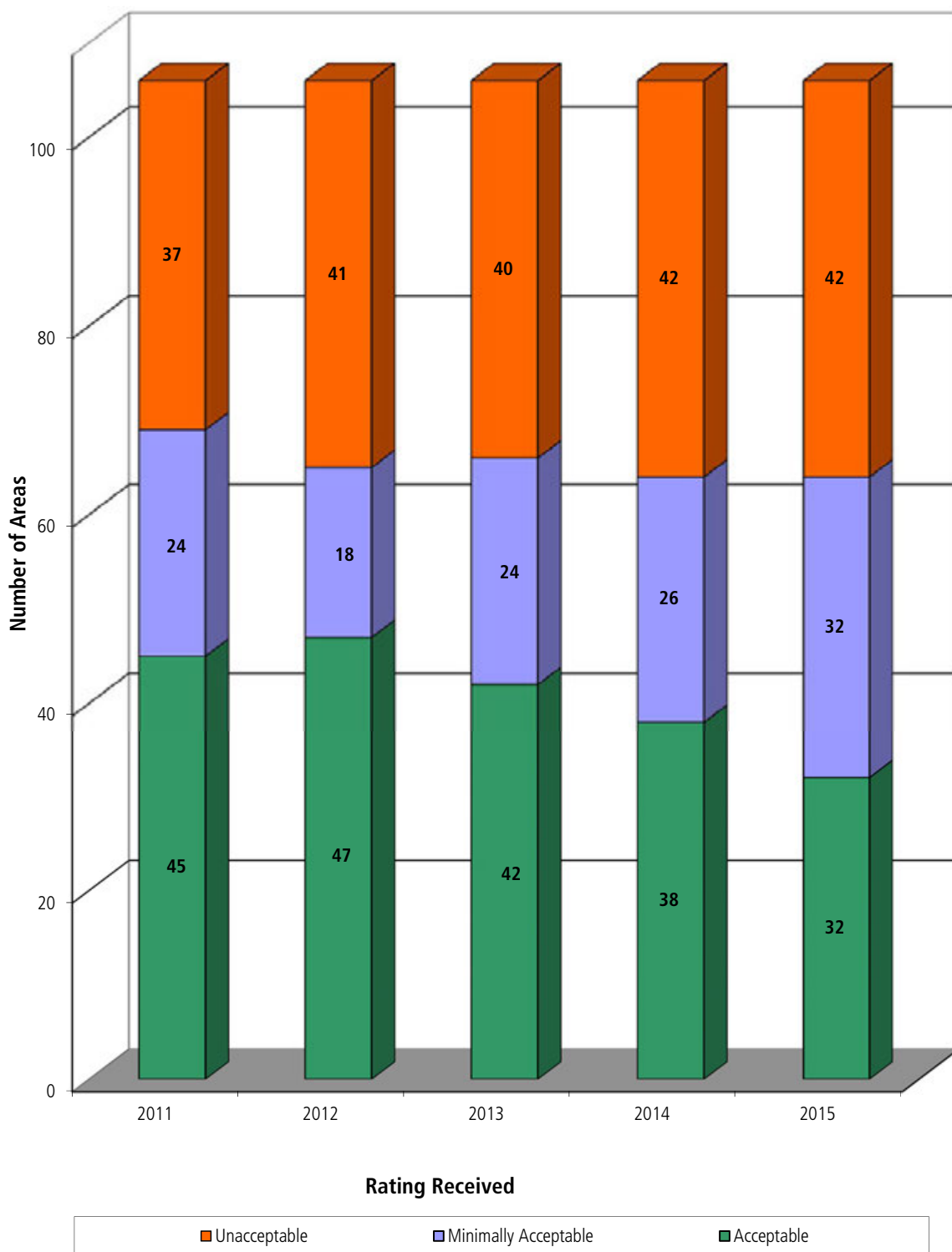
issues typed as Design/System Obsolescence were noted. The majority of these issues were erosion, mostly along one channel. Issues that should be addressed by LMAs have an Issue Type of Maintenance. Only issues with a Maintenance Issue Type are included in the determination of an Area's overall rating. Issue Types are explained further in Appendix F.

During the quarterly LMA coordination meetings in 2014, LMAs expressed concern regarding the size of the LMRs and their complexity. To assist them with concise documentation of what issues DWR views as within their control and what they are expected to address a new version of the LMR was generated. This report, available at <http://cdec.water.ca.gov/fsir.html>, only includes issues with a Maintenance Issue Type.

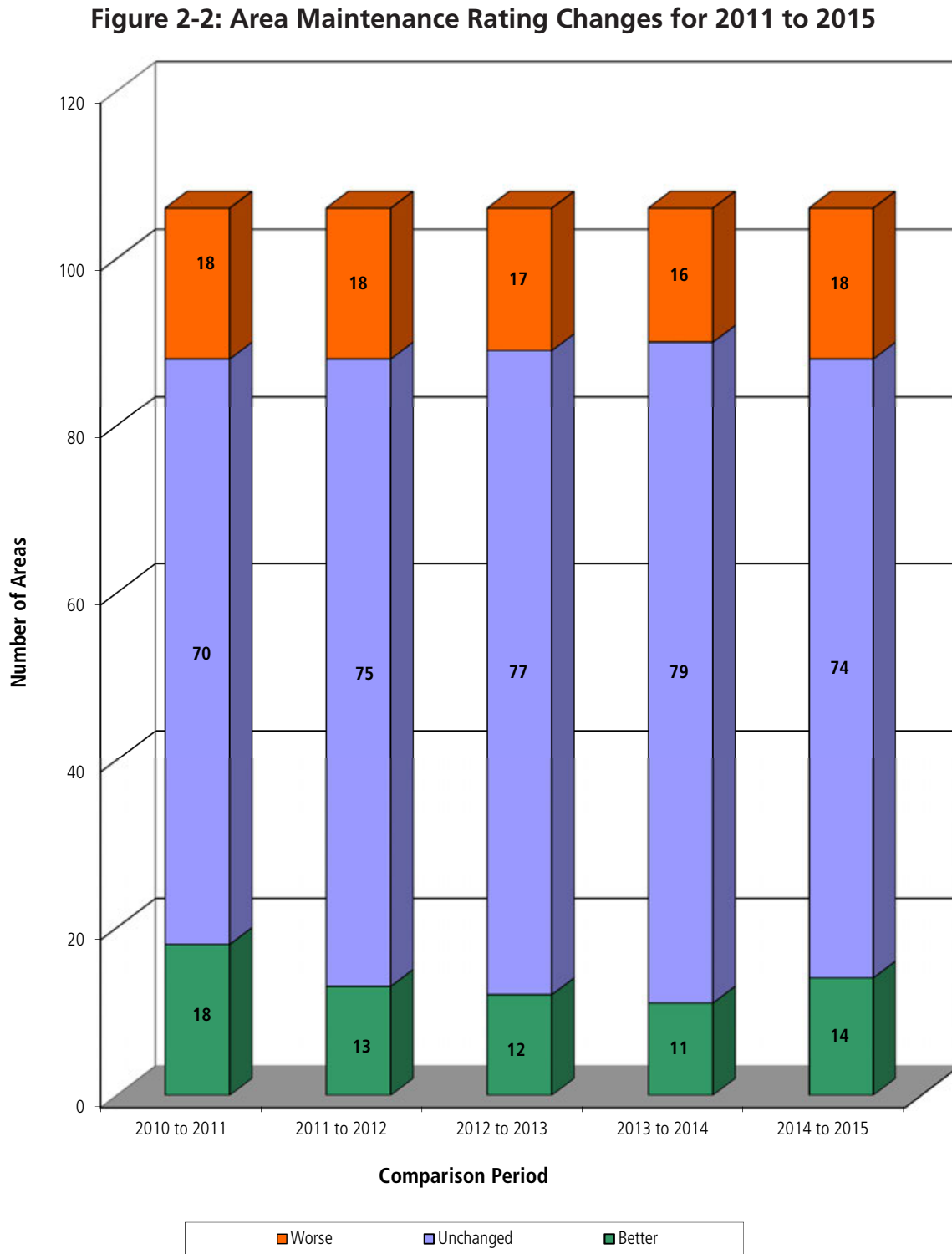
Through several different inspection criteria, DWR continues to check if LMAs have proper documentation and are prepared to deal with a high water event. These include O&M Manuals, Emergency Supplies and Equipment, and Flood Preparedness and Training. LMAs are required to maintain copies of applicable O&M manuals. DWR has made a collection of these manuals and other applicable documents available to stakeholders at [http://cdec4gov.water.ca.gov/public\\_systems\\_docs.html](http://cdec4gov.water.ca.gov/public_systems_docs.html). LMAs may also access their O&M Manuals through the LMA Reporting web page at <http://cdec.water.ca.gov/lma.html>. This site has limited access; to request access, please contact [webmaster@flood.water.ca.gov](mailto:webmaster@flood.water.ca.gov). LMAs are required to maintain a supply of materials to sustain the initial days of a flood fight. LMAs are encouraged to work with neighboring LMAs to maintain this supply in a central location that serves multiple agencies. LMAs are also required to have a specific, written flood response plan and know how to respond during a flood. DWR is working on tools to help LMAs create these response plans. LMA staff and local residents should also be training in Flood Fight Methods. DWR provides this training, which can be scheduled by contacting Rick Burnett at (916) 574-1203. More details on these criteria can be found in Appendix G.

A summary report showing the length of maintenance deficiencies noted in 2014 and 2015 for each Area can be found in Appendix H. This summary also shows the change in threshold percentage for each of these maintenance deficiency categories. Detailed reports showing the inspections for each Area, including photos, can be found at: <http://cdec.water.ca.gov/fsir.html>.

Figure 2-1: Summary of Area Maintenance Ratings for 2011 to 2015







**Table 2-2: Overall Maintenance Rating by Area for 2011 to 2015**

Area Short Name	Area Name	Overall Rating				
		2011	2012	2013	2014	2015
LD0001G	Levee District No. 0001G (Glenn County)	M	A	A	A	M*
LD0001S	Levee District No. 0001S (Sutter County)	A	A	A	A	M*
LD0002	Levee District No. 0002	A	A	A	A	M
LD0003	Levee District No. 0003	U	M	U	U	U
LD0009	Levee District No. 0009	A	A	M*	M*	M*
MA0001	Maintenance Area 0001	A	A	A	A	A
MA0003	Maintenance Area 0003	A	A	A	M*	A
MA0004	Maintenance Area 0004	A	A	A	M*	A
MA0005	Maintenance Area 0005	A	A	A	M*	M*
MA0007	Maintenance Area 0007	A	A	A	A	M
MA0009	Maintenance Area 0009	M	A	A	A	M*
MA0012	Maintenance Area 0012	A	A	A	A	A
MA0013	Maintenance Area 0013	A	A	A	A	A
MA0016	Maintenance Area 0016	M*	A	M	A	A
MA0017	Maintenance Area 0017	U	U	U	U	U
NA0001	American River Flood Control District	A	A	A	M*	A
NA0002	Brannan Andrus Levee Maintenance District	M	M	U	U	U
NA0003	Butte County Public Works	A	A	A	A	A
NA0004	Marysville Levee Commission	A	M	A	A	U
NA0005	City of Sacramento	A	A	A	A	A
NA0006	Eastern Honcut Creek	U	U	U	U	U
NA0008	Knights Landing Ridge Drainage District	A	A	M*	M*	M
NA0009	Lake County Watershed Protection District	A	A	A	M*	A
NA0010	Lower San Joaquin Levee District	M	U	M*	U	U
NA0011	Madera County FCWCA	U	U	U	U	U
NA0012	Solano County Public Works (Mellin Levee)	A	A	A	A	M*
NA0013	Merced Streams Group	U	U	U	U	U
NA0015	Plumas County	U	U	U	U	U
NA0016	Sacramento River West Side Levee District	A	A	A	A	M*
NA0017	San Joaquin County Flood Control and Water Conservation District	M	M	M*	M*	M
NA0018	California Department of Fish and Game	U	U	U	U	U
NA0019	Tehama County Flood Control and Water Conservation District	M	M	M	M	U

**Table 2-2 Continued: Overall Maintenance Rating by Area for 2011 to 2015**

Area Short Name	Area Name	Overall Rating				
		2011	2012	2013	2014	2015
NA0021	Yolo County Public Works	U	U	U	U	U
NA0022	Yolo County Service Area 6	U	U	U	U	U
RD0001	Reclamation District No. 0001	A	M*	U	U	M*
RD0003	Reclamation District No. 0003	M*	M*	M*	M*	M
RD0010	Reclamation District No. 0010	U	M	U	A	A
RD0017	Reclamation District No. 0017	A	M*	M*	M*	M*
RD0070	Reclamation District No. 0070	A	A	A	A	A
RD0108	Reclamation District No. 0108	A	A	A	A	A
RD0150	Reclamation District No. 0150	A	A	M*	M*	M*
RD0307	Reclamation District No. 0307	M	U	U	M*	M
RD0341	Reclamation District No. 0341	M*	U	U	U	U
RD0349	Reclamation District No. 0349	U	U	U	U	U
RD0369	Reclamation District No. 0369	M	U	A	U	M
RD0404	Reclamation District No. 0404	M	U	U	M*	M*
RD0501	Reclamation District No. 0501	U	U	U	U	U
RD0524	Reclamation District No. 0524	U	U	U	U	U
RD0536	Reclamation District No. 0536	U	U	U	U	U
RD0537	Reclamation District No. 0537	A	M*	U	M*	U
RD0544	Reclamation District No. 0544	U	U	U	U	U
RD0551	Reclamation District No. 0551	A	M*	A	U	A
RD0554	Reclamation District No. 0554	M	M	U	U	U
RD0556	Reclamation District No. 0556	U	U	U	U	U
RD0563	Reclamation District No. 0563	U	U	U	U	U
RD0755	Reclamation District No. 0755	U	U	U	U	U
RD0765	Reclamation District No. 0765	U	U	U	U	U
RD0784	Reclamation District No. 0784	A	M	M*	A	A
RD0785	Reclamation District No. 0785	U	U	U	U	U
RD0787	Reclamation District No. 0787	A	A	A	A	M
RD0817	Reclamation District No. 0817	M	U	M*	U	U
RD0827	Reclamation District No. 0827	U	A	U	A	U
RD0900	Reclamation District No. 0900	M	U	A	M	A
RD0999	Reclamation District No. 0999	U	U	U	U	U
RD1000	Reclamation District No. 1000	A	A	A	A	A
RD1001	Reclamation District No. 1001	M	U	U	A	A

**Table 2-2 Continued: Overall Maintenance Rating by Area for 2011 to 2015**

Area Short Name	Area Name	Overall Rating				
		2011	2012	2013	2014	2015
RD1500	Reclamation District No. 1500	A	M	M*	M*	M*
RD1600	Reclamation District No. 1600	U	U	U	U	U
RD1601	Reclamation District No. 1601	A	A	A	A	M
RD1602	Reclamation District No. 1602	U	U	U	U	U
RD1660	Reclamation District No. 1660	A	A	A	A	A
RD2031	Reclamation District No. 2031	M*	M	M*	M*	M*
RD2035	Reclamation District No. 2035	U	M	M	M	M
RD2058	Reclamation District No. 2058	U	A	M*	M*	M*
RD2060	Reclamation District No. 2060	A	A	M*	U	U
RD2062	Reclamation District No. 2062	U	U	M*	M*	M*
RD2063	Reclamation District No. 2063	U	U	M*	A	A
RD2064	Reclamation District No. 2064	U	A	U	U	U
RD2068	Reclamation District No. 2068	M	A	A	A	A
RD2075	Reclamation District No. 2075	M	U	A	M	U
RD2085	Reclamation District No. 2085	U	U	M	M*	M*
RD2089	Reclamation District No. 2089	U	U	U	U	U
RD2091	Reclamation District No. 2091	M*	A	A	A	A
RD2092	Reclamation District No. 2092	M*	A	A	A	A
RD2094	Reclamation District No. 2094	A	A	A	A	A
RD2095	Reclamation District No. 2095	M*	M	M*	M*	A
RD2096	Reclamation District No. 2096	A	U	M	M	A
RD2098	Reclamation District No. 2098	U	A	M*	U	U
RD2101	Reclamation District No. 2101	U	U	U	U	M
RD2103	Reclamation District No. 2103	A	A	M*	A	M*
RD2104	Reclamation District No. 2104	U	U	U	U	U
RD2107	Reclamation District No. 2107	A	A	A	A	A
ST0001	Cache Creek	M*	M*	M*	A	M*
ST0002	East Levee Sutter Bypass	A	A	A	M*	A
ST0003	East Levee Sacramento River	A	A	A	U	M*
ST0004	East Levee Yolo Bypass	A	A	A	A	A
ST0005	Hamilton Bend	A	A	U	U	U
ST0006	Nelson Bend	U	U	U	U	U
ST0007	Putah Creek	M	U	A	U	M
ST0008	Sacramento Bypass	A	A	A	A	A

**Table 2-2 Continued: Overall Maintenance Rating by Area for 2011 to 2015**

Area Short Name	Area Name	Overall Rating				
		2011	2012	2013	2014	2015
ST0009	Tisdale Bypass	A	A	A	A	A
ST0010	Wadsworth Canal	A	A	A	A	U
ST0011	West Levee Yolo Bypass	A	A	A	A	A
ST0012	Willow Slough Bypass	A	A	A	A	M*
ST0014	Murphy Slough at M&T Ranch	U	U	U	U	U
ST0020	East-West Interceptor Canal	U	U	U	U	U

\* Overall unit threshold percentage is less than 10%; however, U rated miles are present, so the overall unit rating is M instead of A.



### 3 2015 CHANNEL MAINTENANCE INSPECTION RESULTS

The annual channel maintenance inspections rely upon a qualitative rating system based on the USACE's O&M manuals. Channels are inspected at specific locations where there are restrictions to the channel like bridges. Excessive vegetation, shoaling, erosion, or other factors that may impact the capacity of the channel are noted. Existing channel capacities are not evaluated in this report. A single overall rating is assigned to each channel by DWR. The rating designations (A, M, and U) described in Section 2 are also used for channel ratings.

Appendix F details the method for determining overall ratings. Table 3-1 and Figure 3-1 show the numbers of each rating for the years 2011 through 2015.

**Table 3-1: Summary of Channel Maintenance Ratings for 2011 to 2015**

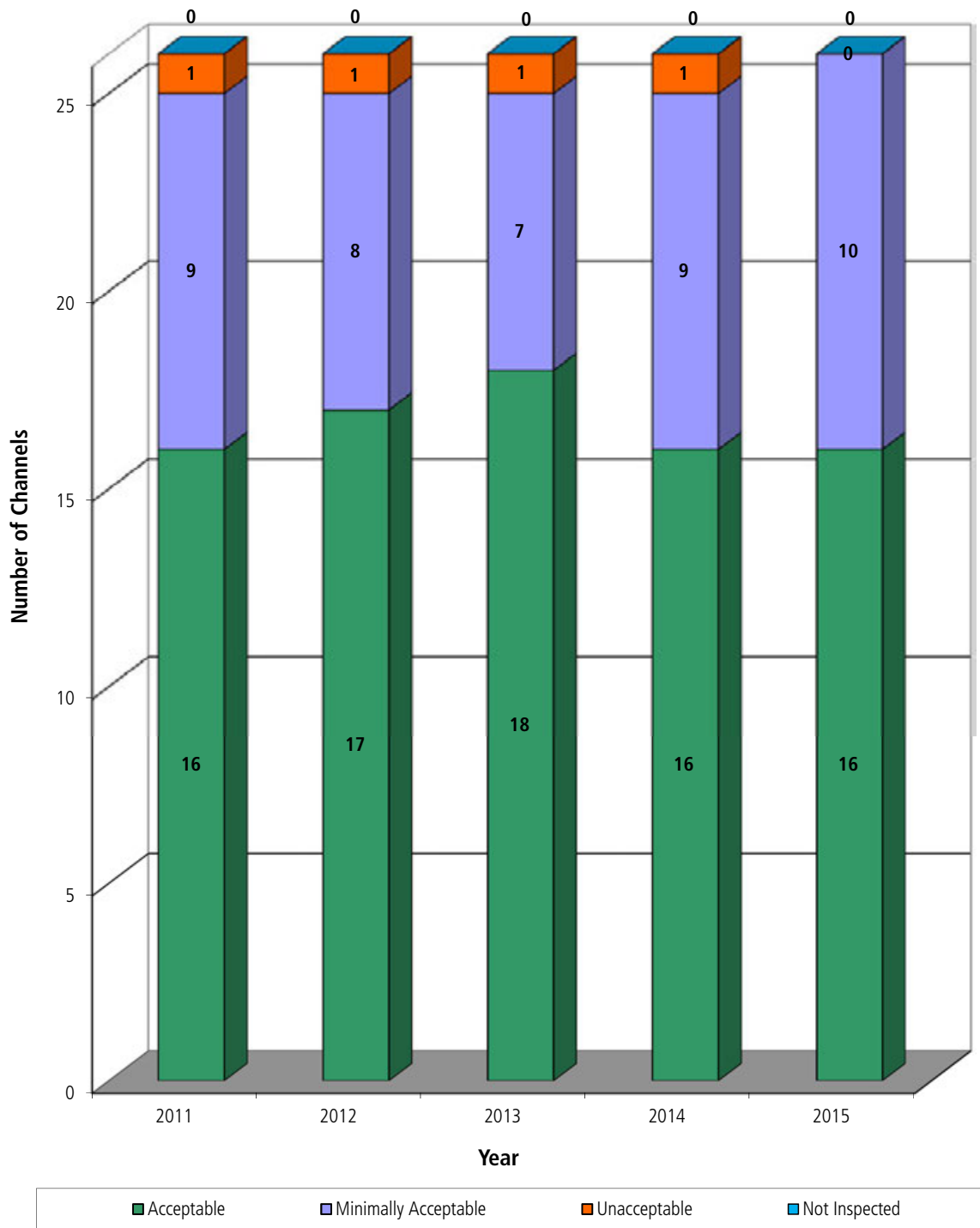
	2011	2012	2013	2014	2015
<b>A=Acceptable</b>	16	17	18	16	16
<b>M=Minimally Acceptable</b>	9	8	7	9	10
<b>U=Unacceptable</b>	1	1	1	1	0
<b>Not Inspected</b>	0	0	0	0	0

No channels were rated as Unacceptable in 2015, 10 were rated as Minimally Acceptable and 16 channels were rated as acceptable, which is slightly better than 2014. Figure 3-1 shows the progression of maintenance ratings from 2011 through 2015.

Table 3-2 shows individual channel ratings for each LMA. To see locations of the channels inspected, see Figure 7-1.

A summary of the ratings for each channel, grouped by LMA and including the rated categories for each, can be found in Appendix I. More detailed reports, including photos for each channel, can be found at <http://cdec.water.ca.gov/fsir.html>.

Figure 3-1: Comparison of Overall Channel Ratings for 2011 to 2015



**Table 3-2: Overall Channel Maintenance Ratings for 2011 to 2015**

Channel	LMA Name					
		2011	2012	2013	2014	2015
Sacramento River Basin						
Ash Creek	Adin Community Service District	A	A	A	A	A
Dry Creek	Adin Community Service District	A	A	A	A	A
Big Chico Creek	DWR Sutter Maintenance Yard	M*	A	A	A	A
Lindo Channel & Sandy Gulch	DWR Sutter Maintenance Yard	A	A	A	A	A
Little Chico Creek	DWR Sutter Maintenance Yard	M*	A	A	A	M*
Sandy Gulch	DWR Sutter Maintenance Yard	N/A	N/A	N/A	N/A	N/A
McClure Creek	Tehama County Flood Control and Water Conservation District	A	A	A	M	M
Salt Creek	Tehama County Flood Control and Water Conservation District	A	A	A	A	A
San Joaquin River Basin						
Ash Slough	Madera County FCWCA	A	A	A	A	A
Berenda Slough	Madera County FCWCA	U	U	U	U	M
Chowchilla River	Madera County FCWCA	A	A	A	A	A
Fresno River	Madera County FCWCA	M	M	M	M	M
Bear Creek	Merced Streams Group	M	M	M	M	M
Black Rascal Creek	Merced Streams Group	M	M	M	M	M
Burns Creek	Merced Streams Group	A	A	A	M	A
Mariposa Creek & Duck Slough	Merced Streams Group	M	M	M	M	M
Miles Creek	Merced Streams Group	A	A	A	A	M*
Owens Creek	Merced Streams Group	A	M	A	A	A
Duck Creek Diversion Channel	San Joaquin County Flood Control And Water Conservation District	A	A	A	A	A
North Littlejohn Creek	San Joaquin County Flood Control And Water Conservation District	A	M	M	M*	M
South Littlejohn Creek	San Joaquin County Flood Control And Water Conservation District	A	A	M	M	M
South Littlejohn Creek North Branch	San Joaquin County Flood Control And Water Conservation District	A	A	A	A	A

**Table 3-2 Continued: Overall Channel Maintenance Ratings for 2011 to 2015**

Channel	LMA Name					
		2011	2012	2013	2014	2015
Miscellaneous Basins						
Laurel Creek	Fairfield Suisun Sewer District	M	M	M	M*	A
Ledgewood Creek	Fairfield Suisun Sewer District	M*	M*	A	A	A
McCoy Creek	Fairfield Suisun Sewer District	M	A	A	A	A
Union Avenue Diversion	Fairfield Suisun Sewer District	A	A	A	A	A
Truckee River	Placer County	A	A	A	A	A

\* Overall channel rating average is less than 0.2; however, U rated issues are present, so the overall rating is M instead of A.

## 4 2015 STRUCTURE MAINTENANCE INSPECTION RESULTS

The types of project structures included in the inspections include fixed crest diversion weirs, controllable diversion structures, outfall structures, drop structures, and interior drainage pumping plants. The rating designations (A, M, and U) described in Section 2 are also used for structure ratings.

The method for determining overall ratings is similar to the one used for channel inspections and is described in Appendix F. Table 4-1 shows the numbers of each rating for 2011-2015 for all structures. Figure 4-1 and Table 4-2 show ratings for each structure, while Figure 4-2 and Table 4-3 show ratings for each pumping plant. The LMAs performance on structure maintenance has fluctuated slightly since 2011, but not one has received an unacceptable rating in that time. FPIS staff have worked with DWR, the USACE, and the CVFPB staff to better understand responsibilities regarding structures. No maintaining agency has been identified for Paradise Dam, but attempts to clarify this are ongoing. FPIS staff continues to research authorizations for the structures and will continue to refine what structures are inspected during these inspections.

**Table 4-1: Summary of Structure Maintenance Ratings for 2011 to 2015**

	2011	2012	2013	2014	2015
<b>Structures Ratings</b>					
A=Acceptable	46	46	42	44	44
M=Minimally Acceptable	3	3	9	8	8
U=Unacceptable	0	0	0	0	0
Not Inspected	0	0	0	0	0
<b>Pumping Plant Ratings</b>					
A=Acceptable	12	11	11	13	12
M=Minimally Acceptable	0	1	2	0	1
U=Unacceptable	1	1	0	0	0
Not Inspected	0	0	0	0	0

Most of the structures remained at a similar level of maintenance to what was reported in 2014.

Tables 4-2 and 4-3 show individual structure ratings for each LMA. Locations of the structures inspected can be found in Figure 7-1.

A summary of the ratings for each structure, grouped by LMA and including the rated categories for each, can be found in Appendix J. A similar report for pumping plants can be found in Appendix K. More detailed reports, including photos for each structure, can be found at <http://cdec.water.ca.gov/fsir.html>.



**Figure 4-1: Comparison of Overall Structure Ratings for 2011 to 2015**

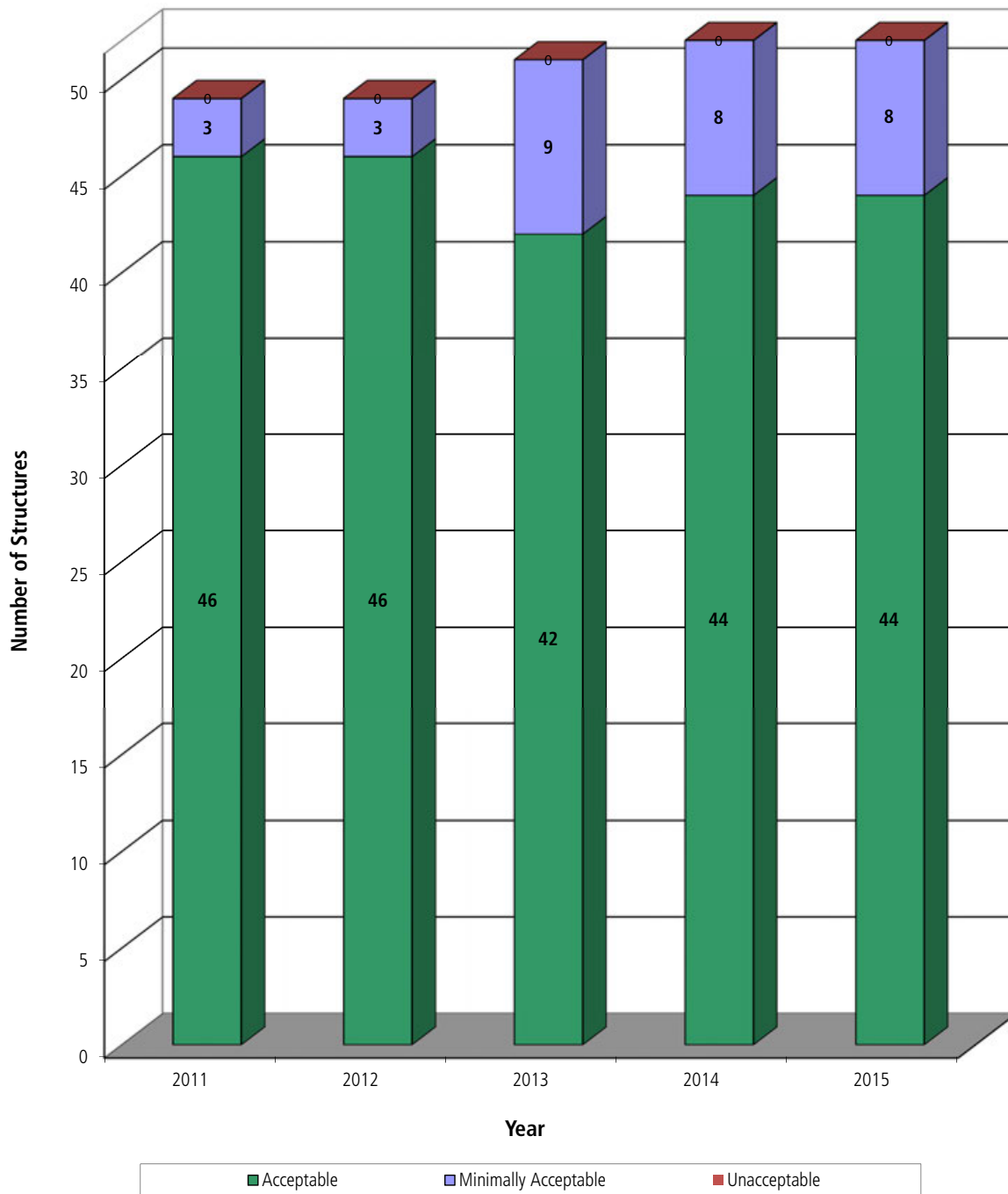
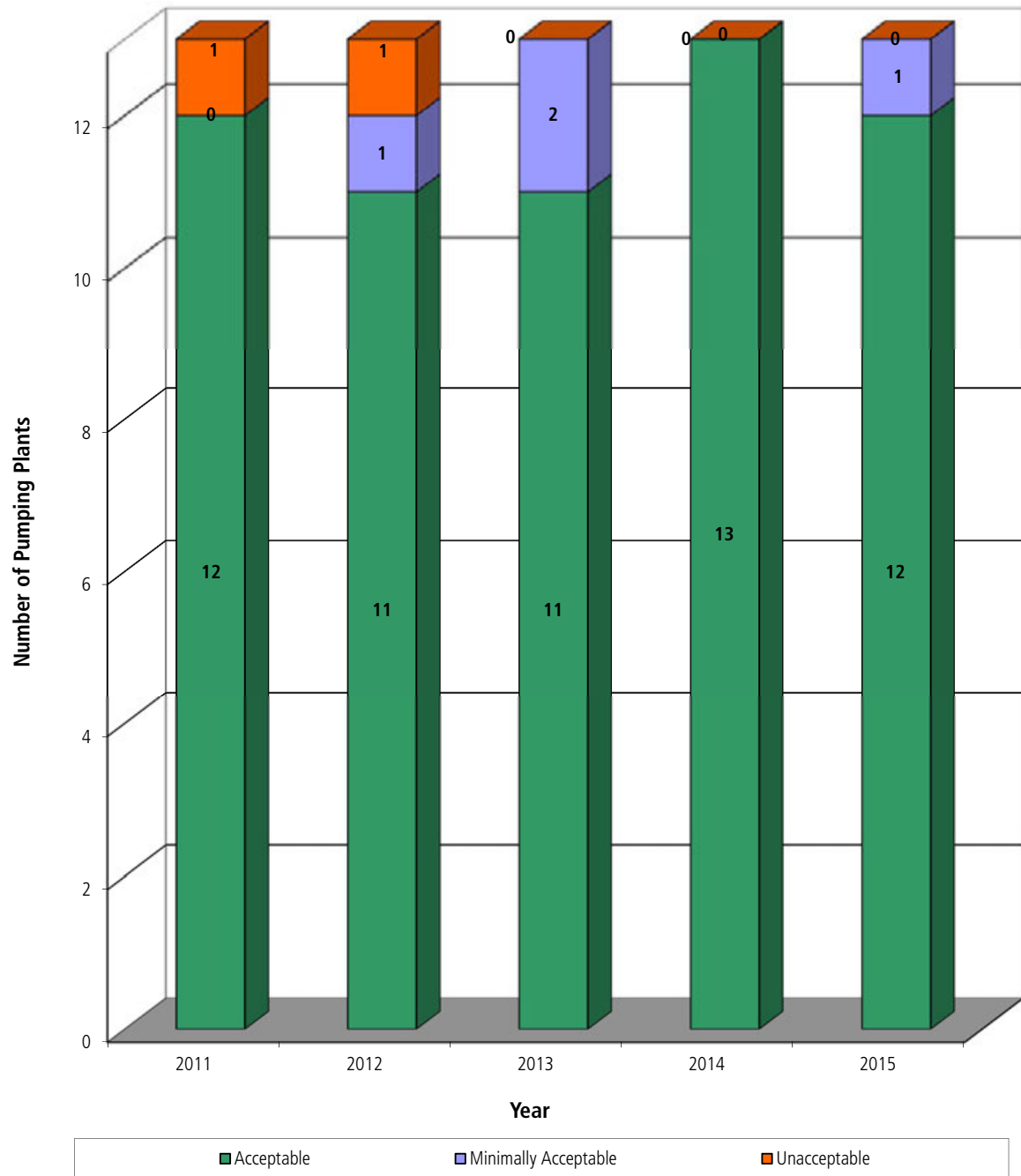


Figure 4-2: Comparison of Overall Pumping Plant Ratings for 2011 to 2015



**Table 4-2: Overall Structure Ratings for 2011 to 2015**

Structure	LMA Name					
		2011	2012	2013	2014	
Sacramento River Basin						
Big Chico Creek Control Structure	Butte County Public Works	A	A	A	A	A
Butte Slough Drainage Structure	Sutter Maintenance Yard	A	A	A	A	A
Butte Slough Outfall Structure	Sutter Maintenance Yard	A	A	A	A	A
Cache Creek Settling Basin Weir And Drainage Structure	Sacramento Maintenance Yard	A	A	M	A	A
Clover Creek Diversion Structure	Lake County Watershed Protection District	M	M	M	A	A
Colusa Weir	Sutter Maintenance Yard	A	A	A	A	A
El Camino Avenue Bridge	City of Sacramento	A	A	M	A	A
Elk Slough Inlet Structure	Reclamation District 999	A	A	A	A	A
Fremont Weir	Sacramento Maintenance Yard	A	A	M	M	A
Goose Lake Overflow Structure	Sutter Maintenance Yard	N/A	N/A	M	M	M
Highland Canal Diversion Weir And Drainage Structure	Lake County Watershed Protection District	A	A	A	A	M
Knights Landing Outfall Structure	Sacramento Maintenance Yard	A	A	A	A	A
Lindo Channel Control Structure	Sutter Maintenance Yard	A	A	A	A	A
Lindo Channel Diversion Weir	Sutter Maintenance Yard	A	A	A	A	A
Little Chico Creek Control And Weir Structures	Sutter Maintenance Yard	A	A	A	A	A
M&T Ranch Overflow Structure	Sutter Maintenance Yard	N/A	N/A	A	A	A
Mayhew Drain Closure Structure	Sacramento County	N/A	N/A	N/A	M	M
Moulton Weir	Sutter Maintenance Yard	A	A	A	A	A
Nelson Bend	Sutter Maintenance Yard	A	A	A	A	A
North Fork Feather River Diversion Channel Drop Structure No. 1	Plumas County	A	A	A	A	A
North Fork Feather River Diversion Channel Drop Structure No. 2	Plumas County	A	A	A	A	A
North Fork Feather River Diversion Channel Drop Structure No. 3	Plumas County	A	A	A	A	A
North Fork Feather River Diversion Channel Drop Structure No. 4	Plumas County	A	A	A	A	A
North Fork Feather River Diversion Channel Drop Structure No. 5	Plumas County	A	A	A	A	A
North Fork Feather River Diversion Channel Drop Structure No. 6	Plumas County	A	A	A	A	A

**Table 4-2 Continued: Overall Structure Ratings for 2011 to 2015**

Structure	LMA Name					
		2011	2012	2013	2014	2015
Sacramento River Basin						
North Fork Feather River Diversion Channel Drop Structure No. 7	Plumas County	A	A	A	A	A
North Fork Feather River Diversion Structure	Plumas County	A	A	A	A	A
Sacramento Weir	Sacramento Maintenance Yard	A	A	M	M	A
Sutter Bypass Weir No. 2	Sutter Maintenance Yard	A	A	A	A	A
Tisdale Weir	Sutter Maintenance Yard	A	A	A	A	A
Wadsworth Canal Weir No. 4	Sutter Maintenance Yard	A	A	A	A	A
San Joaquin River Basin						
Ash And Berenda Slough Control Structures	Madera County FCWCA	A	A	A	A	A
Ash Slough Drop Structure No. 1	Lower San Joaquin Levee District	A	A	A	A	A
Ash Slough Drop Structure No. 2	Lower San Joaquin Levee District	A	A	A	A	A
Ash Slough Drop Structure No. 3	Lower San Joaquin Levee District	A	A	A	A	A
Ash Slough Drop Structure No. 4	Lower San Joaquin Levee District	A	A	A	A	M
Bear Creek Diversion Structure	Lower San Joaquin Levee District	A	A	A	A	A
Black Rascal Creek Drop Structure	Merced Streams Group	A	A	A	A	A
Duck Creek Diversion Weir And Control Structure	San Joaquin County Flood Control and Water Conservation District	A	A	A	A	A
Eastside Bypass Control Structure	Lower San Joaquin Levee District	A	A	A	A	A
Eastside Bypass Drop Structure No. 1	Lower San Joaquin Levee District	A	A	A	A	A
Eastside Bypass Drop Structure No. 2	Lower San Joaquin Levee District	A	A	A	A	A
Fresno River Diversion Weir	Madera County FCWCA	A	A	A	M	M
Fresno River Drainage Structure	Lower San Joaquin Levee District	A	A	A	A	A
Mariposa Bypass Control Structure	Lower San Joaquin Levee District	A	A	A	A	A
Mariposa Bypass Drop Structure	Lower San Joaquin Levee District	A	A	A	A	A
Owens Creek Control Structure	Lower San Joaquin Levee District	M	A	M	M	M
Owens Creek Overflow Structure	Lower San Joaquin Levee District	A	A	A	A	A
Owens Creek Siphon Structure	Merced Streams Group	M	M	M	A	A
Paradise Dam	N/A	M	M	M	M	M
San Joaquin River And Chowchilla Canal Bypass Control Structure	Lower San Joaquin Levee District	A	A	A	A	A
San Joaquin River Structure And Sand Slough Structure	Lower San Joaquin Levee District	A	A	A	M	M

\* Overall structure rating average is less than 0.2; however, U rated issues are present, so the overall rating is M instead of A.

**Table 4-3: Overall Pumping Plant Ratings for 2011 to 2015**

Pumping Plant	LMA Name					
		2011	2012	2013	2014	2015
Magpie Creek	City of Sacramento	A	A	M	A	A
Mormon Slough #1	San Joaquin County Flood Control and Water Conservation District	A	A	A	A	A
Mormon Slough #2	San Joaquin County Flood Control and Water Conservation District	A	A	A	A	A
Mormon Slough #3	San Joaquin County Flood Control and Water Conservation District	A	A	A	A	A
American River Pumping Plant #1	Sacramento County	A	A	A	A	A
American River Pumping Plant #2	Sacramento County	A	A	A	A	A
Middle Creek	Sutter Maintenance Yard	A	A	A	A	A
Sutter Bypass #1	Sutter Maintenance Yard	A	A	A	A	A
Sutter Bypass #2	Sutter Maintenance Yard	A	A	A	A	A
Sutter Bypass #3	Sutter Maintenance Yard	A	A	A	A	A
Gomes Lake	Turlock Irrigation District	A	A	A	A	A
Reclamation District 2063 Pumping Plant (Nelson Drain)	Reclamation District 2063	U	U	M	A	A
Wetherbee Lake Pumping Plant & Navigation Gate	Reclamation District 2096	A	M	A	A	M

\* Overall structure rating average is less than 0.2; however, U rated issues are present, so the overall rating is M instead of A.

## 5 *SAN JOAQUIN RIVER FLOOD CONTROL SYSTEM EROSION SURVEY*

### 5.1 *Purpose*

Since 2006, the Department of Water Resources Flood Project Integrity and Inspection Branch has conducted an erosion survey of the San Joaquin River Flood Control System (SJRFCS) to document and monitor erosion sites in the SJRFCS. The purpose of the San Joaquin River Flood Control System Erosion Survey (SJRFCSSES) is to: a) inspect the waterside levees for erosion activity, b) document and report new erosion sites, c) document and report the current condition of previously identified erosion sites, and d) rank and rate the severity of erosion sites based upon the findings from the field survey. For the purpose of this report, an erosion site is defined as a site where substantial ground loss associated with erosion has been observed and documented, and where the integrity of the levee may be at risk of an erosion failure during floods or normal flow conditions.

### 5.2 *Highlights*

- In 2015, the erosion survey shows that 81 of the 102 previously identified erosion sites remain unchanged, including 79 rated existing sites and two unrated sites. Thanks to the dry weather during the last flood season, only two of the existing sites show significantly more erosion than last year. Of the two, the erosion at site NA 0017, river mile 23.35, has progressed significantly and should be repaired as soon as possible.
- Among the 102 surveyed existing erosion sites, 13 sites were repaired prior to the 2014 survey and their performance was evaluated. Six sites were repaired this year and are being monitored.
- Three new erosion sites were documented this year, including one on the San Joaquin River and two on Old River. Due to the lack of high flows, most of the levee distress at the new sites seems to be due to slope instability or irrigation leaks instead from river flows in the past flooding season. While slope instability is not a symptom of erosion, unstable slopes are more prone to erosion during high water and should be monitored, which is why these sites are noted in the erosion survey.
- FPIIB updated the erosion inventory database by adding survey details.
- FPIIB will continue to update the SJRFCSSES yearly.

### 5.3 *Results*

The results of the 2015 erosion survey continue to show that many local agencies have made significant improvements since 2006. Six previously identified erosion sites were repaired after the 2014 erosion survey. All 13 sites repaired prior to the 2014 erosion survey have been found in good condition. Erosion sites that were not repaired during the previous year and newly documented sites were given one of two possible ratings based on the condition of the site:

- **Minimally Acceptable (M)** – A site that requires annual assessment and monitoring, as it may become a serious levee deficiency in the near future.
- **Unacceptable (U)** – A site that may require immediate attention and corrective action, as it may be a serious levee deficiency that can fail during normal flow or in the next high water event.

Appendix F contains information on the erosion scoring system. In the erosion scoring system, the threshold score that separates Unacceptable sites from Minimally Acceptable sites is set at 59. This score was determined by using the erosion scoring system to conservatively estimate the score of an Unacceptable site (see Appendix F for details).



Table 5-1 lists the number of sites receiving each rating. A detailed summary of each site's status and rating, including photos, can be found in Appendix L.

**Table 5-1: Summary of Erosion Site Status and Rating for 2015**

	Number of Erosion Sites
M=Minimally Acceptable	41
U=Unacceptable	43
Sites Repaired	19
Sites Not Rated*	2

\*Sites are not rated if they have a berm that is wider than 35 ft. These sites are included in the survey at the request of the LMA.

Table 5-2 shows individual ratings for each erosion site. Most of the erosion sites were in a similar condition as in previous years. While the number of erosion sites rated as U remains high, many of the previously identified sites have since been repaired by local agencies and DWR.

**Table 5-2: Erosion Site Ratings by LMA for 2015**

LMA_INFO	LMA_NAME	Site_ID	Normalized Score	Rating
NA0011	Madera County FCWCA	NA0011U02RM2.57	65	U
NA0013	Merced Streams Group	NA0013U02RM1.31		Repaired
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM23.35	75	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM22.74	59	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM22.58	63	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM22.15	58	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM22.01	62	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM21.95	47	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM21.94	50	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM21.05	51	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM20.71	52	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM20	67	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM19.28		Repaired
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM19.23		Repaired
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM19.18	51	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM18.69	63	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM17.99	71	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM17.81	52	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM16.27	68	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM14.48	45	M

Table 5-2 Continued: Erosion Site Ratings by LMA for 2015

LMA_INFO	LMA_NAME	Site_ID	Normalized Score	Rating
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM13.86	57	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM13.72	58	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM13.53	40	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM12.95	57	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM20.62	64	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM17.27	62	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM15.57	66	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U15RM22.91	51	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM19.29	35	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM17.11	37	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U15RM13.87	40	M
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U16RM13.85	63	U
NA0017	San Joaquin County Flood Control and Water Conservation District	NA0017U15RM14.49	50	M
RD0001	Union Island	RD0001U01RM31.4	57	M
RD0017	Mossdale	RD0017U02RM44.32	64	U
RD0017	Mossdale	RD0017U02RM46.03		Repaired
RD0017	Mossdale	RD0017U02RM44.52		Repaired
RD0017	Mossdale	RD0017U02RM45.95	44	M
RD0017	Mossdale	RD0017U02RM45.94		Repaired
RD0017	Mossdale	RD0017U02RM46.89	57	M
RD0017	Mossdale	RD0017U02RM46.1	50	M
RD0404	Boggs	RD0404U01RM41.11	64	U
RD0404	Boggs	RD0404U01RM41.22		Repaired
RD0404	Boggs	RD0404U01RM40.98		Repaired
RD0404	Boggs	RD0404U01RM40.86		Repaired
RD0404	Boggs	RD0404U01RM42.02	54	M

Table 5-2 Continued: Erosion Site Ratings by LMA for 2015

LMA_INFO	LMA_NAME	Site_ID	Normalized Score	Rating
RD0524	Middle Roberts Island	RD0524U01RM45.27		Repaired
RD0524	Middle Roberts Island	RD0524U01RM43.83		Repaired
RD0524	Middle Roberts Island	RD0524U01RM41.59	65	U
RD0524	Middle Roberts Island	RD0524U01RM41.5	69	U
RD0524	Middle Roberts Island	RD0524U01RM41.39	65	U
RD0524	Middle Roberts Island	RD0524U01RM46.39	60	U
RD0524	Middle Roberts Island	RD0524U01RM45.97	64	U
RD0524	Middle Roberts Island	RD0524U01RM45.07	65	U
RD0524	Middle Roberts Island	RD0524U01RM44.13	0	Repaired
RD0524	Middle Roberts Island	RD0524U01RM41.58	68	U
RD0524	Middle Roberts Island	RD0524U01RM40.99	64	U
RD0524	Middle Roberts Island	RD0524U01RM42.79	62	U
RD0524	Middle Roberts Island	RD0524U01RM42.93		Repaired
RD0524	Middle Roberts Island	RD0524U01RM41.92	69	U
RD0524	Middle Roberts Island	RD0524U01RM42.03	63	U
RD0524	Middle Roberts Island	RD0524U01RM43.23		Repaired
RD0524	Middle Roberts Island	RD0524U01RM43.52	64	U
RD0524	Middle Roberts Island	RD0524U01RM40.85	66	U
RD0524	Middle Roberts Island	RD0524U01RM46.06	57	M
RD0524	Middle Roberts Island	RD0524U01RM43.86	67	U
RD0524	Middle Roberts Island	RD0524U01RM42.84	71	U
RD0524	Middle Roberts Island	RD0524U01RM42.09	68	U
RD0524	Middle Roberts Island	RD0524U01RM41.44	71	U
RD0524	Middle Roberts Island	RD0524U01RM46.12		Repaired
RD0524	Middle Roberts Island	RD0524U01RM41.36	54	M
RD0524	Middle Roberts Island	RD0524U01RM41.79	67	U
RD0524	Middle Roberts Island	RD0524U01RM42.2	64	U
RD0544	Upper Roberts Island	RD0544U01RM49.67	63	U
RD0544	Upper Roberts Island	RD0544U01RM48.81		Repaired
RD0544	Upper Roberts Island	RD0544U02RM32.91	58	M
RD0544	Upper Roberts Island	RD0544U02RM33.21	57	M
RD0544	Upper Roberts Island	RD0544U01RM51.09		Repaired
RD0544	Upper Roberts Island	RD0544U01RM51.04	43	M
RD0544	Upper Roberts Island	RD0544U01RM47.12		Repaired
RD0544	Upper Roberts Island	RD0544U02RM33	62	U
RD2031	Elliot	RD2031U01RM0.48	42	M

Table 5-2 Continued: Erosion Site Ratings by LMA for 2015

LMA_INFO	LMA_NAME	Site_ID	Normalized Score	Rating
RD2031	Elliot	RD2031U02RM78.7		Not Rated
RD2058	Pescadero	RD2058U01RM3.97	58	M
RD2062	Stewart	RD2062U03RM30.27	58	M
RD2062	Stewart	RD2062U03RM30.1	58	M
RD2062	Stewart	RD2062U03RM30.02	63	U
RD2062	Stewart	RD2062U03RM29.93	63	U
RD2062	Stewart	RD2062U01RM54.14		Repaired
RD2062	Stewart	RD2062U03RM30.19	62	U
RD2062	Stewart	RD2062U03RM30.43	57	M
RD2062	Stewart	RD2062U03RM31.12	61	U
RD2062	Stewart	RD2062U03RM31.28	64	U
RD2075	McMullin	RD2075U01RM64.34	49	M
RD2085	Kasson	RD2085U01RM67.7		Not Rated
RD2085	Kasson	RD2085U01RM66.5	51	M
RD2089	Stark	RD2089U01RM29.8	58	M
RD2089	Stark	RD2089U01RM29.04	58	M
RD2089	Stark	RD2089U01RM29.61	60	U
RD2089	Stark	RD2089U01RM29.94	51	M
RD2089	Stark	RD2089U02RM28.35	56	M
RD2095	Paradise Cut	RD2095U02RM60.62	40	M
RD2095	Paradise Cut	RD2095U01RM6.74	43	M
RD2095	Paradise Cut	RD2095U02RM60.69	38	M
RD2101	Blewett	RD2101U01RM73.92	68	U

## 6 LMA REPORTING REQUIREMENTS (CWC SECTIONS 9140-9141)

### 6.1 Background

California Assembly Bill (AB) 156 (Laird, 2007) Flood Control was introduced in the 2007-2008 Legislative Session. Governor Schwarzenegger signed the bill and Secretary of State Bowen chaptered it on October 10, 2007 (Chapter 368, Statutes of 2007). CWC Sections 9140-9141 require LMAs to submit an annual report on their operation and maintenance activities on Project levees. The sections also require DWR to submit an annual report summarizing the information received from the LMAs. By establishing these requirements on LMAs, CWC Sections 9140-9141 imposed a state-mandated local reporting program effective July 1, 2008.

#### Local Maintaining Agency Reports

LMAs (including Sacramento and Sutter Maintenance Yards) are required to submit a report regarding the operations and maintenance of their levees to DWR by September 30 each year. According to CWC Section 9140, the information submitted to DWR shall include all of the following five items:

1. Information known to the LMA that is relevant to the condition or performance of the Project levee.
2. Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project levee.
3. A summary of the maintenance performed by the LMA during the previous fiscal year.
4. A statement of work and estimated cost for operation and maintenance of the Project levee for the current fiscal year, as approved by the LMA.
5. Any other readily available information contained in the records of the LMA relevant Project levee, as determined by the CVFPB or DWR.

To aid LMAs with the reporting requirements, DWR developed electronic and hard copy reporting forms. An example of the hard copy reporting forms is shown in Appendix D.

In some cases Project levees abut non-Project levees; therefore, some non-Project levees may also keep flood water out of areas protected by Project levees. In these cases, CWC Sections 9140-9141 requires that LMAs subject to these requirements also include the same information for these non-Project levees in their reports. Other LMAs that maintain only non-Project levees may voluntarily submit their operation and maintenance information to DWR for inclusion in the annual report.

#### Where were the AB 156 LMA Reporting requirements added to the CWC?

AB 156 added Chapter 9, commencing with Section 9110, to Part 4 of Division 5 of the CWC. Water Code additions specific to the Local Maintaining Agency Reporting Program are outlined below:

CWC Section	Topic
Chapter 9, Article 1, Section 9110	Selected Definitions
Chapter 9, Article 1, Section 9140	Local Reports

#### Selected CWC Definitions

**“Local Agency”** means a local agency responsible for the maintenance of a Project levee.

**“Maintenance”** means work described as maintenance by the federal regulations issued by the Secretary of the Army, the Secretary of Agriculture, the department, or the board for any project.

**“Project levee”** means any levee that is part of the facilities of the State Plan of Flood Control

**“State Plan of Flood Control”** means the state and federal flood control works, lands, programs, plans, policies, conditions, and mode of maintenance and operations of the Sacramento River Flood Control Project described in Section 8350, and of flood control projects in the Sacramento River and San Joaquin River watersheds authorized pursuant to Article 2 (commencing with Section 12648) of Chapter 2 of Part 6 of Division 6 for which the board or the department has provided assurances of nonfederal cooperation to the United States, and those facilities identified in Section 8361.

**“Fiscal year”** has the same meaning as set forth in Section 13290 of the Government Code. The fiscal year shall commence on the first day of July.

## Summary Report by DWR

According to CWC Section 9141, DWR is required to prepare and submit an annual report to the CVFPB on the Project levees and certain non-Project levees operated and maintained by LMAs. This report summarizes information received from LMAs, as well as relevant portions of any of the following documents as determined by DWR:

1. The SPFC Descriptive Document.
2. The Flood Control System Status Report (FCSSR).
3. The schedule for mapping described in CWC Section 8612.
4. Any correspondence, documentation, or information deemed relevant by DWR.

The following sections provide a status update for the other documents, reports, and information mentioned above.

### CWC Sections 9140 - 9141 Reporting Timelines

CWC changes became effective: ..... July 1, 2008

Local Maintaining Agency reports to DWR: ..... Due September 30 each year

DWR Annual Report to CVFPB: ..... Due December 31 each year

- **Annual Inspection Report:** The Annual Inspection Report on LMA maintenance is combined in this report.
- **The SPFC Descriptive Document:** The SPFC Descriptive Document was released in November, 2010. The document contains descriptions of flood management facilities, lands, programs, conditions, and mode of O&M for the State-federal flood protection system in the Sacramento River and San Joaquin River watersheds. The report describes the existing system, but it is not a plan for the future. The document is available for download from the Central Valley Flood Management Planning (CVFMP) website: <http://www.water.ca.gov/cvfmp/documents.cfm>.
- **The FCSSR:** The FCSSR was released in December, 2011. This document describes the current status (physical condition) of SPFC facilities at a system-wide level. DWR prepared the FCSSR to meet the legislative requirements of CWC Section 9120, and to contribute to development of the Central Valley Flood Protection Plan (CVFPP). The CVFPP will guide future State investments through projects to address identified problems in the SPFC. The next release of the FCSSR is scheduled for 2017. The current document is available for download from the CVFMP website: <http://www.water.ca.gov/cvfmp/documents.cfm>.
- **The schedule for mapping - DWR's Central Valley Flood Plain Evaluation and Delineation Program (CVFED):** The mapping initiative as described in CWC Section 8612 is part of DWR's CVFED program. This program is now complete and its deliverables are available for use. The CVFED Program provides building blocks to estimate the frequency, depth, and limits of potential flooding in the Central Valley. These building blocks consist of: flood plain assessments, standards, methodologies, tools, and analyses that support multiple flood management and flood risk evaluation applications. These building blocks are used by FloodSAFE programs and projects, and by other State, Federal, and Local Agency projects. The CVFED Program consists of three interrelated projects: (1) Central Valley Topography Acquisition Project, (2) Central Valley Hydraulic Evaluation Project, and (3) Central Valley Floodplain Delineation Project. The Central Valley Topography Acquisition Project produced post processed LIDAR topography for the entire CVFED study area (5,800 sq. miles). The Central Valley Hydraulic Evaluation Project produced reach based, regional and system wide riverine and overland flow foundational hydraulic models for the areas at risk of flooding within the SPFC area of influence. These models have been made available to flood and water management communities within the state on request and are stored in DWR's Library of Flood Models. The Central Valley Flood Delineation Project developed and released informational maps for the urban areas identified in the CVFPP's State System-wide Investment approach.



## 6.2 Agencies Subject to CWC Section 9140 Requirements

### Local Maintaining Agencies Subject to the Reporting Requirements

Most Project levees of the Sacramento and San Joaquin Flood Control Systems are maintained by LMAs and the maintenance activities are funded through assessment of landowner's properties within the LMAs' boundaries. These LMAs are comprised of Levee Districts (LD) and Reclamation Districts (RD). A variety of cities, counties, and other public agencies and municipalities also maintain Project levees; these agencies are identified in this report by the term Named Areas (NA).

### State-Maintained Levees

CWC Section 8361 identifies levees within the Sacramento River Flood Control System that are the State's responsibility. Maintenance of these State-maintained levees (ST) is performed by DWR through the Sacramento and Sutter Maintenance Yards.

### Maintenance Areas

Under Section 12878 of the CWC, DWR is authorized to create Maintenance Areas (MA) for Project levees with no identified LMA, or where the LMAs have failed or refused to perform maintenance or have chosen to relinquish maintenance responsibilities of their own volition. There are currently 10 active MAs in the state, all within the jurisdictional boundaries of the CVFPB. Based on their location, levees within MAs are maintained by either the Sacramento or Sutter Maintenance Yards.

#### More Information on LMAs from the CWC

Type of Agency Section	CWC
Levee Districts	70000
Reclamation Districts	50000
State Maintained Areas	8361
Maintenance Areas	12878

## 6.3 Use of the LMA Reporting by DWR

The information collected by the LMA Report provides a local understanding of system performance, as well as their operation and maintenance practices. This important information contributes to an annual assessment of vulnerability of the flood control system prior to flood season and can be shared with emergency response partners to make sure that appropriate steps are taken for resource monitoring and emergency operations. Providing detailed information about the location and extent of critical levee distresses is essential to the flood preparedness activities that ensure timely and appropriate response for flood emergencies.

The information submitted in Parts 1 and 2 of the five-part reporting program provides critical information for emergency response before flood season to better prepare the first responders. Part 3 provides an opportunity for DWR to assess the current maintenance practices by LMAs throughout the year, in particular during summer and winter. Part 4 provides information on LMAs' planned activities and budgets for the next fiscal year. This information particularly helps DWR to evaluate LMAs' operation and maintenance costs per levee mile. Part 5 deals with any other readily available information that LMA can submit regarding the condition and the performance of the structures. The information in Part 5 is also used to better prepare emergency responders.

Finally, the LMAs provide valuable information about the current conditions of the levees in flood control system. DWR uses this information to develop critical data to evaluate levees, monitor levee conditions, and provide input to emergency response programs to improve public safety.

## Reporting Statistics

There has been an increasing trend (Figure 6-1) of reporting compliance by LMAs during the past five years. A system wide comparison of reporting compliance (Figure 6-2) shows at least 90% of Areas belonging to the Sacramento system and 92% of Areas belonging to the San Joaquin system have reported in the last five years. Overall, about 94% of Areas have submitted their report this year.

The increasing trend of electronic reporting is continuing and is shown in Figure 6-3. This year, about 78% of the Areas submitted reports through DWR's web-based LMA Reporting tool. This may be attributed to continuous outreach activities and enhancement of reporting infrastructure since the inception of the tool.

**Figure 6-1: Reporting Compliance for 2011 to 2015**

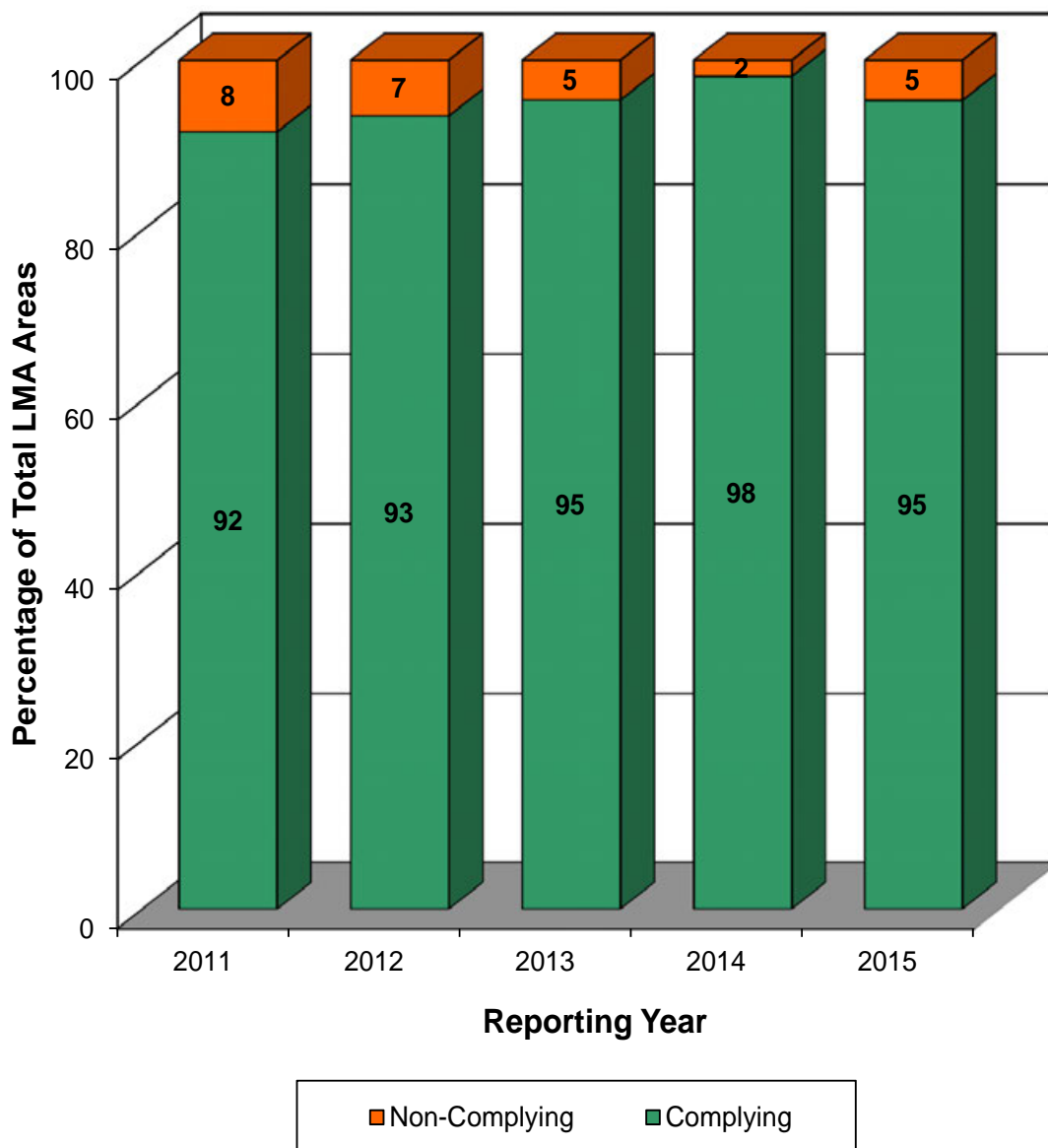


Figure 6-2: Comparison of Reporting Compliance by Systems for 2011 to 2015

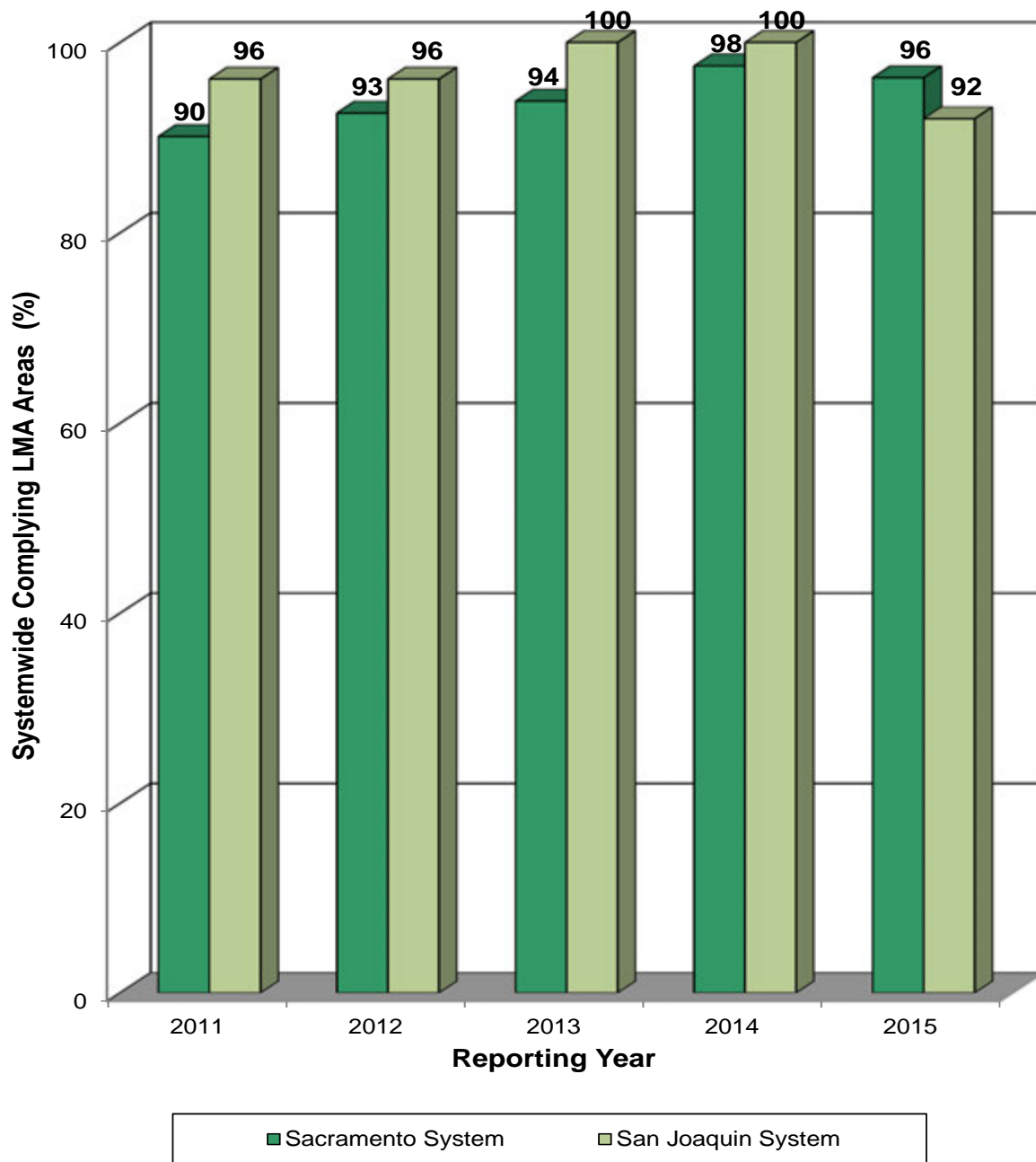
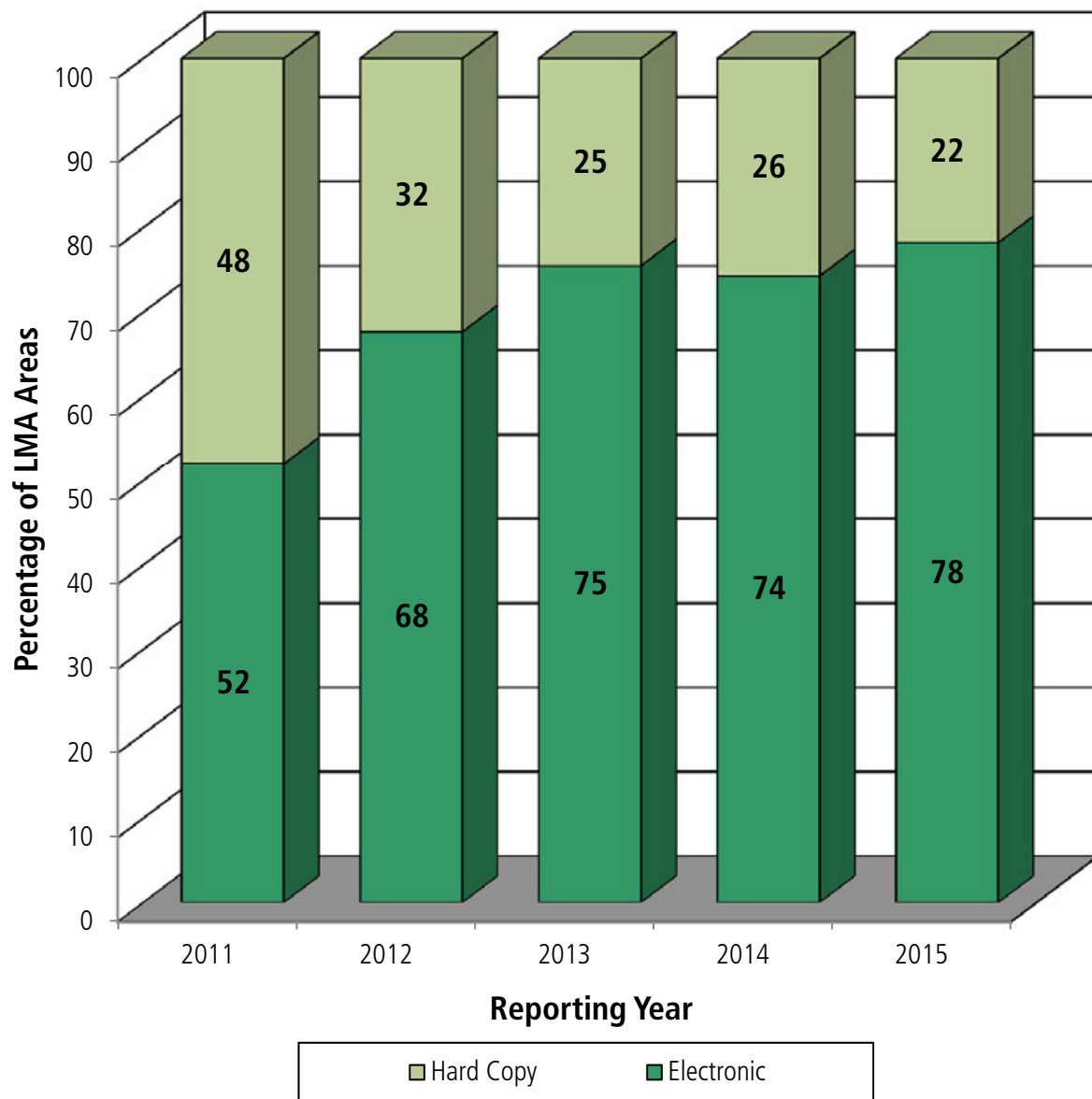


Figure 6-3: Reporting Mode for 2011 to 2015



### Reported Key Maintenance Activities

About 99% of reporting Areas provided information on the summary of maintenance activities. As in the previous years, routine vegetation maintenance activities (burning, slope dragging, cutting, trimming, spraying), rodent control, levee crown grading, roadway maintenance and encroachment dominated LMA maintenance activities for fiscal year 2014-15. Figure 6-4 shows the activities Areas reported as having performed as a percentage of the total number of Areas who reported information during that year. Other reported key activities include minor structural repairs (mile markers, gates, barricades, and miscellaneous signs maintenance and repair), and minor levee repairs (erosion repair, hole grouting, revetment, rip-rap and slope repair). Some LMAs also reported levee patrolling and other planning activities such as preparation of five year maintenance plans.

A similar percentage of reporting Areas also provided information on the planned maintenance activities for the current fiscal year 2015-16. The planned activities reflect similar maintenance priorities as performed maintenance activities in fiscal year 2014-15. Figure 6-5 shows planned activities that were reported by LMAs.

**Figure 6-4: Key Performed Activities Reported for 2011 to 2015**

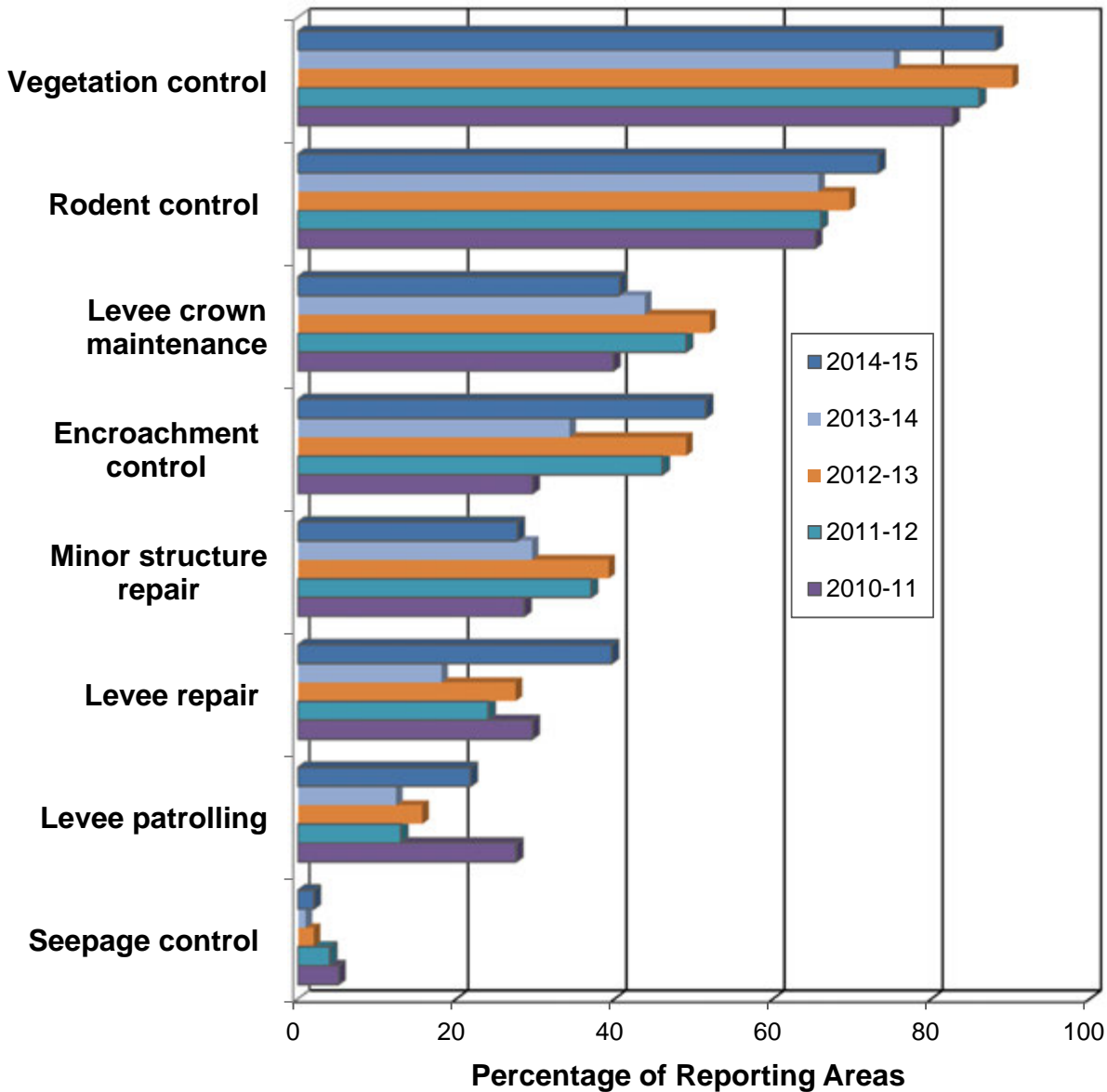
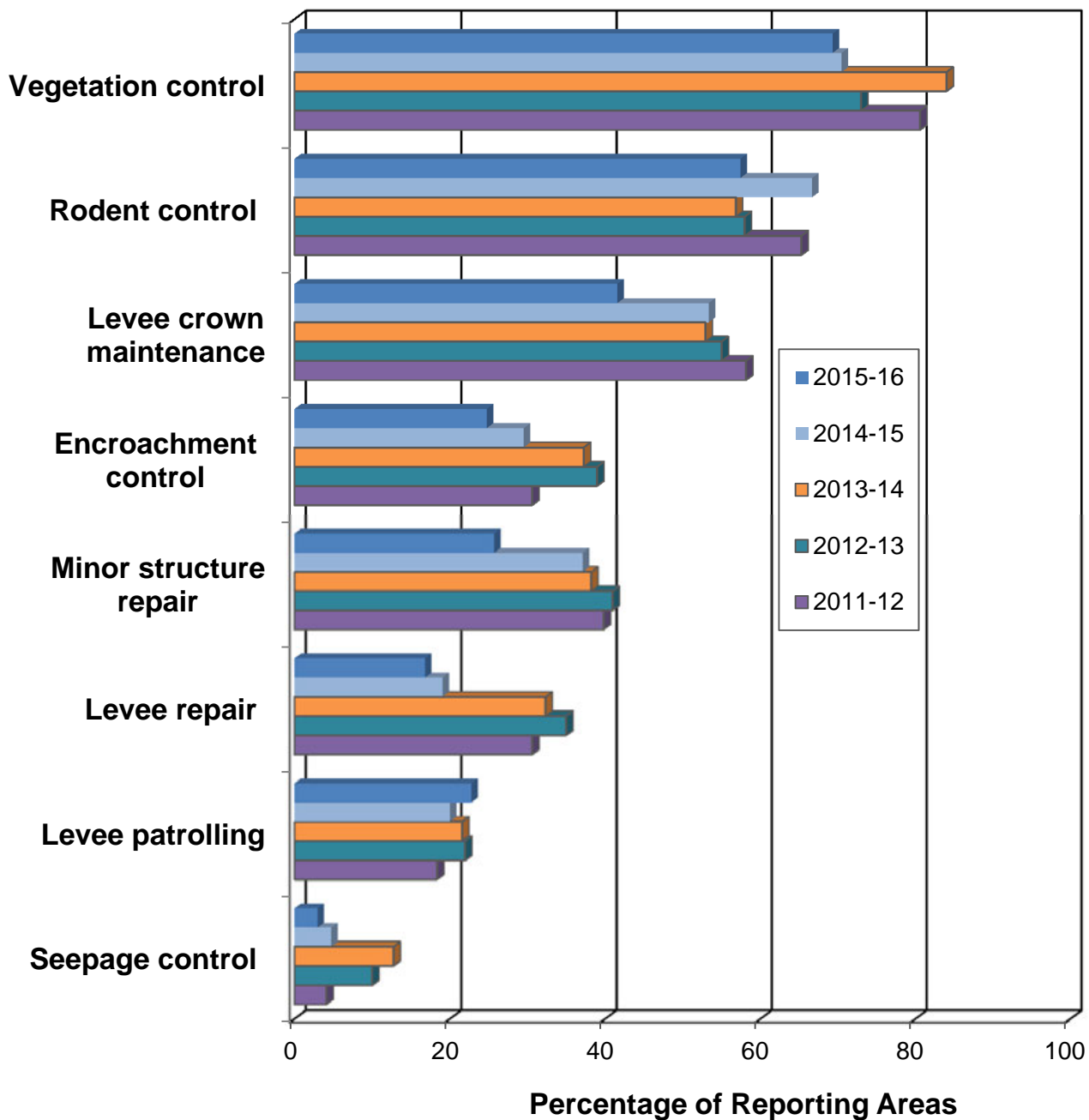


Figure 6-5: Key Planned Activities Reported for 2012 to 2016



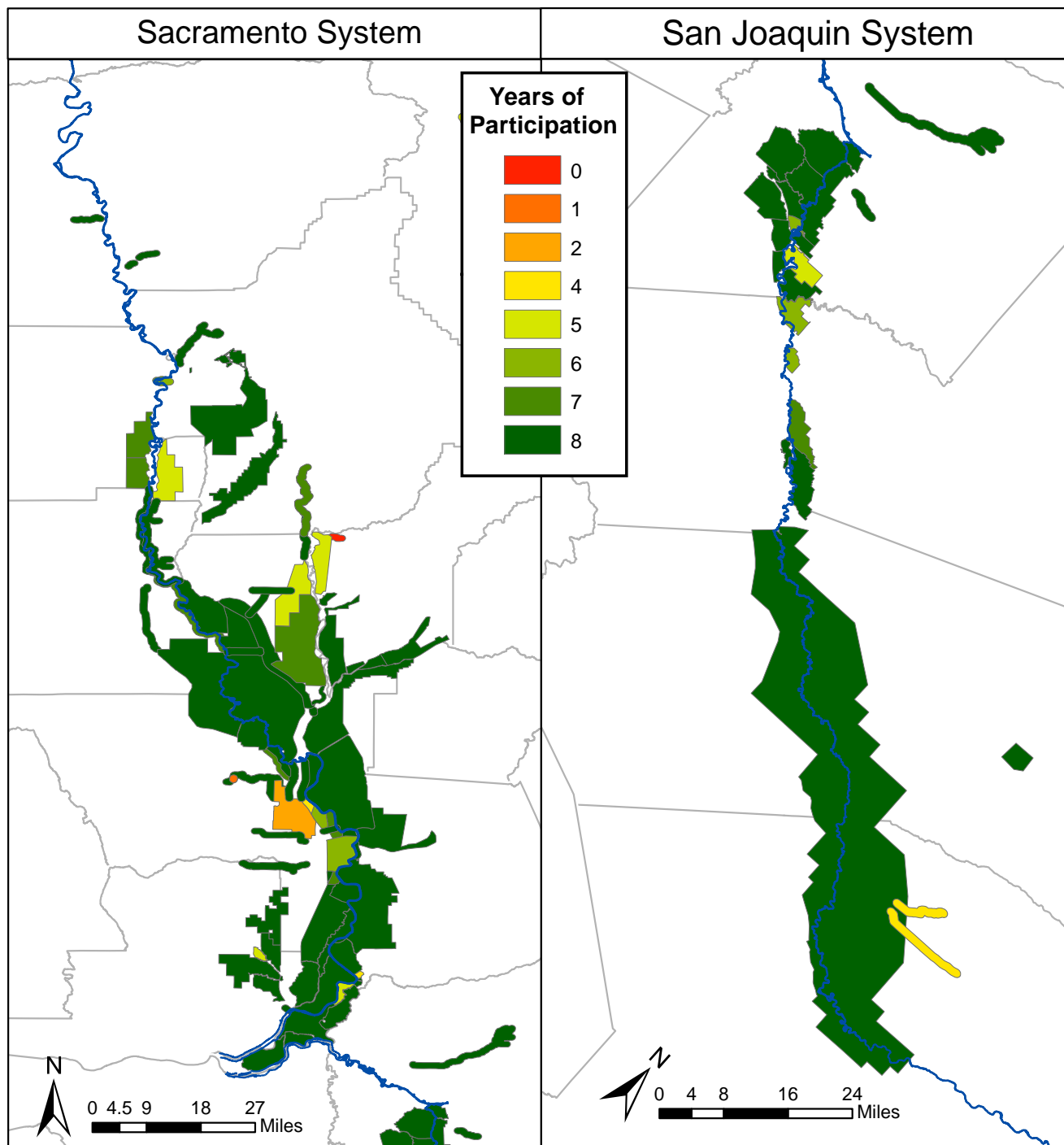
### Issues Reported

Local Maintaining Agencies reported issues and information critical for the integrity of the Project levees. Key issues pointed out by the LMAs this year include: encroachment, erosion and sedimentation, freeboard and other levee geometry deficiencies, in-channel and levee vegetation, seepage, and sand boils. All of this information is summarized in Part 1 and Part 2 in the summary reports in Appendices A and B.

Figure 6-6 shows a graphical representation of LMA's compliance with the program for both the Sacramento and San Joaquin systems from 2008 through 2015. For the most part, both Sacramento and San Joaquin system LMAs complied with the

program for majority of the years since 2008. The figure also shows that there is only one LMA in the Sacramento system that never reported to the program. On the contrary, there are no single LMAs in the San Joaquin system that never reported to the program.

**Figure 6-6: Compliance by Reporting Area for 2008 to 2015**





## 6.4 Communication and Outreach

DWR recognizes that the requirements of CWC Section 9140 placed a new reporting burden on LMAs. To help make reporting easier, DWR developed an outreach program and a web-based reporting tool to assist LMAs. DWR notified LMAs of the new reporting requirements, developed electronic and hard copy reporting options, and held a series of presentations and workshops. The process continues today, with DWR soliciting feedback from LMAs to improve the program. The following subsections and Figure 6-7 describe the chronology of the outreach process for 2015.

### **Local Maintaining Agency Individual Reporting Feedback**

In lieu of an LMA workshop, individual feedback was provided to the LMAs on their 2014 report. LMAs were encouraged to provide more detailed information and they were given an example report showing the level of detail the Department wishes to receive. 43 LMAs also received feedback on their 2014 report along with the example report. A copy of the example report and the letter to LMAs is included in the Appendix D.

### **Web Application User Manual**

A web application User Guide has been updated for the electronic users to facilitate reporting. Along with the LMA reporting module, the guide includes the Utility Crossing Inventory Pipeline Program and the USACE Inspections and Encroachment Records modules. It can also be used to answer frequently asked questions. The guide will be subjected to change as functions and features are updated. The guide can be accessed from the LMA website:

[http://cdec.water.ca.gov/cgi-progs/products/LMA\\_Web\\_Application\\_User\\_Guide.pdf](http://cdec.water.ca.gov/cgi-progs/products/LMA_Web_Application_User_Guide.pdf)

### **Fact Sheet**

A program fact sheet was revised in 2013 to describe changes to the program and reporting requirements. It is posted on the LMA website at <http://cdec.water.ca.gov/lma.html>.

### **Non-Project Levee Information**

In order to further support the CWC 9140 requirement, DWR asked the LMAs (who maintain non-Project levees) to submit information on their non-Project levees starting in 2013. Out of 99 LMAs who responded to DWR's request, 20 LMAs reported non-Project levees they maintain along with the Project levees. The information received was verified and integrated into the LMA reporting tool for these 20 LMAs. This year, 6 LMAs- 5 from Sacramento and 1 from San Joaquin, reported on their non-project levees. DWR will continue to perform outreach to the LMAs for reporting on non-Project levees and collect information on other types of non-Project levees.

### **Submittal to Libraries**

DVDs of the 2014 Annual Report were submitted to 49 libraries within the jurisdictional areas of the LMAs as directed by the code. A copy of the letter to the libraries is included in Appendix D.

### **Submittal to Cities and Counties**

DVDs of the 2014 Annual Report were submitted to 17 cities and counties within the jurisdictional areas of the LMAs. This improvement was added to the program for the first time in 2011. The code requires distribution of the report to any city or county within the local agency's jurisdiction. The counties included were Butte, Plumas, Glenn, Colusa, Tehama, Placer, Sutter, Yolo, Lake, Sacramento, Solano, San Joaquin, Stanislaus, Madera, Merced, and Fresno. A copy of the letter to the cities and counties is included in Appendix D.

### **Reporting Requirements Letter**

On September 9, 2015, a reporting requirements letter was mailed to all LMAs with instructions and the deadline. A copy of the letter is included in Appendix D.

**Phone Calls**

DWR performs outreach activities to assist LMAs with meeting the reporting deadline, assist in the web application, and help submit 2015 report successfully.

**Email Distribution ListServ**

The existing listserv (email distribution list) has been expanded with more email addresses in 2015. The listserv is used by inspection and other programs within DWR to communicate and outreach to LMAs conveniently and timely.

**Website and Electronic Reporting - Web Application Development**

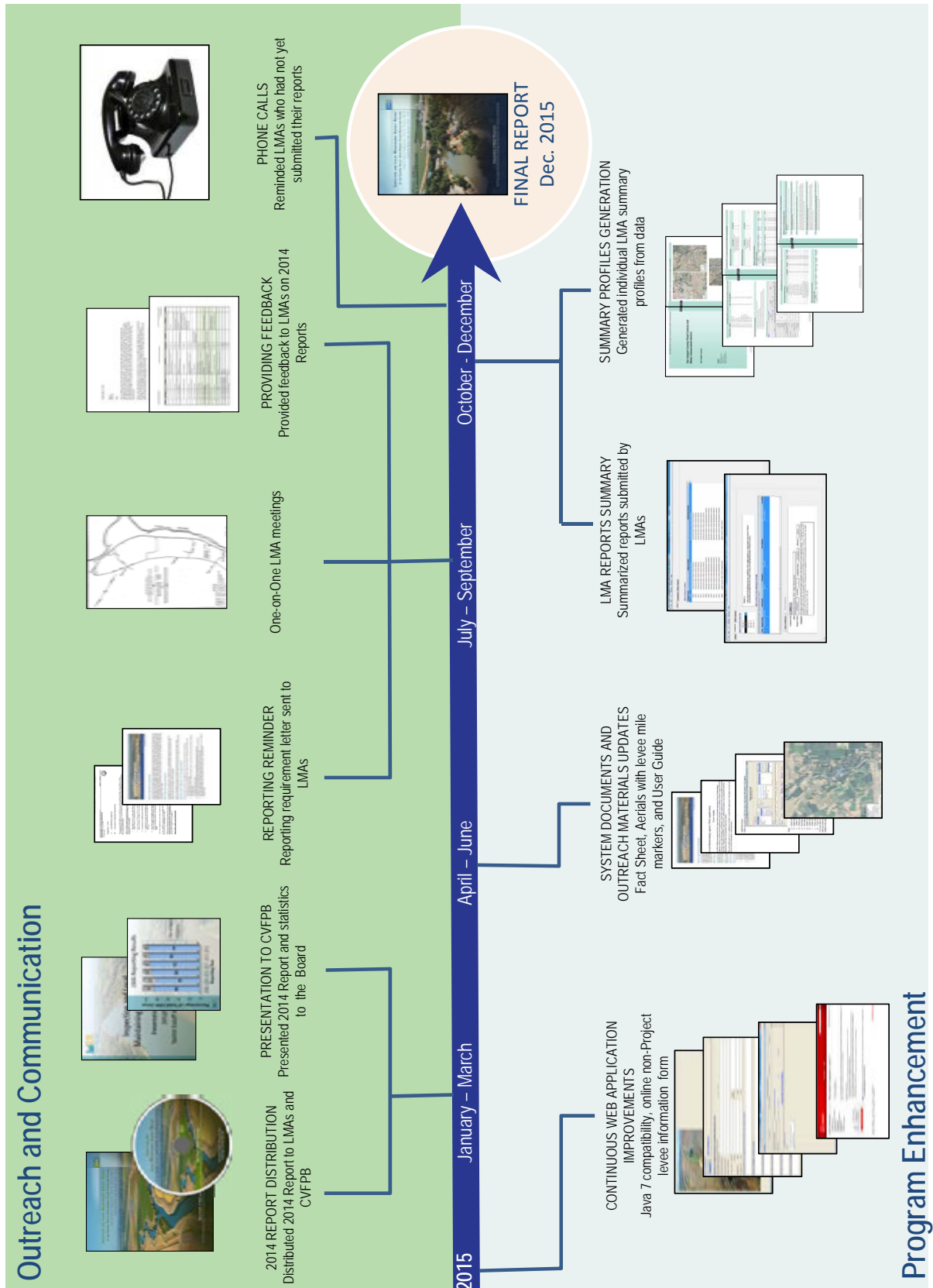
The graphical user interface for the webpage was developed in 2008 with assistance from the California Data Exchange Center (CDEC) staff to improve reporting and information sharing. Various documents regarding the LMA Reporting program can be accessed at <http://cdec.water.ca.gov/lma.html>. The web based reporting application can also be accessed at this location.

To obtain an individual user account for the web application, submit your request to [flood.webmaster@water.ca.gov](mailto:flood.webmaster@water.ca.gov). The application allows LMAs to access certain flood system information and submit required information electronically.

This web application is continually improved and enhanced with features and functions to assist LMAs in fulfilling their reporting requirements. To help LMAs submit acceptable reports, three examples of good reports are posted on our website. To access the examples, please click on the "Reporting Example" link under the Local Agency program website.

The integration between the Inspection and LMA reporting program through the web application has been improved. LMAs are highly encouraged to use the electronic program to submit information required for both the Inspections and LMA Reporting programs in one place. The response has been positive to date; more agencies submitted their reports electronically in 2015 than by hard copy.

Figure 6-7: LMA Reporting Program Activities



## 7 OTHER FPIIB ACTIVITIES AND ACCOMPLISHMENTS

The FPIIB supports flood operations by inspecting, evaluating, and assessing the integrity of the Sacramento and San Joaquin Flood Control Project levee systems through a variety of activities. FPIIB is involved in collecting and managing flood control system information to assist in flood operations efforts. This information includes data on historical levee distress issues, as well as historical flood control system improvements, O&M agreements, O&M standards and practices, and general information related to flood control system facilities.

FPIIB inspects the maintenance of flood control facilities and notifies LMAs of system deficiencies, monitors levee and channel erosion, monitors use of designated floodways, conducts regulatory inspections of CVFPB authorized encroachments, conducts flood fight training, has first-response capability during high-water events, and helps assist in conducting high-water staking.

The following sections provide more detail on key FPIIB activities and accomplishments.

### 7.1 *Inspection and Reporting for Project Facilities*

As described earlier, FPIIB conducts maintenance inspections for Project levees, channels, and structures. Improvements in 2015 inspections and reporting include:

- Continued inspector training and use of more consistent methodology to reduce subjectivity
- Continued refinements to the inspection database program, allowing efficient documentation of system conditions and compatibility with USACE National Levee Database reporting requirements

DWR expects to implement additional changes to the inspection program as existing USACE policies are clarified over time, new policies are developed, and other levee management issues arise.

### 7.2 *High Water Staking*

FPIIB set up a program and protocol to instruct DWR, LMAs, and other interested parties on how to perform high water staking. As part of this effort, FPIIB developed documentation for high water staking in Project levees. They are:

- High Water Staking Field Guidebook
- High Water Event Documentation Program Report

The High Water Staking Field Guidebook is designed to assist field crews with staking procedures. It provides a pre-staking checklist and describes how to stake, where to stake, and what to stake. The High Water Event Documentation Program Report describes issues and concern about the current staking program and recommends improvements. An outreach flyer has been developed to identify partners and stakeholders for this program. DWR is planning to make these documents available on CDEC for public use. High water data gathered from this program will also be available in CDEC.

FPIIB coordinated a high water staking effort with the Floodplain Evaluation Branch, Hydrology Branch, Regional Projects Assessment Branch of DFM, and the Geodetic Branch of the Division of Engineering (DOE) in 2011. DWR collected 243 high water surface elevations over approximately 200 miles of the San Joaquin River Flood System. Staking was done to gather valuable information on high water as well as to test the guidelines and protocols that were developed. The data collected can be used to better understand the performance of the levees, characterize a historical high water event, guide future flood control system improvements, and improve hydraulic modeling of flood control systems.

### 7.3 *Levee Waterside Erosion Surveys*

The USACE, with DWR sponsorship, has contracted for waterside erosion surveys of the Sacramento River system since 1998. As stated earlier, FPIIB began conducting waterside erosion surveys of the San Joaquin River portion of the State-federal flood protection system Project levees in September of 2006. The primary purpose of these surveys is to: a) inspect the waterside levees for erosion activity, b) document and report new erosion sites, c) document and report the current condition of previously identified erosion sites, and d) rank and rate the severity of erosion sites based upon the findings from the field survey. The USACE and its contractors generate the report on erosion found in the Sacramento River system; FPIIB staff supplements their inspection reports with the USACE data as it becomes available.

This year's erosion survey results were received in draft format from the USACE late in the fall of 2015. Much consideration was given to whether or not draft data should be used as part of the inspection criteria. After comparing the 2013 data set with the 2015 data set, it was decided to use the 2015 data. This decision was made when the comparison showed very little change in erosion lengths and a minor number of new or removed erosion sites. The 2015 data is included in this report and the LMRs.

The results from DWR's Erosion Survey of the San Joaquin River System are presented in this report in Section 5. Inspection criteria and rating methodology are described in Appendix F.

DWR and other State, federal, and local entities are working to develop an erosion repair strategy that addresses environmental concerns about erosion maintenance and assigns responsibility for repair of different scales of erosion in the flood protection system.

### 7.4 *Utility Crossing Inventory Surveys*

Levee penetrations are recognized as hazard elements affecting the integrity of project levees. Heavily corroded, leaking, collapsed, or otherwise compromised pipes affect the structural integrity of levee embankment by creating mechanisms of internal erosion. Identification of the precise location of these crossings and documentation of their external conditions constitute important and relevant information used to assess levee vulnerability.

Utility Crossing Inventory Program (UCIP) has developed an inventory of utility crossings penetrating State-federal project levees. The inventory included detailed desk studies to identify the location and characteristics of documented pipes crossing project levees and field surveys to document the external condition of the crossing structures and levee embankment.

While the majority of utilities penetrating project levees are irrigation or drainage discharge pipes, there are many other types of utilities crossing levees such as pressurized gas pipelines, storm drains, sewer lines, and communication conduits.

The utility crossing inventory program:

- Identified locations and characteristics of all pipes penetrating through levees by reviewing historical information such as CVFPB encroachment permits, DWR Levee Logs, Local Maintaining Agency's (LMA) records, and USACE Operation and Maintenance Manuals.
- Performed field surveys to identify the location and document the existing condition of the crossing and levee embankment based on an external visual inspection.
- Documented and updated the status of the crossing (found, indicators found, or not found).
- Assessed utility crossing based on visual evidence of deterioration of the pipe, inlet or outlet structure, and identify maintenance needs (Urgent, Non-Urgent, or No Action Needed).
- Shared utility crossing information with LMAs to assist in the coordination and Operation of Public and Private Facilities during flood fighting.

- Promotes the use of the Local Maintaining Agency Annual Report (Web Application) tool to log the operation and maintenance of the levee sections where utility crossings are present.
- Provides training to LMAs on how to update utility crossing information using the web application.

The UCIP has completed desk studies for about 1600 miles of the SPFC levees. These desk studies entailed extensive review of historical information such as CVFPB encroachment permits, DWR Levee Logs, LMA records, and USACE Operation and Maintenance Manuals to identify location and characteristics of pipes. About 7500 penetrations through the SPFC levees were identified during these desk studies. UCIP also performed field surveys to verify locations and document the existing condition of these pipes based on external visual inspection. Field surveys have been completed for about 1550 miles of levees.

Information collected through this program is being used by inspectors to clarify maintenance issues with the different levee maintaining agencies, and by engineers for vulnerability assessments. Penetrations through SPFC levees documented through the UCIP were included for the first time in the Levee Mile Reports (LMRs) in 2014. Penetrations rated as Urgent in UCIP were noted as Unacceptable on the LMRs while penetrations rated as Non-Urgent were noted as Minimally Acceptable. At this time all UCIP issues are noted as Enforcement issues. However, in the future system features such as storm drains may be used in part to assess an LMA's overall rating.

### ***UCIP Online Application***

Utility crossings (penetrations) require permitting review/approval, construction inspection, and continuing oversight inspection activity by all stakeholders including the USACE, CVFPB, DWR/FPIIB, LMA's and utility owner (permittee). UCIP field survey and desk study data has been integrated with Local Maintaining Agency Annual Reporting web application. This web application will enhance coordination and exchange of UCIP data with LMAs, CVFPB and USACE. This online tool allows the LMAs to record the actions taken to address any identified issues and keep a record of all utility crossings within their jurisdiction.

The UCIP online application:

- Provides a tool that can provide real-time crossing inventory and condition of all utility crossing penetrating through the flood project works by local maintaining agency.
- Provides an enhanced reporting method through the Local Maintaining Agency Annual Report (Web Application) for LMAs/MAs. It provides a transparent communication between DWR and LMAs/MAs with regards to documenting compliance issues, maintenance records, and progress notifications of the corrective action.
- Provides detailed summary sheets of utility crossings and information identifying known conditions that might impair or compromise the level of the project levee, per Water Code Section 9140 (a)(1).
- Provides an annual assessment of the utility crossing based on field surveys. This tool also allows for LMAs/MAs to document which utility crossings, based on visual inspection, pose a threat to the integrity of the flood control system.
- Allows LMAs to record all the steps taken to rectify unauthorized or non-compliant issues with regards to utility crossings.

## 7.5 Other Key Activities

Additional FPIIB activities supporting the assessment of the integrity of the Sacramento and San Joaquin Flood Control Project levee system include:

- CVFPB Permit Inspection: FPIIB's team of inspectors visually inspect the construction and installation of permitted encroachments for adherence to Board conditions. Staff are also coordinating with the CVFPB staff to document all permits in a database so that permit records can be more easily searched by stakeholders.
- Other CVFPB/FOC Inspections: In addition to the issuance of formal permits, the CVFPB authorizes activities on levees and structures in the system. During 2015 staff inspected and documented these activities. Repair and replacement of penetrations through levees and repairs resulting from issues noted in the USACE's inspections continued to be a significant portion of these inspections. FPIIB also conducted investigations into a variety of matters as requested by the CVFPB and the FOC.
- DWR and USACE Inspection Program Working Group: FPIIB, USACE's Sacramento District, CVFPB staff, and DWR meet monthly to coordinate ongoing DWR and USACE inspection program and maintenance activities. The primary focus is to establish a consistent understanding of inspection criteria and to establish consistent guidelines for developing system ratings.
- DWR also meets with a number of LMAs on a quarterly basis to discuss issues affecting them and to help them as much as possible.
- USACE: The USACE and its contractors conducted multiple inspections including a number of Periodic Inspections throughout 2015. FPIIB staff participated heavily in coordination with the LMAs, USACE, and CVFPB. FPIIB staff is helping to ensure that information is properly and completely exchanged between the entities to the greatest extent possible. As the LMAs complete maintenance on areas of concern noted in the Periodic Inspections, FPIIB inspectors work with the CVFPB to verify that the work is completed before the USACE is notified and a re-inspection is requested.
- Additional LMRs continue to be generated and published to <http://cdec.water.ca.gov/fsir.html> that show only maintenance related issues to provide clear information to the LMAs regarding what work they should concentrate on.
- FPIIB inspection data was used in conjunction with other data sources to identify levee vulnerabilities which were then cataloged in the CDEC database. This data can be accessed using the Levee Vulnerability Tool in FERIX, the Flood Emergency Response Information Exchange. This tool provides quick and detailed background information regarding distressed locations for initial analysis during high water events and in assessing system reliability.
- System Documentation: In 2015, FPIIB staff continued to add more documentation to CDEC, made it available to stakeholders, and has continued work with the USACE to update O&M Manuals to include other recent documentation and improvements.
- Flood Fight Training: Inspectors assisted the Flood Fight Specialist in teaching flood fight method courses throughout the state.
- Emergency Response Exercises: FPIIB assisted the FOC in preparing and conducting emergency response exercises. FPIIB staff participated in a simulation for the Forecast-Coordinated Operations (F-CO) group and an Incident Command Team field exercise in 2015.



- A pilot study is being conducted to evaluate the feasibility of an instrumentation network (fully-grouted piezometers) along the Project levees to obtain real-time data pertaining to levee behavior during a flood event. The real-time information will allow DWR to assess seepage conditions through the levee during high water events and enhance its Emergency Preparedness and Response Plan. The instruments have been placed and are being monitored. As part of this pilot study, an instrumentation network of piezometers and data logger system was installed to provide direct, real-time measurement of levee through seepage and under-seepage conditions during medium and high-water events. Data download from the piezometers began after the completion of installation in October, 2011. Of the 36 saturated piezometers, three appear to be providing values outside the expected range. Seepage models were constructed to represent subsurface conditions based on geotechnical borings. Piezometric data recorded from the site was used to calibrate the seepage models.
- A Field Investigation Reporting System is being developed that includes enhancements to the database that is used to gather, track, and manage information collected during field visits to the flood control system regarding integrity issues. The system will be flexible in reporting the type of investigation, and will have the capability to be integrated with CDEC systems and accessible to stakeholders.
- Levee Tree Assessment Tool. In 2015, the inspections staff worked with the Vegetation Assessment Working Group (VAWG) to develop an inspection tool and database specifically used to evaluate trees on or near the levees. This tree assessment tool, which is similar to the inspection tool in form and function, is on track to be completed in 2016.

# Appendix **A**

## **Sacramento River Individual Agency Summary Reports**

Sacramento River Basin include 85 local maintaining Areas that maintain Project Levees, Structures, and Channels. Out of 85 Areas, there are 37 RDs, 19 NAs, 14 STs, 10 MA and 5 LDs. Appendix A includes an index to the Sacramento River Basin Areas, a system map to show the locations of each reporting Area, and individual Area summary profiles.

Appendix A includes:

- Sacramento River Basin Area Index
- Sacramento System Map
- Individual local Area Summary Profiles, Sacramento River Basin

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Local Agencies & Areas	County	Tab Name	Short Name	Page
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Levee District No. 0001 (Sutter County)	Sutter	LD 1S	LD0001S	A - 9
Levee District No. 0002 (Glenn County)	Glenn	LD 2	LD0002	A - 13
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Reclamation District No. 0070 Meridian	Sutter	RD 70	RD0070	A - 33
Reclamation District No. 0108 River Farms	Colusa	RD 108	RD0108	A - 37
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Reclamation District No. 0536 Egbert	Solano	RD 536	RD0536	A - 65
Reclamation District No. 0537 Lovdal	Yolo	RD 537	RD0537	A - 69
Reclamation District No. 0551 Pearson	Sacramento	RD 551	RD0551	A - 73
Reclamation District No. 0554 Walnut Grove	Sacramento	RD 554	RD0554	A - 77
Reclamation District No. 0556 Upper Andrus	Sacramento	RD 556	RD0556	A - 81
Reclamation District No. 0563 Tyler Island	Sacramento	RD 563	RD0563	A - 85
Reclamation District No. 0755 Randall	Sacramento	RD 755	RD0755	A - 89
Reclamation District No. 0765 Glide	Yolo	RD 765	RD0765	A - 93
Reclamation District No. 0784 Plumas Lake	Yuba	RD 784	RD0784	A - 97
Reclamation District No. 0785 Driver	Yolo	RD 785	RD0785	A - 101
Reclamation District No. 0787 Fair	Yolo	RD 787	RD0787	A - 105
Reclamation District No. 0817 Carlin	Yuba	RD 817	RD0817	A - 109
Reclamation District No. 0827 Elkhorn	Yolo	RD 827	RD0827	A - 113
Reclamation District No. 0900 West Sacramento	Yolo	RD 900	RD0900	A - 117
Reclamation District No. 0999 Netherlands	Yolo	RD 999	RD0999	A - 121
Reclamation District No. 1000 Natomas	Sacramento	RD 1000	RD1000	A - 127
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Reclamation District No. 1500 Sutter Basin	Sutter	RD 1500	RD1500	A - 137
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Reclamation District No. 1601 Twitchell	Sacramento	RD 1601	RD1601	A - 145
Reclamation District No. 1660 Tisdale	Sutter	RD 1660	RD1660	A - 149
Reclamation District No. 2035 Conaway	Yolo	RD 2035	RD2035	A - 153
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Reclamation District No. 2098 Cache and Haas Slough	Solano	RD 2098	RD2098	A - 165
Reclamation District No. 2103 Wheatland Vicinity	Placer	RD 2103	RD2103	A - 169
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Local Agencies & Areas	County	Tab Name	Short Name	Page
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Brannan Andrus Levee Maintenance District	Solano	BALMD	NA0002	A - 185
Butte County Public Works	Butte	Butte County	NA0003	A - 189
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Yolo County Planning Resources and Public Works	Yolo	Cache - Yolo County	NA0021	A - 239
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<b>Sacramento Maintenance Yard</b>				
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Putah Creek	Yolo	Putah Creek	ST0007	A - 267
Sacramento Bypass	Yolo	Sacramento Bypass	ST0008	A - 271
West Levee Yolo Bypass	Yolo	West Levee Yolo Bypass	ST0011	A - 275
Willow Slough Bypass	Yolo	Willow Slough	ST0012	A - 279
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East Levee Sutter Bypass	Sutter	East Levee Sutter	ST0002	A - 291
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Maintenance Area 0007	Butte	MA 7	MA0007	A - 315
Maintenance Area 0012	Colusa	MA 12	MA0012	A - 319
Maintenance Area 0013	Butte	MA 13	MA0013	A - 323
Maintenance Area 0016	Sutter	MA 16	MA0016	A - 327
Maintenance Area 0017	Lake	MA 17	MA0017	A - 331
Murphy Slough at M&T Ranch	Butte	M&T Ranch	ST0014	A - 335
Nelson Bend	Sutter	Nelson Bend	ST0006	A - 339
Tisdale Bypass	Sutter	Tisdale Bypass	ST0009	A - 343
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# Levee District No. 0001 (Glenn County)

## Glenn County

### **Contact**

Bill Carriere  
Board Chairman  
1640 Highway 45  
Glenn CA 95943  
Phone: (530) 934-8200



LD 1G



LMA Short Name : LD0001G		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	12.23

Threat Assessment & Recommendations

- The LMA should focus more on backfilling rodent holes.
- The LMA should focus more on controlling woody vegetation.

**DWR Levee Inspection Summary**

LD0001G	Total LMA Miles		12.23									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.06		0.06	0.49	0.07		0.07	0.57	0.01		0.01	0.08
Trim / Thin Trees	0.11		0.11	0.90	0.13		0.13	1.06	0.02		0.02	0.16
Encroachments	0.05		0.05	0.41	0.05		0.05	0.41				0.00
Animal Control	0.18		0.18	1.47	0.19	0.09	0.55	4.50	0.01	0.09	0.37	3.02
Slope Stability	0.01		0.01	0.08	0.02		0.02	0.16	0.01		0.01	0.08
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.41	0.00	0.41	3.35	0.46	0.09	0.82	6.70 *	0.05	0.09	0.41	3.35

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River west bank	119.72	Active	03/09/2015	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency did not report anything on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency did not report anything on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include rodent baiting, slope dragging, and spraying.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities. Expenses include costs of insurance, mobile equipment, office overhead, professional services, rodent control, salaries, services and supplies, vegetation control. The reported total estimated cost for the current fiscal year is \$6,600.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

# Levee District No. 0001 (Sutter County)

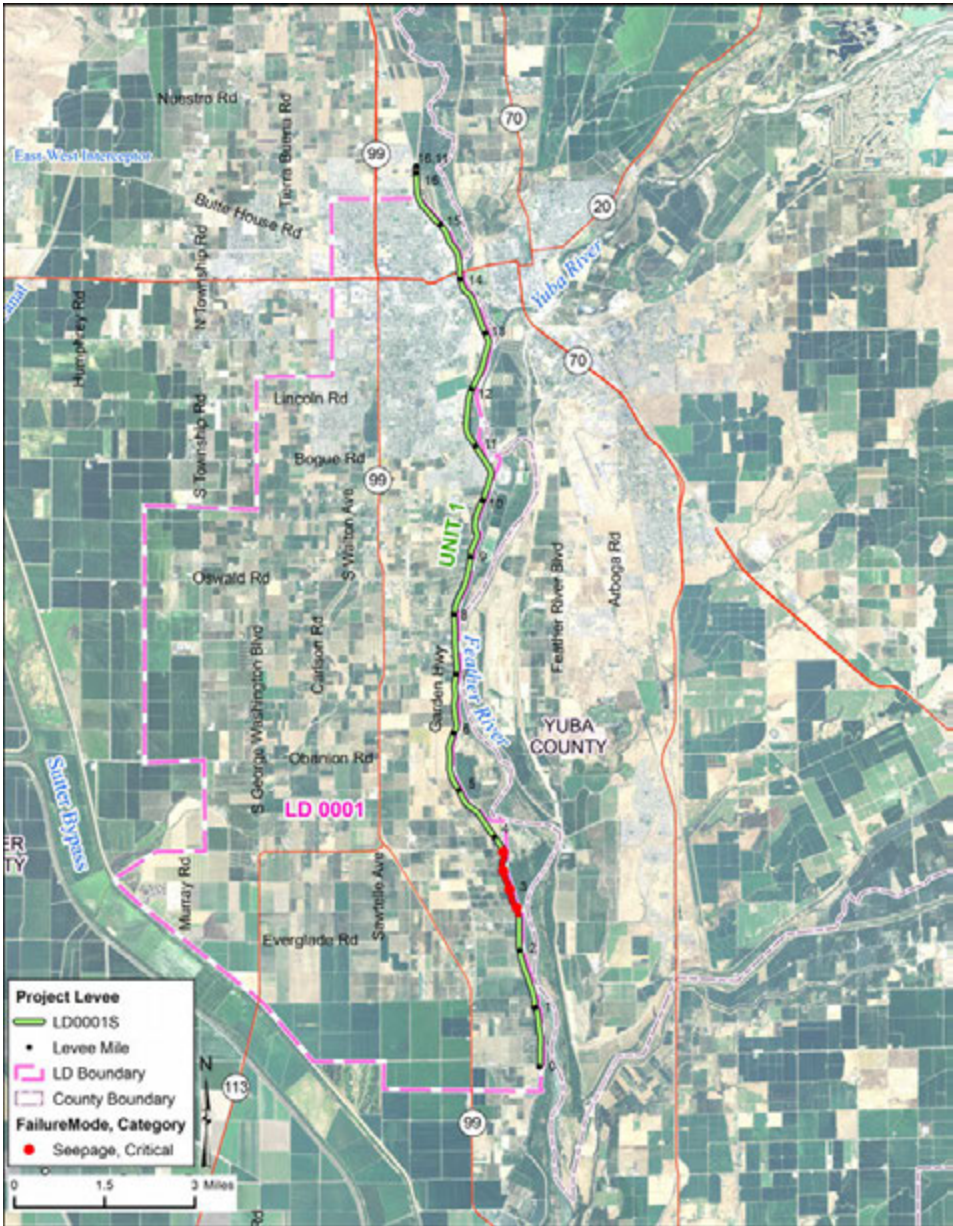
## Sutter County

### **Contact**

Andrew Stresser  
General Manager  
243 Second St  
Yuba City CA 95991  
Phone: (530) 673-2454



LD 15



LMA Short Name : LD0001S		Bank	Unit Length (Miles)
Unit No. 01	Feather River	RB	16.11

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should work with landowners and the CVFPB to control unauthorized encroachments.

**DWR Levee Inspection Summary**

LD0001S	Total LMA Miles		16.11									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.31		0.31	1.92		0.02	0.08	0.50	-0.31	0.02	-0.23	-1.43
Trim / Thin Trees					0.01		0.01	0.06	0.01		0.01	0.06
Encroachments					0.04		0.04	0.25	0.04		0.04	0.25
Slope Stability					0.02		0.02	0.12	0.02		0.02	0.12
Interior Drainage & Piping Systems												
Metal Pipes	0.01		0.01	0.06	0.01		0.01	0.06				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.32	0.00	0.32	1.99	0.08	0.02	0.16	0.99 *	-0.24	0.02	-0.16	-0.99

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River right bank - Sutter Bypass east bank	66.72	Active	02/24/2014	U

**DWR Flood System Repair Project Summary****Unit No. 01 Feather River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-13-64	Critical	Seepage	2.60	3.76	Right	38.987740	-121.592090

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected and pending enforcement by CVFPB for encroachments, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

# Levee District No. 0002 (Glenn County)

## Glenn County

### **Contact**

Dennis Clark  
President  
7817 County Road 66  
Princeton CA 95970  
Phone: (530) 518-2549





**DWR Levee Inspection Summary**

LD0002	Total LMA Miles		4.90									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Trim / Thin Trees					0.01		0.01	0.20	0.01		0.01	0.20
Encroachments					0.02		0.02	0.41	0.02		0.02	0.41
Animal Control	0.27		0.27	5.51	0.31	0.09	0.67	13.67	0.04	0.09	0.40	8.16
Erosion / Bank Caving					0.01		0.01	0.20	0.01		0.01	0.20
Supplemental												
USACE Erosion Survey	0.01		0.01	0.20	0.21		0.21	4.29	0.20		0.20	4.08
DWR UCIP Field Study												0.00
LMA Totals:	0.28	0.00	0.28	5.71	0.56	0.09	0.92	18.77	0.28	0.09	0.64	13.06

LD 2

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Glenn County Sacramento River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_164-7_R	164.70	0.07	0.28	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River west bank	119.72	Active	03/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Glenn County Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_LD0002_01_s_2012_6	Serious	Erosion	0.12	0.28	Right	39.415340	-122.010280

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported berm erosion on Levee Unit 1 between LM 0.10 and 0.30. The Agency also reported sediment accumulation and in-channel vegetation growth that is leading to high water levels during normal rain fall.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported berm erosion on Levee Unit 1 between LM 0.10 and 0.30. The Agency also reported sediment and in-channel vegetation growth that is leading to high water levels during normal rain fall.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include rodent control, slope dragging, and vegetation burning and spraying.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of vegetation burning and spraying. The reported total estimated cost for the current fiscal year is \$3,250.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency expressed its concern about the buildup of sediment and in-channel vegetation issues between LM 0.10 and 0.30.

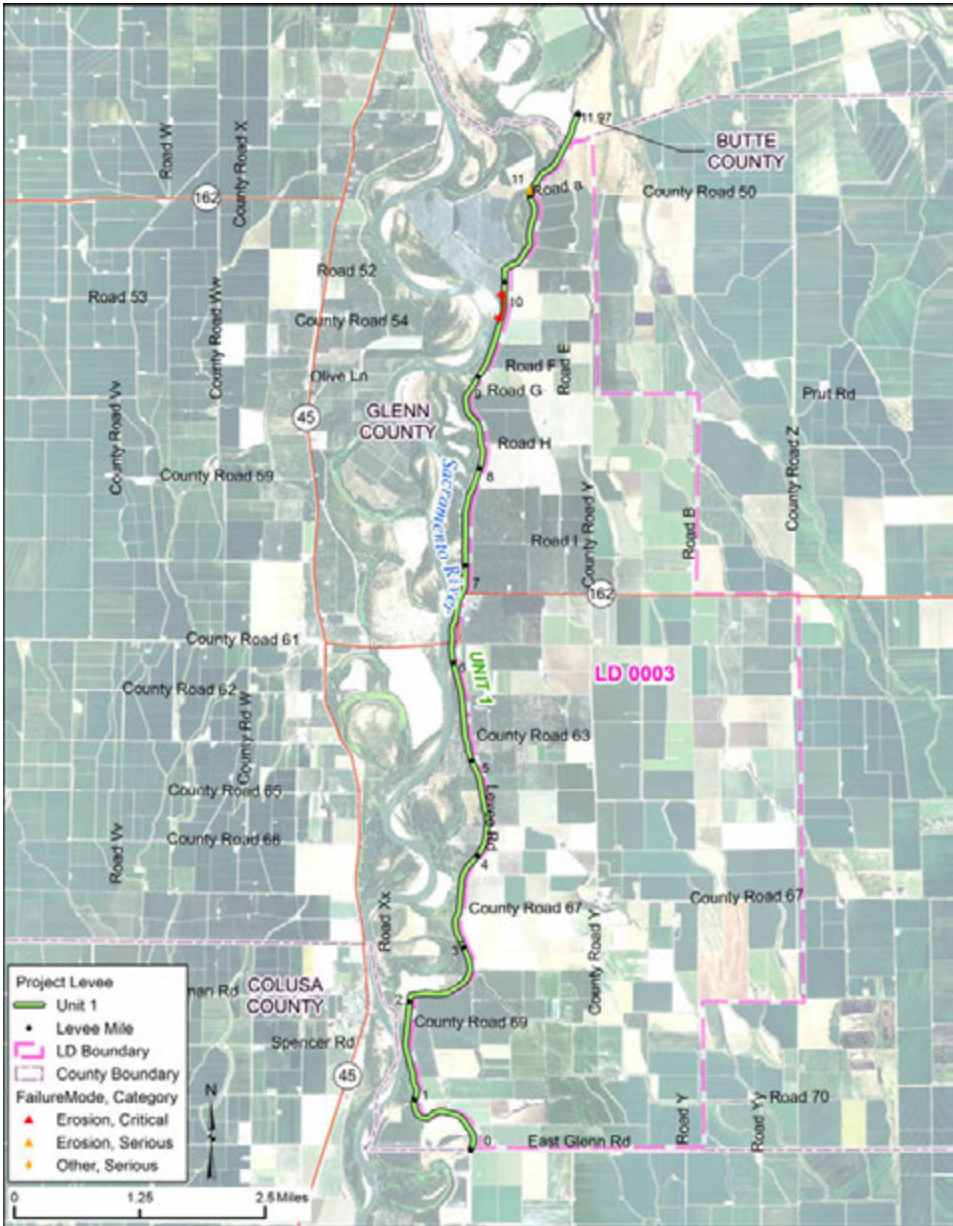
# Levee District No. 0003 (Glenn County)

## Glenn County

### **Contact**

Eric Larrabee  
President  
P.O. Box 172  
Butte City CA 95920  
Phone: (530) 809-0475

LD 3



LMA Short Name : LD0003		Bank	Unit Length (Miles)
Unit No. 01	Glenn County Sacramento River	LB	11.97

Threat Assessment & Recommendations

- There is significant rodent activity in this Area.
- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should enhance its rodent control program.
- The LMA should focus more on controlling vegetation to maintain visibility and access.



**DWR Levee Inspection Summary**

LD0003	Total LMA Miles		11.97									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.08	0.01	0.44	1.77	14.79		0.44	1.76	14.70
Trim / Thin Trees	0.19		0.19	1.59	0.34	0.04	0.50	4.18	0.15	0.04	0.31	2.59
Encroachments	0.14		0.14	1.17	0.15		0.15	1.25	0.01		0.01	0.08
Animal Control	0.84		0.84	7.02	0.10	2.15	8.70	72.68	-0.74	2.15	7.86	65.66
Slope Stability	0.07		0.07	0.59	0.09		0.09	0.75	0.02		0.02	0.17
Erosion / Bank Caving		0.01	0.04	0.33		0.01	0.04	0.33				0.00
Supplemental												
USACE Erosion Survey	1.16		1.16	9.69	0.30		0.30	2.51	-0.86		-0.86	-7.18
DWR UCIP Field Study												0.00
LMA Totals:	2.41	0.01	2.45	20.47	0.99	2.64	11.55	96.48	-1.42	2.63	9.10	76.02

LD 3

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Glenn County Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_163-0_L	163.00	1.35	1.62	removed	W
SAC_168-3_L	168.30	6.02	6.05	eroding	M
SAC_172-0_L	172.00	9.61	9.88	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River East Levee - LD 3 Glenn County	38.36	Inactive	05/08/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Glenn County Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_LD0003_01_s_2012_52	Critical	Erosion			Left	39.504388	-121.985301
68-13	Serious	Other	11.04		Right	39.522980	-121.979180
68-12	Serious	Erosion	11.05		Left	39.523082	-121.979032

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency referred to the Geotechnical Assessment Report, North NULE Study Area, for the relevant information. The Geotechnical Assessment Report overall categorized LD 3 as Hazard Level B. Hazard Level B is defined as when water reaches the assessment WSE, there is a moderate likelihood of either levee failure or the need to flood fight to prevent levee failure.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency referred to the Geotechnical Assessment Report, North NULE Study Area, for the relevant information. The Geotechnical Assessment Report overall categorized LD 3 as Hazard Level B. Hazard Level B is defined as when water reaches the assessment WSE, there is a moderate likelihood of either levee failure or the need to flood fight to prevent levee failure.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on Levee Unit 1. Activities include roadway grading, slope dragging, rodent control, and vegetation burning.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of roadway grading, slope dragging, rodent control, and vegetation control. The reported total estimated cost for the fiscal year is \$60,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency referred to the Geotechnical Assessment Report, North NULE Study Area, for the relevant information.

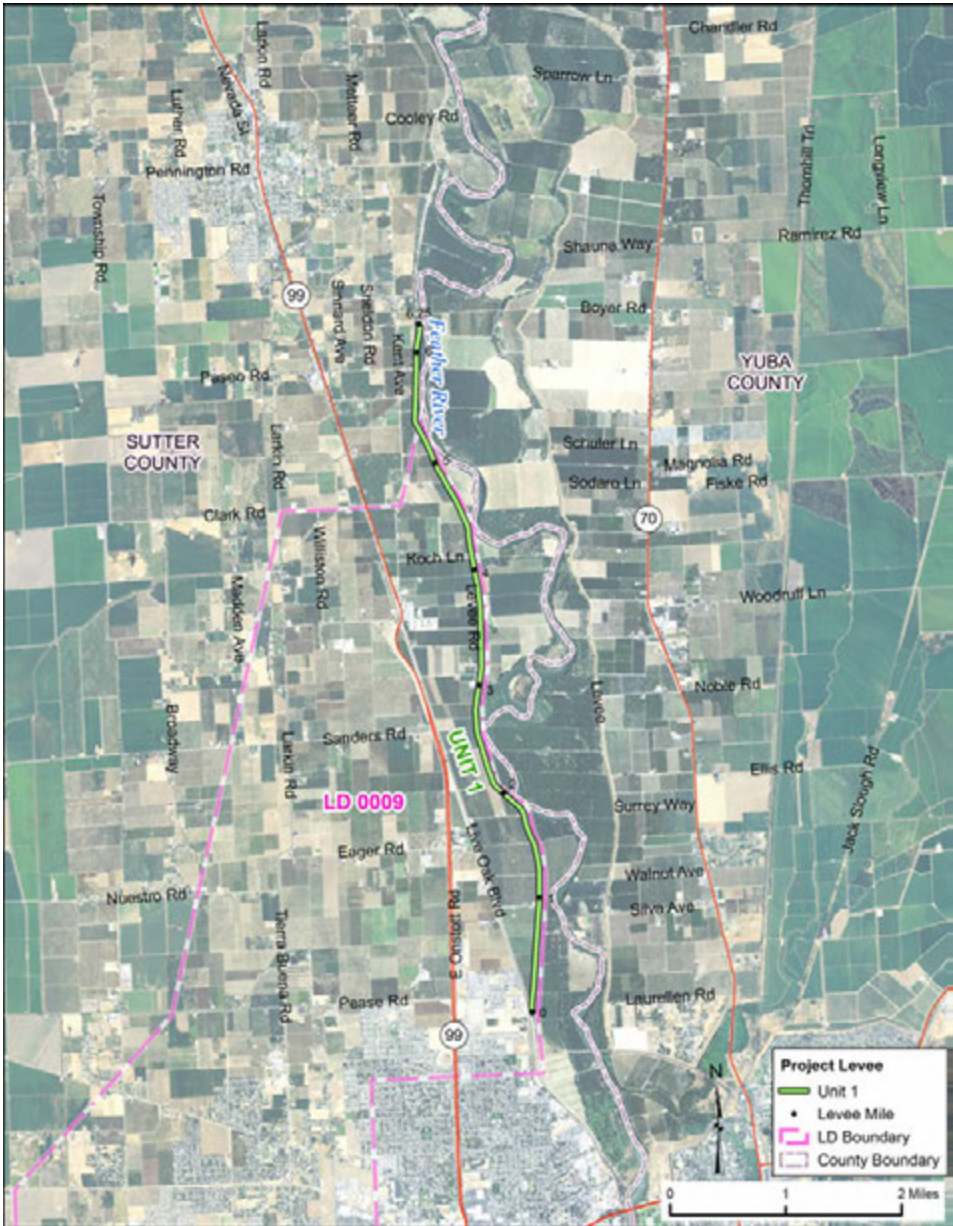
# Levee District No. 0009 (Sutter County)

## Sutter County

### **Contact**

David Lamon  
Chairman  
1471 Coats Dr  
Yuba City CA 95993  
Phone: (530) 749-3902





LMA Short Name : LD0009		Bank	Unit Length (Miles)
Unit No. 01	Sutter County, Feather River	RB	6.25

Threat Assessment & Recommendations

- There is significant rodent activity in this Area.
- The LMA should enhance its rodent control program.

**DWR Levee Inspection Summary**

LD0009	Total LMA Miles		6.25									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation												0.00
Encroachments	0.01		0.01	0.16					-0.01		-0.01	-0.16
Animal Control		0.23	0.92	14.73		0.01	0.04	0.64		-0.22	-0.88	-14.09
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.01	0.23	0.93	14.89	0.00	0.01	0.04	0.64 *	-0.01	-0.22	-0.89	-14.25

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River right bank - Sutter Bypass east bank	66.72	Active	02/24/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

LD 9

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency did not report anything on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency did not report anything on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency reported that the levee construction project has been completed, including hydroseeding. The first growth has been mowed.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities. Expenses include costs of monitoring, slope dragging, and vegetation and weed control. The reported total estimated cost for the current fiscal year is \$18,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency did not report anything on Part 5.

# **Reclamation District No. 0003**

## **Grand Island**

**Sacramento County**

**Contact**

Buddy Fonseca  
Chairman  
P.O Box 1011  
Walnut Grove CA 95690  
Phone: (916) 776-1945



LMA Short Name : RD0003			Bank	Unit Length (Miles)
Unit No. 01	Left Bank Steamboat Slough		LB	10.95
Unit No. 02	Right Bank Sacramento River		RB	17.35
Unit No. 03	Cross Levee			0.43

Threat Assessment & Recommendations

- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling woody vegetation.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.



## DWR Levee Inspection Summary

RD0003	Total LMA Miles		28.73									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.08	0.02	0.16	0.56	0.06	0.04	0.22	0.77	-0.02	0.02	0.06	0.21
Trim / Thin Trees	0.73	0.02	0.81	2.82	0.64	0.20	1.44	5.01	-0.09	0.18	0.63	2.19
Encroachments	0.04	0.01	0.08	0.28	0.03	0.03	0.15	0.52	-0.01	0.02	0.07	0.24
Slope Stability	0.01		0.01	0.04	0.01		0.01	0.04				0.00
Erosion / Bank Caving	0.01	0.07	0.29	1.01	0.01	0.09	0.37	1.29		0.02	0.08	0.28
Crown Surface / Depressions / Rutting	0.56		0.56	1.95	0.29		0.29	1.01	-0.27		-0.27	-0.94
Supplemental												
USACE Erosion Survey	0.24		0.24	0.84	0.43		0.43	1.50	0.19		0.19	0.66
DWR UCIP Field Study												0.00
LMA Totals:	1.67	0.12	2.15	7.48 *	1.47	0.36	2.91	10.13	-0.20	0.24	0.76	2.65

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

## DWR Structure Inspection Summary

No Structures Inspected in this District.

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

## Unit No. 01 Left Bank Steamboat Slough, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
STM_26-0_L	26.00	0.18	0.24	eroding	M
STM_25-0_L	25.00	0.91	0.96	eroding	M
STM_24-8_L	24.80	1.03	1.18	eroding	M

## Unit No. 02 Right Bank Sacramento River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_26-3_R	26.30	11.33	11.42	eroding	M
SAC_31-6_R	31.60	16.54	16.63	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0003 - Grand Island	28.74	Inactive	07/22/2014	U

**DWR Flood System Repair Project Summary****Unit No. 01 Left Bank Steamboat Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0003_01_s_2012_4	Serious	Erosion	0.18	0.24	Left	38.303035	-121.577357
113-2039	Critical	Seepage	4.87	4.86	Left	38.245952	-121.600835
FSRP-14-35	Serious	Stability	5.11		Left	38.242450	-121.600900
DWR_RD0003_01_R_2012_03	Critical	Erosion	10.67	10.92	Left	38.183810	-121.648780

**Unit No. 02 Right Bank Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
384-178	Critical	Seepage	8.08	8.17	Right	38.223641	-121.557299
DWR_RD0003_02_s_2012_20	Serious	Erosion	11.33	11.42	Right	38.239870	-121.520989

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of actions taken on inspection items listed by DWR in the inspection report. The actions include corrected, low priority, pending, and work in progress for bank caving, crown surface depression, encroachments, erosion, inspections, patrolling, tree trimming and thinning, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

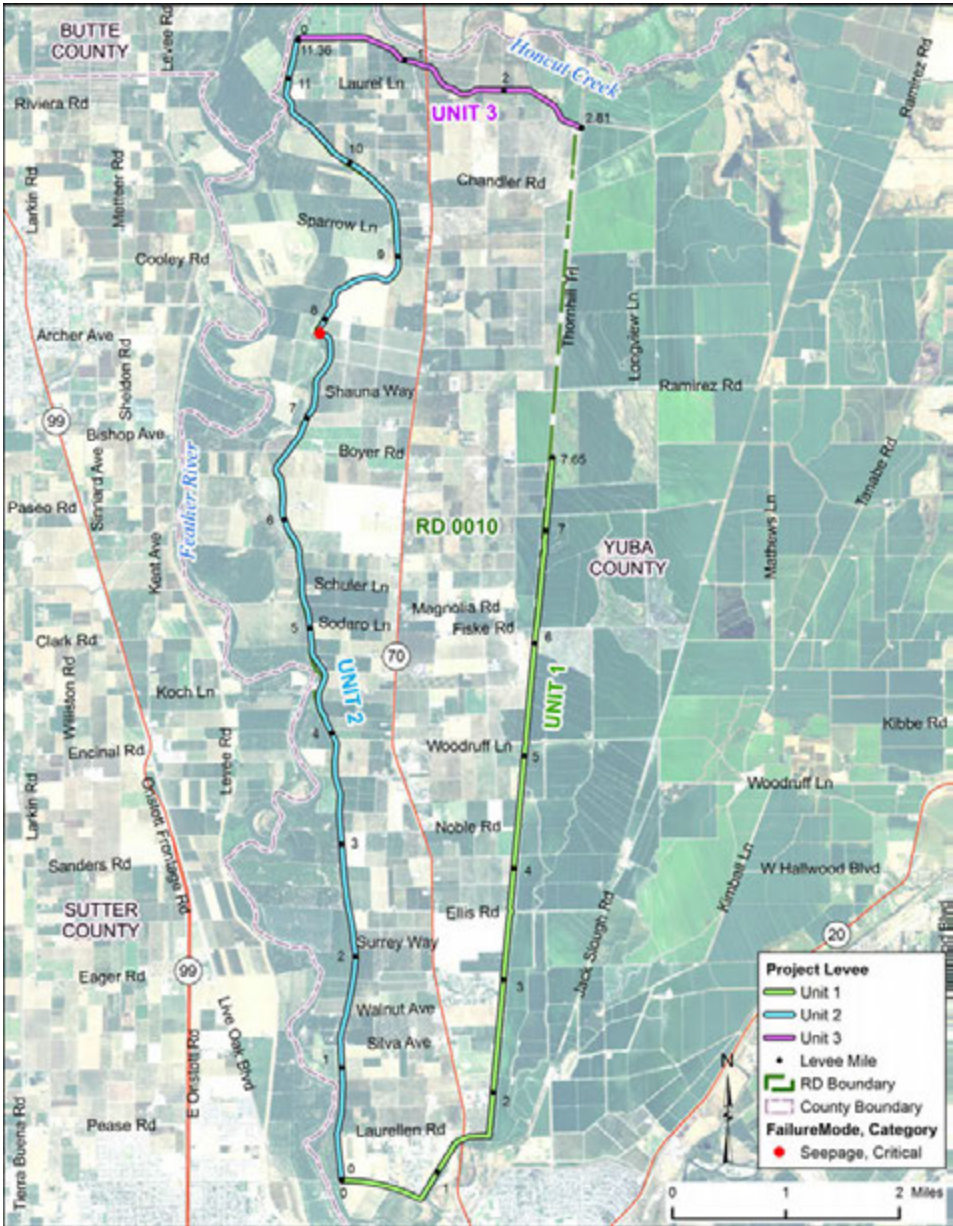
# Reclamation District No. 0010 Honcut

## Yuba County

### Contact

Tom Schultz  
President  
9670 Highway 70  
Marysville CA 95901  
Phone: (530) 682-0244





LMA Short Name : RD0010		Bank	Unit Length (Miles)
Unit No. 01	Simmerly Slough	RB	7.65
Unit No. 02	Feather River	LB	11.36
Unit No. 03	Honcut Creek	LB	2.81

Threat Assessment & Recommendations

- The LMA should enhance its rodent control program.
- The LMA should continue to maintain the area at the high level seen during the last inspection.

**DWR Levee Inspection Summary**

RD0010	Total LMA Miles		21.82									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.05	0.01		0.01	0.05				0.00
Animal Control	0.06		0.06	0.28	0.07		0.07	0.32	0.01		0.01	0.05
Slope Stability	0.01		0.01	0.05	0.01		0.01	0.05				0.00
Crown Surface / Depressions / Rutting					0.01		0.01	0.05	0.01		0.01	0.05
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.08	0.00	0.08	0.37	0.10	0.00	0.10	0.46	0.02	0.00	0.02	0.09

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0010 - Honcut Drainage Basin	24.75	Inactive	06/20/2014	U

**DWR Flood System Repair Project Summary****Unit No. 02 Feather River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
385-5	Critical	Seepage	7.85		Left	39.272251	-121.612995
385-4	Critical	Seepage	7.86	7.94	Left	39.272284	-121.613042

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported minor settlement on all levee units and mentioned gravel is needed. The Agency also mentioned that houses located close to the levee along Levee Units 1 and 2 make vegetation management difficult.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported minor erosion on Levee Unit 1, LM 1.00.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include encroachment control, minor structure repair, rodent baiting and trapping, tree trimming, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency reported all levee units need additional gravel at various places and noted funds have been requested from Yuba County Water Agency (YCWA) which will be matched by the district. The reported total estimated cost for the current fiscal year is \$100,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that the district is interested in conducting a subsurface investigation at Levee Unit 2, LM 5.00, and mentioned that this is the location where the last breach was reported in 1937. The Agency also reported that the district is interested in conducting a subsurface investigation at Levee Unit 2, LM 9.00, and mentioned that this is the location where seepage was observed during the 1986 and 1997 high water events.

# Reclamation District No. 0070 Meridian

## Sutter County

### Contact

Andy Duffey  
General Manager  
P.O Box 129  
Meridian CA 95957  
Phone: (530) 696-2569

RD 70



LMA Short Name : RD0070		Bank	Unit Length (Miles)
Unit No. 01	Sutter Bypass	RB	7.92
Unit No. 02	Sacramento River	LB	15.50

Threat Assessment & Recommendations

- The LMA should focus on repairing erosion sites.
- The LMA should repair locations where the levee slope may be unstable.



**DWR Levee Inspection Summary**

RD0070	Total LMA Miles		23.41									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Encroachments	0.06		0.06	0.26	0.01		0.01	0.04	-0.05		-0.05	-0.21
Slope Stability	0.02		0.02	0.09	0.02		0.02	0.09				0.00
Erosion / Bank Caving	0.02		0.02	0.09	0.02		0.02	0.09				0.00
Supplemental												
USACE Erosion Survey	0.71		0.71	3.03	0.80		0.80	3.42	0.09		0.09	0.38
DWR UCIP Field Study												0.00
LMA Totals:	0.81	0.00	0.81	3.46	0.85	0.00	0.85	3.63	0.04	0.00	0.04	0.17

RD 70

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 02 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_138-1_L	138.10	0.05	0.32	eroding	M
SAC_136-6_L	136.60	1.78	1.90	eroding	M
SAC_131-8_L	131.80	6.42	6.54	eroding	M
SAC_130-0_L	130.00	8.10	8.23	eroding	M
SAC_125-8_L	125.80	11.64	11.66	eroding	M
SAC_123-3_L	123.30	14.08	14.21	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0070 and RD 1660 - Sutter Basin North	39.90	Inactive	10/18/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Sutter Bypass**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-13-1	Critical	Erosion	0.48	0.44	RB	39.142140	-121.840500

**Unit No. 02 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0070_02_s_2012_39	Serious	Erosion	4.44	4.47	Left	39.142676	-121.918333
DWR_RD0070_02_s_2012_42	Serious	Erosion	8.10		Left	39.122459	-121.910121
FSRP-14-32	Serious	Erosion	9.89	9.93	LB	39.098620	-121.898120

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported a leaky pipe on the waterside of Levee Unit 2, LM 2.35, and noted that the district is working with the landowner to correct the issue.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported a leaky pipe on the waterside of Levee Unit 2, LM 2.35, and noted that the district is working with the landowner to correct the issue.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include levee patrolling, crown grading, slope dragging, rodent control, and tree thinning and trimming. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected and work in progress for encroachments, erosion, and slope stability issues.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of levee slope dragging, debris removal, levee crown grading, rodent control, thinning and pruning trees, and vegetation burning and spraying. The reported total estimated cost for the current fiscal year is \$75,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



# **Reclamation District No. 0108**

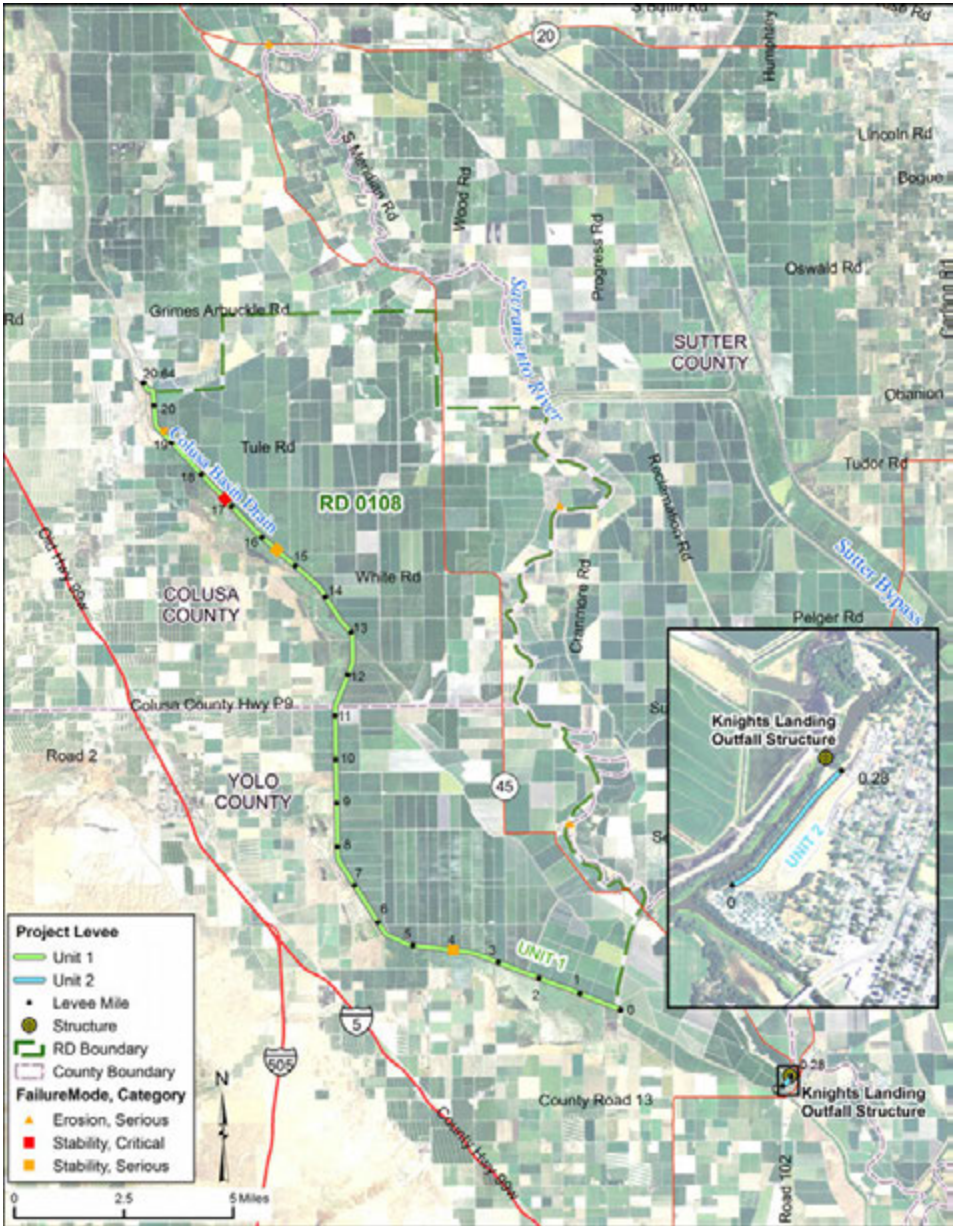
## **River Farms**

### **Colusa County**

#### **Contact**

Lewis Bair  
General Manager  
P.O Box 50  
Grimes CA 95950  
Phone: (530) 437-2221

RD 108



LMA Short Name : RD0108		Bank	Unit Length (Miles)
Unit No. 01	Colusa Basin Drain	LB	20.64
Unit No. 02	Castle Properties	RB	0.28

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should enhance its rodent control program.

**DWR Levee Inspection Summary**

RD0108	Total LMA Miles		20.92									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Encroachments					0.02		0.02	0.10	0.02		0.02	0.10
Animal Control					0.07		0.07	0.34	0.07		0.07	0.34
Cracking	0.01		0.01	0.05					-0.01		-0.01	-0.05
Crown Surface / Depressions / Rutting					0.01		0.01	0.05	0.01		0.01	0.05
Supplemental												
USACE Erosion Survey	0.01		0.01	0.05	0.07		0.07	0.34	0.06		0.06	0.29
DWR UCIP Field Study												0.00
LMA Totals:	0.02	0.00	0.02	0.10	0.17	0.00	0.17	0.81	0.15	0.00	0.15	0.72

RD 108

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Colusa Basin Drain, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
CBD_19-2_L		19.27	19.35	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River west bank	119.72	Active	03/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Colusa Basin Drain**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
116-2001	Serious	Stability	4.07	4.05	Left	38.843519	-121.866430
FSRP-15-28	Critical	Stability	4.20	4.16	Left	38.843780	-121.868650
FSRP-14-31	Serious	Stability	15.60	15.48	LB	38.978020	-121.938540
DWR_RD0108_01_R_2012_01	Critical	Stability	17.33	17.21	Left	38.996020	-121.960910
DWR_RD0108_01_s_2012_3	Serious	Erosion	19.27	19.35	Left	39.016727	-121.985411

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of actions taken on inspection items listed by DWR in the inspection report. The actions include animal control, encroachment control, patrolling, repair of cracking, road maintenance, rodent control, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$34,000.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of levee and road maintenance, patrolling, rodent control, and vegetation control. The reported total estimated cost for the current fiscal year is \$40,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# **Reclamation District No. 0150**

## **Merrit Island**

### **Yolo County**

#### **Contact**

Warren Bogle  
President  
37783 County Road 144  
Clarksburg CA 95612  
Phone: (916) 744-1669



RD 150



LMA Short Name : RD0150		Bank	Unit Length (Miles)
Unit No. 01	Sutter Slough	LB	0.52
Unit No. 02	Sacramento River	RB	7.81
Unit No. 03	Elk Slough	LB	9.41

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should focus on repairing erosion sites.
- The LMA should work with landowners and the CVFPB to control unauthorized encroachments.

**DWR Levee Inspection Summary**

RD0150	Total LMA Miles		17.74									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.03		0.03	0.17	0.08		0.08	0.45	0.05		0.05	0.28
Trim / Thin Trees	0.04		0.04	0.23	0.02	0.02	0.10	0.56	-0.02	0.02	0.06	0.34
Encroachments	0.12		0.12	0.68	0.11		0.11	0.62	-0.01		-0.01	-0.06
Animal Control	0.04		0.04	0.23	0.06	0.01	0.10	0.56	0.02	0.01	0.06	0.34
Slope Stability	0.09		0.09	0.51	0.07		0.07	0.39	-0.02		-0.02	-0.11
Erosion / Bank Caving	0.09	0.01	0.13	0.73	0.08	0.03	0.20	1.13	-0.01	0.02	0.07	0.39
Crown Surface / Depressions / Rutting	0.05		0.05	0.28	0.01		0.01	0.06	-0.04		-0.04	-0.23
Supplemental												
USACE Erosion Survey	0.06		0.06	0.34	0.12		0.12	0.68	0.06		0.06	0.34
DWR UCIP Field Study												0.00
LMA Totals:	0.52	0.01	0.56	3.16 *	0.55	0.06	0.79	4.45 *	0.03	0.05	0.23	1.30

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

RD 150

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sutter Slough, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
STR_28-4_R	28.40	0.44	0.49	eroding	M

**Unit No. 02 Sacramento River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_38-5_R	38.50	4.50	4.57	eroding	M

**Unit No. 03 Elk Slough, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
ELK_0-2_L	0.20	0.01	9.40	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0150 - Merrit Island	17.73	Inactive	03/19/2015	U



**DWR Flood System Repair Project Summary****Unit No. 02 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
306-73	Serious	Erosion	2.00	2.12	Right	38.346742	-121.549620
306-140	Serious	Erosion	3.32		Right	38.356263	-121.529899
306-107	Serious	Erosion	3.42		Right	38.357292	-121.528661
DWR_RD0150_02_s_2012_19	Serious	Erosion	4.50	4.57	Right	38.370928	-121.523069
306-135	Critical	Seepage	5.85		Right	38.387241	-121.516284

**Unit No. 03 Elk Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0150_03_s_2012_80	Serious	Erosion	0.19		Left	38.335373	-121.582894
386-72	Serious	Seepage	1.03		Left	38.346886	-121.578824
386-93	Critical	Seepage	1.55		Left	38.349949	-121.572659
386-54	Serious	Erosion	2.47	2.49	Left	38.355843	-121.562288
DWR_RD0150_03_s_2012_76	Serious	Erosion	2.87		Left	38.361375	-121.562134
DWR_RD0150_03_s_2012_98	Serious	Erosion	3.29	3.42	Left	38.363016	-121.557143
386-40	Serious	Erosion	3.82	3.86	Left	38.367682	-121.552247
386-65	Serious	Erosion	4.34	4.40	Left	38.374022	-121.550097
386-29	Serious	Erosion	4.50		Left	38.374370	-121.547271
386-30	Serious	Erosion	4.86		Left	38.377288	-121.541955
386-32	Critical	Erosion	6.39		Left	38.391092	-121.539083
DWR_RD0150_03_s_2012_946	Serious	Erosion	8.06	7.99	Left	38.409275	-121.539150
386-34	Serious	Erosion	8.23		Left	38.408364	-121.536258
DWR_RD0150_03_s_2012_66	Serious	Erosion	8.29	8.34	Left	38.408010	-121.535322
DWR_RD0150_03_s_2012_6	Serious	Erosion	8.54		Left	38.409849	-121.531729

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include inspections, goat grazing, tree trimming, and vegetation spraying and mowing.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of inspections, goat grazing, surveying and engineering, tree trimming and pruning, and vegetation mowing and spraying. The reported total estimated cost for the current fiscal year is \$95,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# Reclamation District No. 0307 Lisbon

## Yolo County

### **Contact**

John Martinelli  
President  
P.O Box 518  
Clarksburg CA 95612  
Phone: (916) 371-2351

RD 307



LMA Short Name : RD0307		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	6.56

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should focus on repairing erosion sites.
- The LMA should enhance its rodent control program.

**DWR Levee Inspection Summary**

RD0307	Total LMA Miles		6.56									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.08	0.06	0.32	4.88	0.05		0.05	0.76	-0.03	-0.06	-0.27	-4.11
Trim / Thin Trees	0.18		0.18	2.74	0.07		0.07	1.07	-0.11		-0.11	-1.68
Animal Control	0.13		0.13	1.98	0.14		0.14	2.13	0.01		0.01	0.15
Flood Preparedness & Training	0.07		0.07	1.07	0.07		0.07	1.07				0.00
Supplemental												
2015 USACE Erosion Survey, DRAFT					0.46		0.46	7.01	0.46		0.46	7.01
DWR UCIP Field Study												0.00
LMA Totals:	0.46	0.06	0.70	10.67	0.79	0.00	0.79	12.04	0.33	-0.06	0.09	1.37

RD 307

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_48-6_R	48.60	1.17	1.31	eroding	M
SAC_43-2_R	43.20	6.19	6.38	eroding	M
SAC_43-1_R	43.10	6.42	6.55	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
West Sacramento - SacYolo South	60.45	Inactive	07/24/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0307_01_s_2012_6	Serious	Stability	6.19	6.38	Right	38.434560	-121.531159
DWR_RD0307_01_s_2012_7	Serious	Stability	6.42	6.55	Right	38.431726	-121.533200

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency stated that the annual routine maintenance cost for the current fiscal year is \$31,309, as reported to DWR's Delta Levees Maintenance Subventions Program.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# **Reclamation District No. 0341**

## **Sherman Island**

RD 341

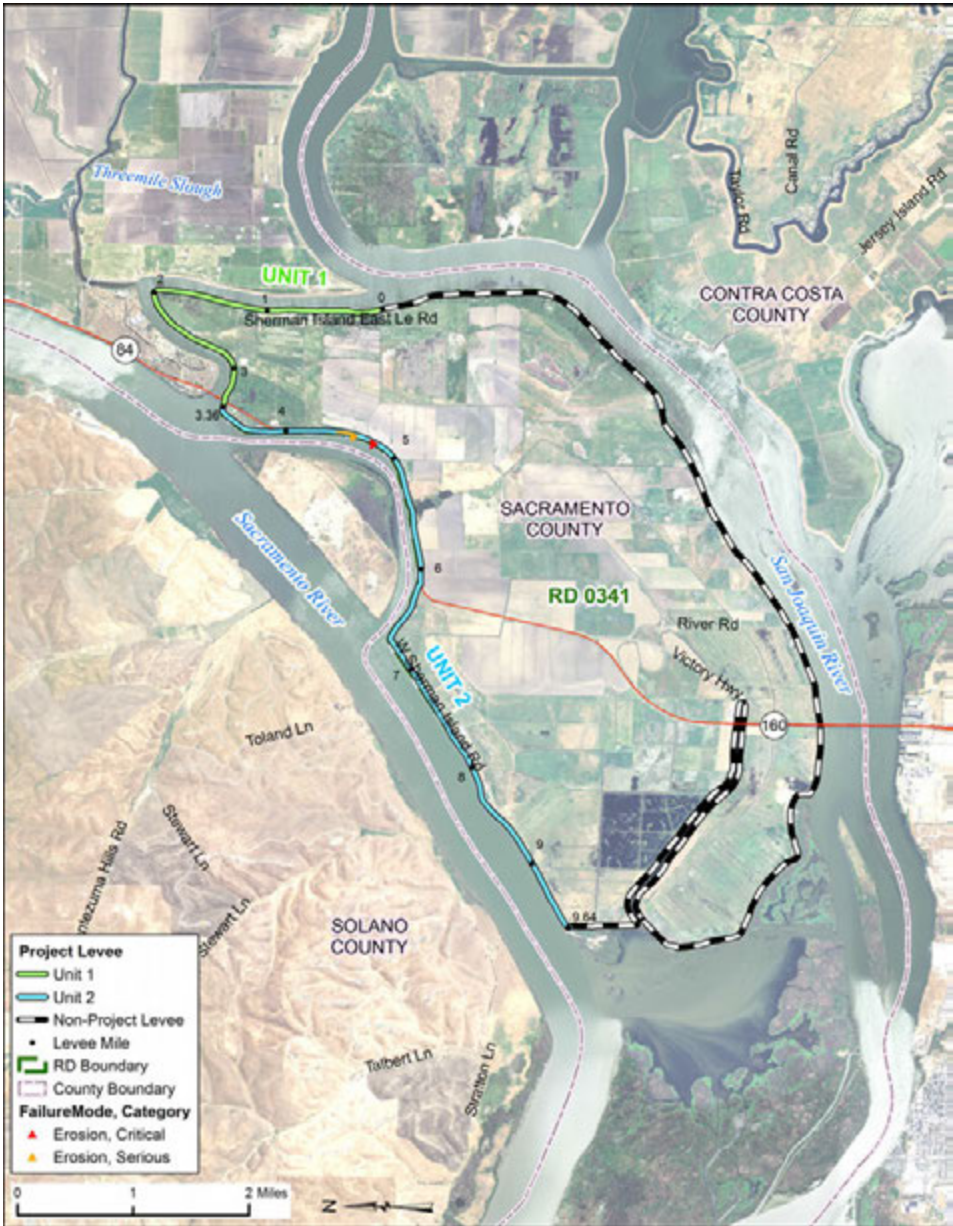
**Sacramento County**

**Contact**

Juan Mercado Jr  
President  
18419 State Highway 160  
Rio Vista CA 94571  
Phone: (916) 777-4244



RD 341



LMA Short Name : RD0341			Bank	Unit Length (Miles)
Unit No. 01	Threemile Slough		RB	3.36
Unit No. 02	Sacramento River		LB	6.28

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.



**DWR Levee Inspection Summary**

RD0341	Total LMA Miles		9.64									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	3.40	1.13	7.92	82.18	0.03	4.40	17.63	182.93	-3.37	3.27	9.71	100.75
Trim / Thin Trees	0.20		0.20	2.08	0.21	0.03	0.33	3.42	0.01	0.03	0.13	1.35
Supplemental												
2015 USACE Erosion Survey, DRAFT					0.04	0.38	1.56	16.19	0.04	0.38	1.56	16.19
DWR UCIP Field Study												0.00
LMA Totals:	3.60	1.13	8.12	84.25	0.28	4.81	19.52	202.54	-3.32	3.68	11.40	118.29

RD 341

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 02 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_8-2_L	8.20	4.15	4.19	eroding	M
SAC_8-0_L	8.00	4.47	4.62	critical	U
SAC_7-9_L	7.90	4.76	4.85	critical	U
SAC_7-3_L	7.30	6.03	6.16	critical	U

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0341 - Sherman Island	9.63	Inactive	03/20/2015	U

**DWR Flood System Repair Project Summary****Unit No. 02 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0341_02_s_2012_7	Serious	Erosion	4.45	4.61	Left	38.090810	-121.706195
DWR_RD0341_02_s_2012_8	Critical	Erosion	4.75	4.79	Left	38.086641	-121.707545

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported subsidence and erosion at Levee Unit 1 from STA 19+00 to 45+00. The Agency also reported erosion at Levee Unit 2 STA 700+00 to 850+00 and seepage and erosion at Levee Unit 2 at STA 870+00 to 940+00. The Agency also mentioned subsidence at Levee Unit 2 STA 698+00 to 700+00. The Agency also reported subsidence on non-Project Levee Unit 1 at STA 333+00 to 444+00 and 520+00 to 700+00.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported subsidence and erosion at Levee Unit 1 from STA 19+00 to 45+00. The Agency also mentioned erosion at Levee Unit 2 STA 700+00 to 850+00 and seepage and erosion at Levee Unit 2 at STA 870+00 to 940+00. The Agency also reported subsidence at Levee Unit 2 STA 698+00 to 700+00. The Agency also reported subsidence on non-Project Levee Unit 1 at STA 333+00 to 444+00 and 520+00 to 700+00.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all Project and non-Project levee units, and the location of these activities. Activities include cleaning of drain and toe ditches, debris removal, erosion repair, inspections, roadway maintenance, rodent control, vegetation control, and tree trimming.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all Project and non-Project levee units, and the location of these activities. Expenses include costs of encroachment control, engineering services and program administration, erosion repair, flood emergency planning, habitat assessment, levee profiles and cross-sections, rodent control, roadway grading, routine levee inspection, vegetation control, and waterside slope protection repair. The reported total estimated cost for the current fiscal year is \$874,200.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

RD 341

# Reclamation District No. 0349

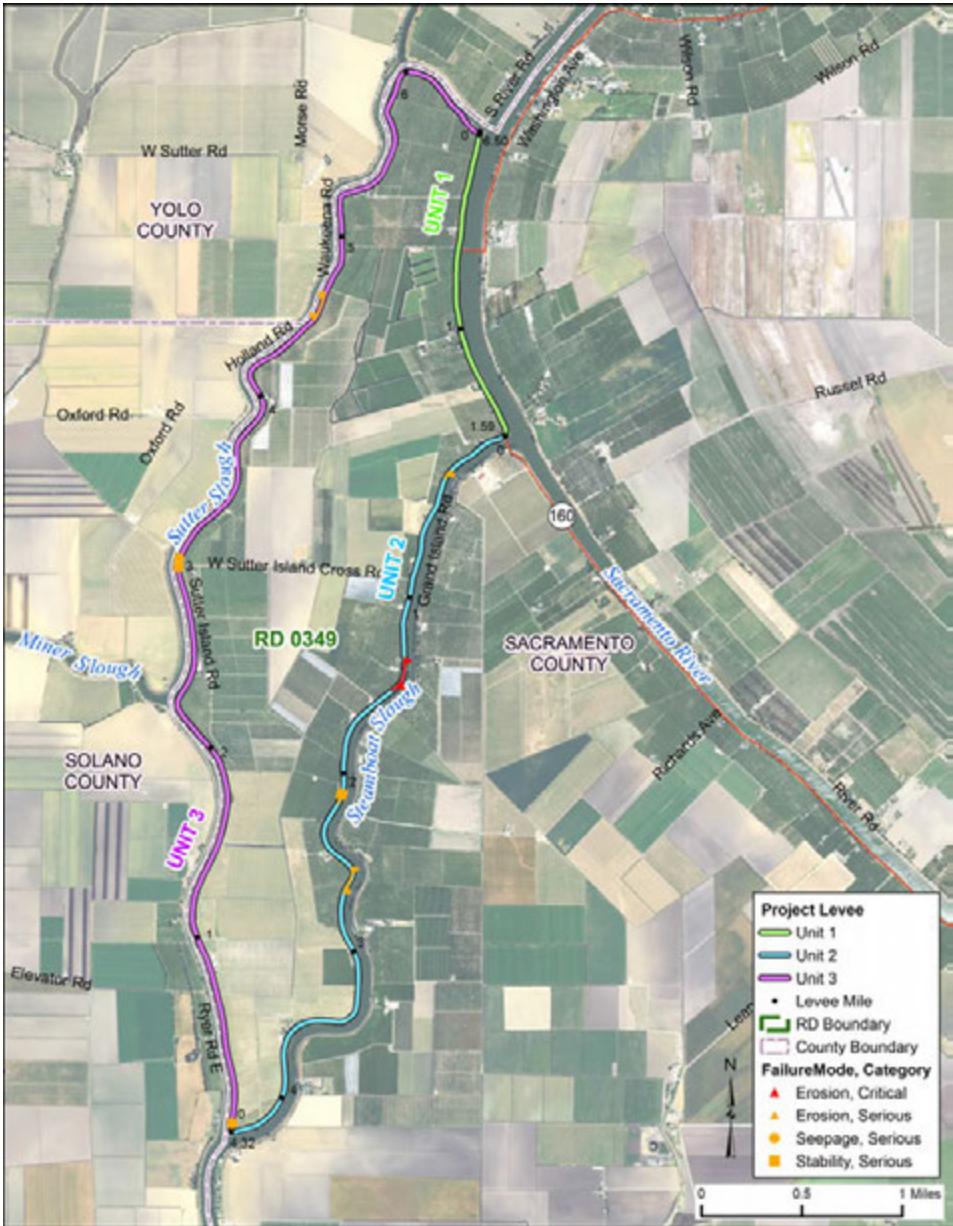
## Sutter Island

RD 349

**Sacramento County**

**Contact**

Thomas Mayes  
President  
P.O. Box 368  
Courtland CA 95615  
Phone: (916) 775-1516



LMA Short Name : RD0349		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	1.59
Unit No. 02	Steamboat Slough	RB	4.32
Unit No. 03	Sutter Slough	LB	6.50

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.

**DWR Levee Inspection Summary**

RD0349	Total LMA Miles		12.41									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	21.27	4.64	39.83	321.03	6.79	17.87	78.27	630.85	-14.48	13.23	38.44	309.82
Trim / Thin Trees	0.70	0.08	1.02	8.22	0.32	0.01	0.36	2.90	-0.38	-0.07	-0.66	-5.32
Encroachments	0.04	0.02	0.12	0.97	0.06	0.02	0.14	1.13	0.02		0.02	0.16
Animal Control					0.18		0.18	1.45	0.18		0.18	1.45
Slope Stability		0.06	0.24	1.93		0.06	0.24	1.93				0.00
Crown Surface / Depressions / Rutting	2.82		2.82	22.73					-2.82		-2.82	-22.73
Emergency Supplies & Equipment	0.12		0.12	0.97	0.12		0.12	0.97				0.00
Flood Preparedness & Training	0.12		0.12	0.97	0.12		0.12	0.97				0.00
Interior Drainage & Piping Systems												
Vegetation & Obstructions					0.43		0.43	3.47	0.43		0.43	3.47
Supplemental												
USACE Erosion Survey	0.74	1.52	6.82	54.97	0.69	0.16	1.33	10.72	-0.05	-1.36	-5.49	-44.25
DWR UCIP Field Study												0.00
LMA Totals:	25.82	6.32	51.10	411.86	8.72	18.12	81.20	654.47	-17.10	11.80	30.10	242.60

RD 349

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_33-9_R	33.90	0.03	0.10	eroding new	M

**Unit No. 02 Steamboat Slough, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
STM_25-8_R	25.80	0.34	0.39	eroding	M
STM_25-5_R	25.50	0.60	0.72	eroding	M
STM_24-7_R	24.70	1.33	1.49	critical	U
STM_24-1_R	24.10	2.04	2.05	eroding	M
STM_23-9_R	23.90	2.11	2.14	eroding	M
STM_23-6_R	23.60	2.56	2.69	eroding	M
STM_22-8_R	22.80	3.38	3.49	eroding	M

**Unit No. 03 Sutter Slough, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
STR_26-1_R	26.10	1.92	1.97	eroding new	M
STR_26-9_L	26.90	5.06	5.18	eroding new	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0349 - Sutter Island	12.40	Inactive	09/08/2014	U

**DWR Flood System Repair Project Summary****Unit No. 02 Steamboat Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0349_02_s_2012_26	Serious	Erosion	0.34	0.39	Right	38.302358	-121.579707
DWR_RD0349_02_s_2012_28	Critical	Erosion	1.49	1.33	Right	38.286475	-121.585026
307-16	Serious	Stability	2.16	2.10	Right	38.278404	-121.590233
DWR_RD0349_02_s_2012_32	Serious	Erosion	2.56	2.69	Right	38.273854	-121.588745

**Unit No. 03 Sutter Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
388-27	Serious	Seepage	0.04		Left	38.255326	-121.600035
388-28	Serious	Seepage	2.99		Left	38.295625	-121.604712
388-2018	Serious	Seepage	3.03		Left	38.296192	-121.604617
DWR_RD0349_03_s_2012_28	Serious	Erosion	4.56	4.68	Left	38.313836	-121.592259

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include inspections, rodent control, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of inspections, rodent control, surveying and engineering, and vegetation control. The reported total estimated cost for the current fiscal year is \$32,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# Reclamation District No. 0369

## Libby McNeil

RD 369

**Sacramento County**

**Contact**

Clarence Chu  
Manager  
13952 Main Street  
Locke CA 95690  
Phone: (916) 776-1684



RD 369



LMA Short Name : RD0369		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	LB	0.78

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

**DWR Levee Inspection Summary**

RD0369	Total LMA Miles		0.78									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.36		0.36	46.34	0.11		0.11	14.16	-0.25		-0.25	-32.18
Trim / Thin Trees	0.08		0.08	10.30	0.02		0.02	2.58	-0.06		-0.06	-7.72
Slope Stability	0.01		0.01	1.29					-0.01		-0.01	-1.29
Operations & Maintenance Manuals	0.01		0.01	1.29	0.01		0.01	1.29				0.00
Emergency Supplies & Equipment	0.01		0.01	1.29	0.01		0.01	1.29				0.00
Flood Preparedness & Training	0.01		0.01	1.29	0.01		0.01	1.29				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.47	0.00	0.47	60.50	0.15	0.00	0.15	19.31	-0.32	0.00	-0.32	-41.19

RD 369

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0551 and RD 0755 - Pierson District	9.58	Inactive	07/22/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include tree trimming, vegetation spraying, and goat grazing.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activity for Levee Unit 1. Expenses include costs of vegetation control. The reported total estimated cost for the fiscal year is \$6,900.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# Reclamation District No. 0501

## Ryer Island

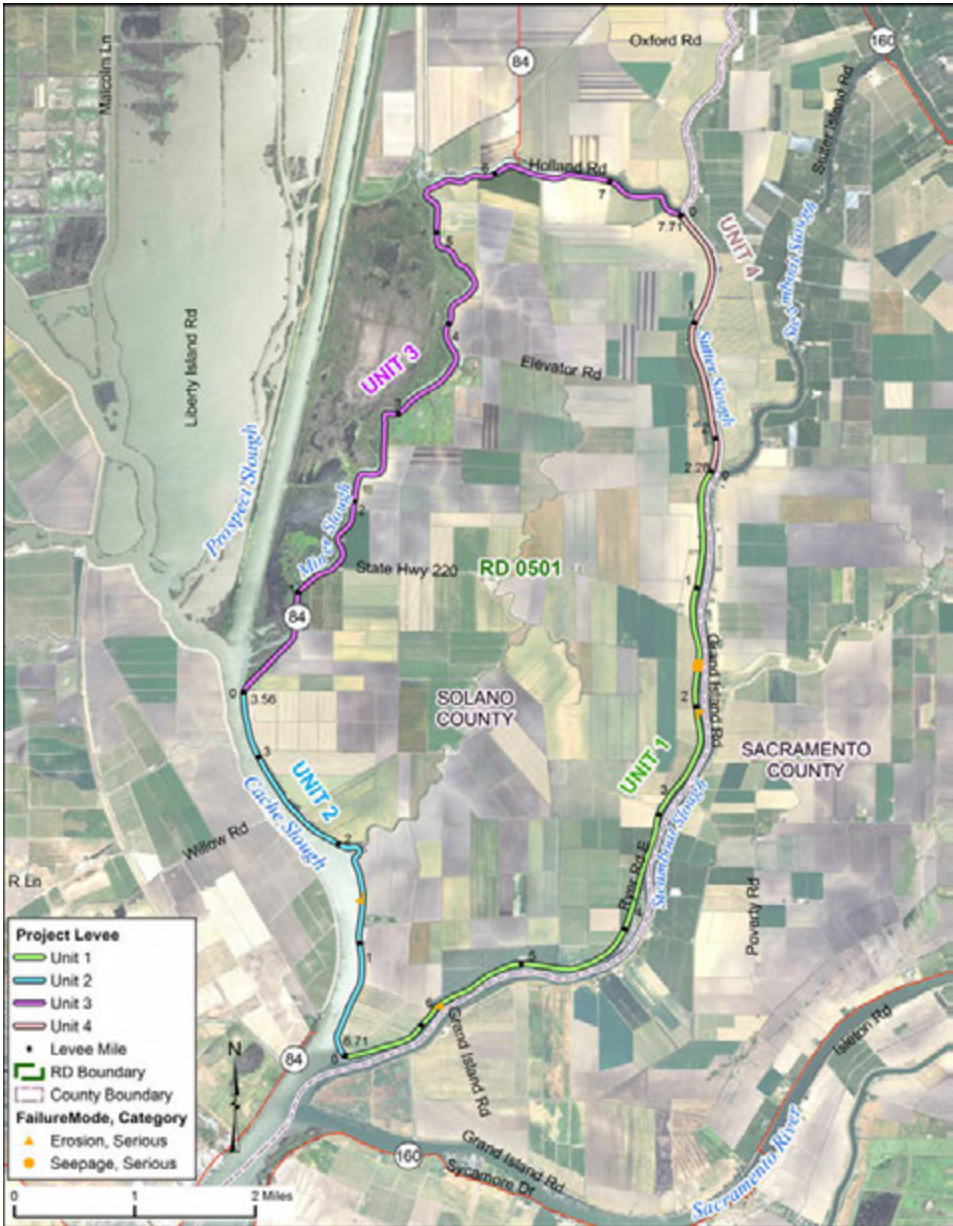
RD 501

**Solano County**

**Contact**

Tom Hester  
President  
3554 State Highway 84  
Walnut Grove CA 95690  
Phone: (916) 775-1996

RD 501



LMA Short Name : RD0501		Bank	Unit Length (Miles)
Unit No. 01	Steamboat Slough	RB	6.71
Unit No. 02	Cache Slough	LB	3.56
Unit No. 03	Miner Slough	LB	7.71
Unit No. 04	Sutter Slough	RB	2.28

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on controlling woody vegetation.

**DWR Levee Inspection Summary**

RD0501	Total LMA Miles		20.26									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	30.62	1.85	38.02	187.69	19.44	0.37	20.92	103.27	-11.18	-1.48	-17.10	-84.42
Trim / Thin Trees	1.75	0.03	1.87	9.23	1.26	0.02	1.34	6.62	-0.49	-0.01	-0.53	-2.62
Encroachments	0.02		0.02	0.10	0.01		0.01	0.05	-0.01		-0.01	-0.05
Animal Control	0.70		0.70	3.46	0.52		0.52	2.57	-0.18		-0.18	-0.89
Slope Stability	0.01		0.01	0.05					-0.01		-0.01	-0.05
Erosion / Bank Caving	0.07		0.07	0.35	0.06		0.06	0.30	-0.01		-0.01	-0.05
Supplemental												
USACE Erosion Survey	0.25		0.25	1.23	0.26		0.26	1.28	0.01		0.01	0.05
DWR UCIP Field Study												0.00
LMA Totals:	33.42	1.88	40.94	202.11	21.55	0.39	23.11	114.09	-11.87	-1.49	-17.83	-88.02

RD 501

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Steamboat Slough, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
STM_18-9_R	18.90	2.85	2.91	eroding	M
STM_18-8_R	18.80	3.04	3.11	eroding	M
STM_15-7_R	15.70	5.77	5.84	eroding	M

**Unit No. 02 Cache Slough, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
CHS_15-9_L	15.90	1.10	1.17	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0501 - Ryer Island	20.25	Inactive	03/19/2015	U



**DWR Flood System Repair Project Summary****Unit No. 01 Steamboat Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
122-2019	Serious	Seepage	1.64	1.66	Right	38.231283	-121.603595
122-139	Serious	Seepage	1.67		Right	38.230840	-121.603671
DWR_RD0501_01_s_2012_26	Serious	Erosion	2.04	2.09	Right	38.225500	-121.603887
DWR_RD0501_01_s_2012_44	Serious	Erosion	5.77	5.84	Right	38.190001	-121.643160

**Unit No. 02 Cache Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
308-31	Serious	Erosion	1.34	1.41	Left	38.202434	-121.654988

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported routine maintenance is ongoing and noted encroachment enforcement remains an ongoing process that is leading to varied success.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include encroachment control, visual inspections, erosion repairs, rodent baiting and hole grouting, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency mentioned an active ongoing program in place and estimated the cost for the current fiscal year to be \$75,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



# Reclamation District No. 0536 Egbert

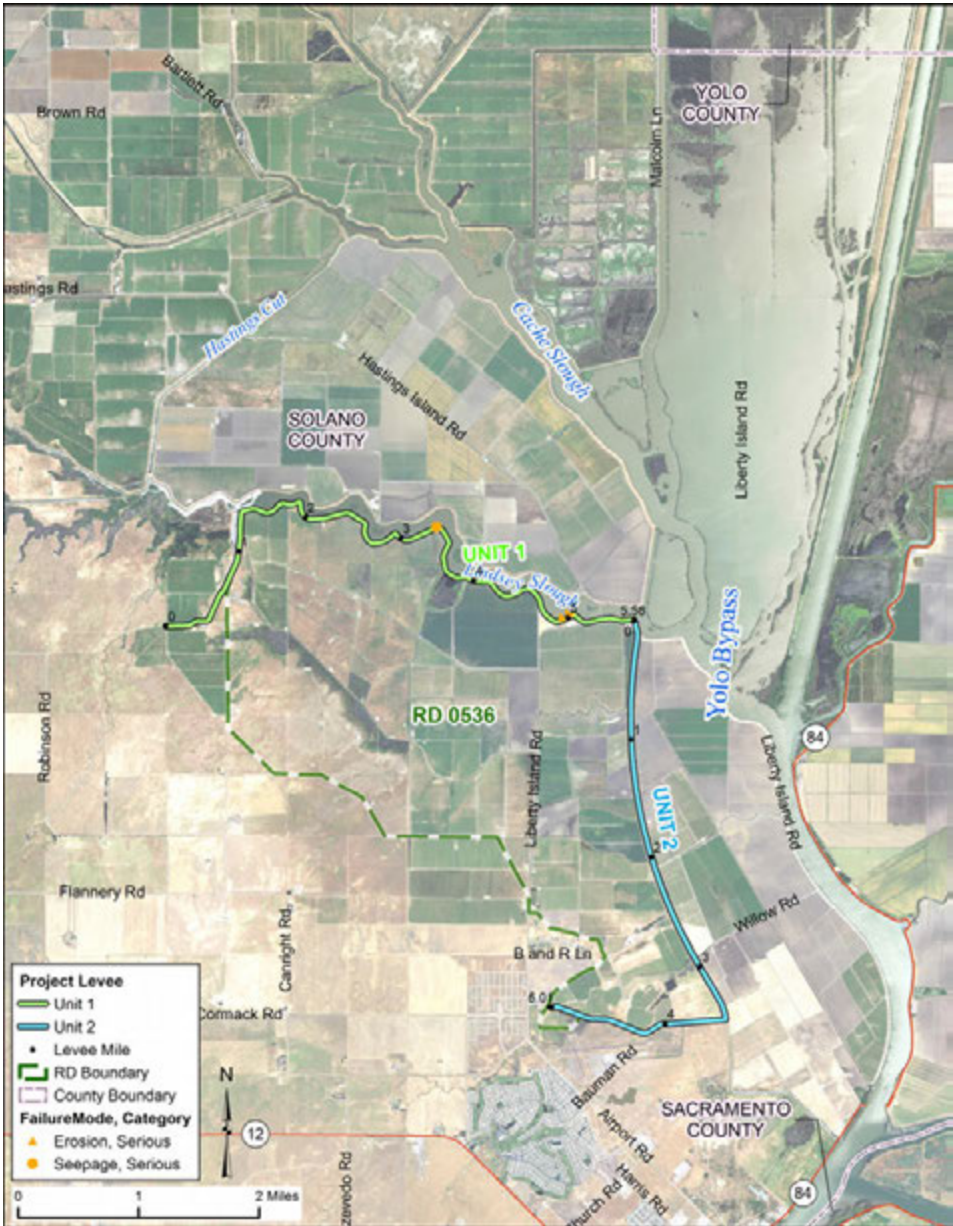
**Solano County**

**Contact**

Page Baldwin  
Manager  
P.O Box 785  
Rio Vista CA 94571  
Phone: (707) 374-5478

RD 536

RD 536



LMA Short Name : RD0536		Bank	Unit Length (Miles)
Unit No. 01	Lindsey Slough	RB	5.58
Unit No. 02	Yolo Bypass	RB	5.01

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.

**DWR Levee Inspection Summary**

RD0536	Total LMA Miles		10.59									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	14.58	9.91	54.22	511.76	3.22	9.54	41.38	390.57	-11.36	-0.37	-12.84	-121.19
Trim / Thin Trees	0.08		0.08	0.76	0.02		0.02	0.19	-0.06		-0.06	-0.57
Encroachments	0.05		0.05	0.47	0.02	0.04	0.18	1.70	-0.03	0.04	0.13	1.23
Erosion / Bank Caving	0.01		0.01	0.09	0.01		0.01	0.09				0.00
Cracking	0.62		0.62	5.85					-0.62		-0.62	-5.85
Crown Surface / Depressions / Rutting	4.26	0.02	4.34	40.96	1.56	0.02	1.64	15.48	-2.70		-2.70	-25.48
Repair Gates	0.01	0.03	0.13	1.23					-0.01	-0.03	-0.13	-1.23
Operations & Maintenance Manuals	0.11		0.11	1.04	0.11		0.11	1.04				0.00
Emergency Supplies & Equipment	0.11		0.11	1.04	0.11		0.11	1.04				0.00
Flood Preparedness & Training	0.11		0.11	1.04	0.11		0.11	1.04				0.00
Supplemental												
USACE Erosion Survey	0.36		0.36	3.40	0.37		0.37	3.49	0.01		0.01	0.09
DWR UCIP Field Study												0.00
LMA Totals:	20.29	9.96	60.13	567.54	5.52	9.60	43.92	414.54	-14.77	-0.36	-16.21	-153.00

RD 536

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Lindsey Slough, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
LDS_0-6_R		0.67	0.98	eroding	M
LDS_0-8_R	0.80	4.94	4.95	eroding	M
LDS_0-7_R	0.70	5.00	5.05	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0536 - Egbert tract	10.58	Inactive	07/22/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Lindsey Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
123-11	Serious	Seepage	3.36	3.31	Right	38.256688	-121.726990
DWR_RD0536_01_s_2012_16	Serious	Erosion	4.94	4.95	Right	38.245581	-121.708605
DWR_RD0536_01_s_2012_25	Serious	Erosion	5.00	5.05	Right	38.245981	-121.707609

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include inspections, rodent baiting, roadway maintenance, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of rodent control, roadway maintenance, and vegetation control. The reported total estimated cost for the current fiscal year is \$7,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# Reclamation District No. 0537 Lovdal

**Yolo County**

RD 537

**Contact**

Kristen Pigman  
President  
P.O BOX 822  
West Sacramento CA 95691  
Phone: (916) 371-1483





RD 537

LMA Short Name : RD0537		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	4.74
Unit No. 02	Yolo Bypass	LB	1.19

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should enhance its rodent control program.

**DWR Levee Inspection Summary**

RD0537	Total LMA Miles		5.93									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					1.04		1.04	17.53	1.04		1.04	17.53
Encroachments					0.01		0.01	0.17	0.01		0.01	0.17
Animal Control	0.01	0.01	0.05	0.84	0.03	0.02	0.11	1.85	0.02	0.01	0.06	1.01
Slope Stability	0.01		0.01	0.17	0.02		0.02	0.34	0.01		0.01	0.17
Erosion / Bank Caving	0.01	0.01	0.05	0.84	0.01	0.01	0.05	0.84				0.00
Crown Surface / Depressions / Rutting					0.01		0.01	0.17	0.01		0.01	0.17
Operations & Maintenance Manuals	0.06		0.06	1.01	0.06		0.06	1.01				0.00
Emergency Supplies & Equipment	0.06		0.06	1.01	0.06		0.06	1.01				0.00
Flood Preparedness & Training	0.06		0.06	1.01	0.06		0.06	1.01				0.00
Supplemental												
USACE Erosion Survey	0.03		0.03	0.51	0.05		0.05	0.84	0.02		0.02	0.34
DWR UCIP Field Study												0.00
LMA Totals:	0.24	0.02	0.32	5.39 *	1.35	0.03	1.47	24.78	1.11	0.01	1.15	19.38

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

RD 537

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_62-9_R	62.90	4.27	4.32	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1600, 0827, 0785, and 0537 - SacYolo North	32.06	Inactive	10/10/2014	U
West Sacramento - SacYolo South	60.45	Inactive	07/24/2015	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.



**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported waterside erosion caused by 2 large trees on Levee Unit 1, on the north side of Monument Bend. The Agency also mentioned sloughing on Levee Unit 2, where the surface has collapsed 5 to 10 inches at some places. The Agency also reported a boil at Levee Unit 2 when the Sacramento Weir is spilling, 30 feet east of the North Pump Station.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion on the waterside of Levee Unit 1 at Monument Bend off Old River Road and mentioned cracks can be seen on the county road. The Agency also reported a boil at Levee Unit 2, 30 feet east of the North Pump Station, when the Sacramento Weir is spilling.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include brush clearing, grass mowing, rodent baiting, tree trimming, and vegetation spraying.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of administration, direct fees, ditch maintenance, equipment maintenance, fuel, insurance, legal, levee maintenance, management, office overhead, professional fees, salaries, and utilities. The reported total estimated cost for the current fiscal year is \$264,360.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there are no additional observations or comments to report on Part 5.

# Reclamation District No. 0551

## Pearson

**Sacramento County**

RD 551

**Contact**

Topper Van Loben Sels  
President  
P.O Box 123  
Walnut Grove CA 95690  
Phone: (916) 776-1223



RD 551

LMA Short Name : RD0551		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	LB	6.78

Threat Assessment & Recommendations

- The LMA should focus more on controlling woody vegetation.
- The LMA should work with landowners and the CVFPB to control unauthorized encroachments.

**DWR Levee Inspection Summary**

RD0551	Total LMA Miles		6.78									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	6.78		6.78	99.94					-6.78		-6.78	-99.94
Trim / Thin Trees	0.01		0.01	0.15	0.01		0.01	0.15				0.00
Encroachments					0.01		0.01	0.15	0.01		0.01	0.15
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	6.79	0.00	6.79	100.08	0.02	0.00	0.02	0.30	-6.77	0.00	-6.77	-99.79

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

RD 551

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0551 and RD 0755 - Pierson District	9.58	Inactive	07/22/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new information on the condition or performance of Levee Unit 1 and non-Project Levee Unit 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new information on conditions that might impair or compromise the level of flood protection of Levee Unit 1 and non-Project Levee Unit 1.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on both Project and non-Project levee units. Activities include engineering, livestock grazing, mowing, rodent baiting, spraying, and tree trimming. The Agency also reported actions taken at Levee Unit 1 on inspection items listed by DWR in the inspection report. The actions taken include corrected issues for encroachment control, tree trimming and thinning, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for both Project and non-Project levee units. Expenses include costs of engineering, erosion repair, inspections, livestock grazing, mowing, road repair, rodent baiting, spraying, and tree trimming. The reported total estimated cost for the current fiscal year is \$75,000 for Levee Unit 1 and \$14,500 for non-Project Levee Unit 1.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# Reclamation District No. 0554

## Walnut Grove

**Sacramento County**

RD 554

**Contact**

Jeff Trantum  
Chairman  
P.O Box 984  
Walnut Grove CA 95690  
Phone: (916) 776-1945





LMA Short Name : RD0554

Bank Unit Length (Miles)

Unit No. 01 Sacramento River LB 1.13

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on controlling woody vegetation.



**DWR Levee Inspection Summary**

RD0554	Total LMA Miles		1.13									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.15		0.15	13.32	0.65		0.65	57.74	0.50		0.50	44.41
Trim / Thin Trees		0.16	0.64	56.85		0.04	0.16	14.21		-0.12	-0.48	-42.64
Erosion / Bank Caving		0.02	0.08	7.11		0.02	0.08	7.11				0.00
Supplemental												
USACE Erosion Survey	0.09		0.09	7.99	0.10		0.10	8.88	0.01		0.01	0.89
DWR UCIP Field Study												0.00
LMA Totals:	0.24	0.18	0.96	85.27	0.75	0.06	0.99	87.94	0.51	-0.12	0.03	2.66

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

RD 554

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_27-0_L	27.00	0.26	0.36	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0551 and RD 0755 - Pierson District	9.58	Inactive	07/22/2014	U
RD 0563 - Tyler Island	13.00	Inactive	09/08/2014	M

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported toe erosion on the waterside slope at Levee Unit 1, LM 0.71 to 0.90, was revealed by a bathymetric survey in 2013. The Agency also reported bank erosion and loss of revetment at Levee Unit 1, LM 0.71.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion of the levee toe at -25 feet elevation and noted that the erosion could lead to upper slope sloughing at Levee Unit 1, LM 0.71 to 0.90.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include vegetation control. Additionally, the Agency reported surveying and engineering planning for non-Project Levee Unit 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency reported a summary of estimated cost and planned maintenance activities for Project and non-Project levees. Expenses include costs of debris removal, erosion repair, engineering and surveying, restoration, seepage control, rodent control, tree trimming, and vegetation control. The reported total estimated cost for the current fiscal year is \$153,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that a Geotechnical Study of all levee units is currently underway, and it is expected to be completed in 2016. The Agency also reported that a bathymetric survey is being done on Levee Unit 1 and on non-Project Levee Unit 3.

# Reclamation District No. 0556

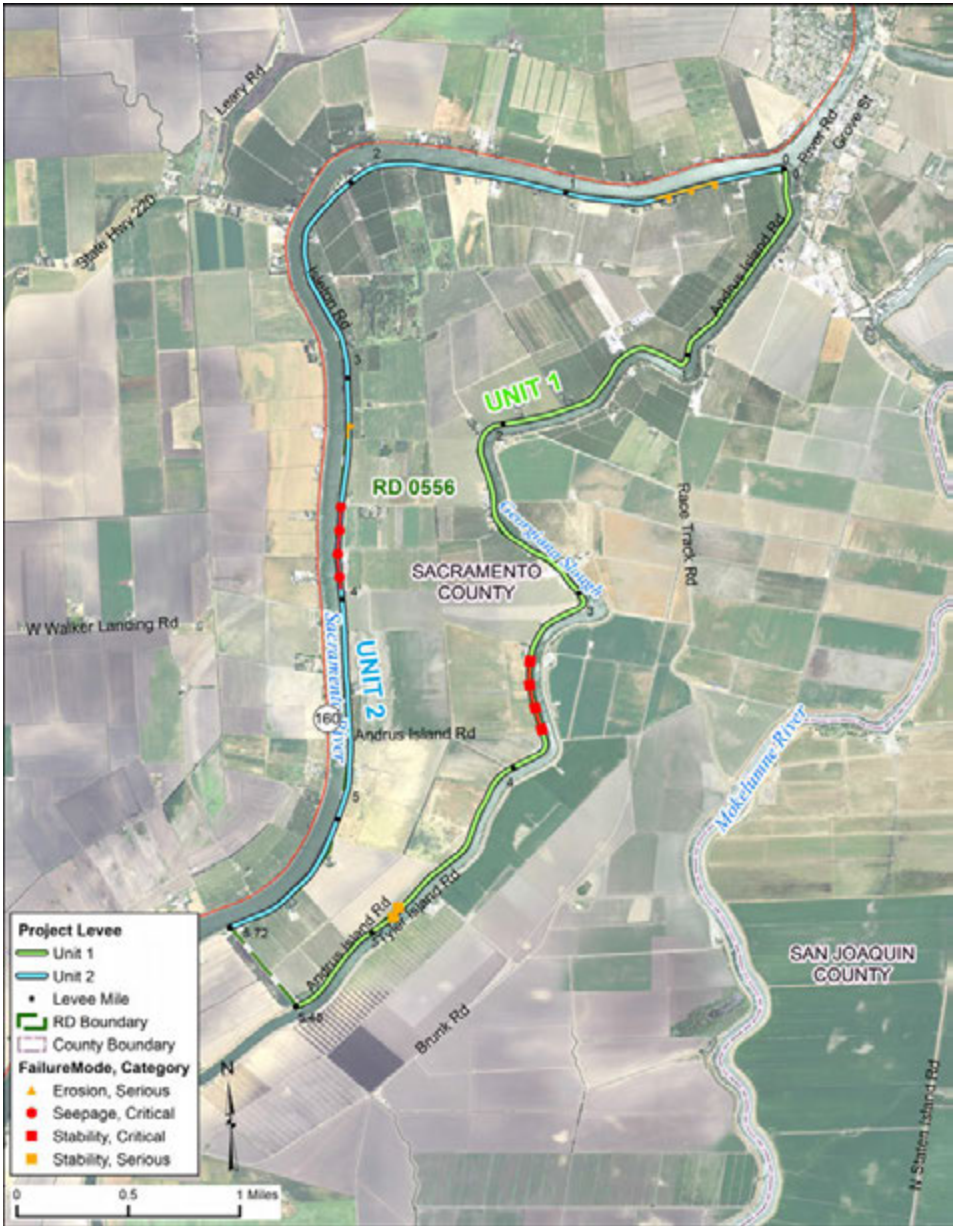
## Upper Andrus

**Sacramento County**

RD 556

**Contact**

Duwain Silva  
President  
P. O. Box 705  
Walnut Grove CA 95690  
Phone: (916) 776-1551



RD 556

LMA Short Name : RD0556		Bank	Unit Length (Miles)
Unit No. 01	Georgiana Slough	RB	5.48
Unit No. 02	Sacramento River	LB	5.72

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on controlling woody vegetation.
- The LMA should enhance its rodent control program.

**DWR Levee Inspection Summary**

RD0556	Total LMA Miles		11.20									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	46.06	5.09	66.42	593.01	3.43	13.01	55.47	495.25	-42.63	7.92	-10.95	-97.76
Trim / Thin Trees	6.73	2.94	18.49	165.08	2.74	1.05	6.94	61.96	-3.99	-1.89	-11.55	-103.12
Encroachments		0.01	0.04	0.36		0.02	0.08	0.71		0.01	0.04	0.36
Animal Control	3.63	0.01	3.67	32.77	3.34		3.34	29.82	-0.29	-0.01	-0.33	-2.95
Erosion / Bank Caving	0.06		0.06	0.54	0.02		0.02	0.18	-0.04		-0.04	-0.36
Operations & Maintenance Manuals	0.11		0.11	0.98	0.11		0.11	0.98				0.00
Emergency Supplies & Equipment	0.11		0.11	0.98	0.11		0.11	0.98				0.00
Flood Preparedness & Training	0.11		0.11	0.98	0.11		0.11	0.98				0.00
Supplemental												
USACE Erosion Survey	1.03		1.03	9.20	1.32		1.32	11.79	0.29		0.29	2.59
DWR UCIP Field Study												0.00
LMA Totals:	57.85	8.05	90.05	803.98	11.19	14.08	67.51	602.74	-46.66	6.03	-22.54	-201.24

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

RD 556

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Georgiana Slough, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
GEO_7-0_R	7.00	5.12	5.27	eroding	M

**Unit No. 02 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_26-0_L	26.00	0.31	0.60	under construction	M
SAC_25-2_L	25.20	1.03	1.15	eroding	M
SAC_24-8_L	24.80	1.45	1.59	eroding	M
SAC_23-3_L	23.30	2.93	3.04	eroding	M
SAC_23-2_L	23.20	3.17	3.28	eroding	M
SAC_22-7_L	22.70	3.58	3.64	eroding	M
SAC_22-5_L	22.50	3.95	4.12	eroding	M
SAC_21-9_L	21.90	4.45	4.49	eroding	M
SAC_21-5_L	21.50	4.77	4.88	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Brannan-Andrus LMD - RD 0556	27.48	Inactive	03/26/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Georgiana Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
USACE_CESPK_UPA1_2011_p_0143	Critical	Stability	3.75	3.43	Right	38.203400	-121.540990
USACE_CESPK_UPA1_2011_p_0056	Serious	Stability	4.84		Right	38.192360	-121.553700

**Unit No. 02 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0556_02_s_2012_25	Serious	Erosion	0.31	0.60	Left	38.238784	-121.523932
DWR_RD0556_02_s_2012_29	Serious	Erosion	3.21	3.28	Left	38.224142	-121.555377
DWR_RD0556_02_R_2012_03	Critical	Seepage	3.57	3.95	Left	38.218950	-121.556300

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported berm erosion at locations where the river changes direction. The Agency also reported vegetation issues at various locations.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include vegetation mowing and tree trimming.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of benefit assessment, engineering reports, administrative and management, and miscellaneous. The reported total estimated cost for the current fiscal year is \$65,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported the erosion project on Levee Unit 2, LM 0.65, is near completion and noted that this project could impact unprotected upstream and downstream levee banks.

# Reclamation District No. 0563

## Tyler Island

**Sacramento County**

**Contact**

Steven Mello  
President  
P.O Box 470  
Walnut Grove CA 95690-0470  
Phone: (916) 776-2544





LMA Short Name : RD0563		Bank	Unit Length (Miles)
Unit No. 01	Georgiana Slough (Tyler Island)	LB	12.11

Threat Assessment & Recommendations

- The crown roadway in this Area may not be able to be driven in all types of weather.
- There is vegetation that significantly impacts access and visibility in this Area.
- There is a significant erosion site in this Area that should be monitored.
- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.
- The LMA should focus more on controlling woody vegetation.

## DWR Levee Inspection Summary

RD0563	Total LMA Miles		12.11									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	6.28	0.86	9.72	80.29	0.34	1.54	6.50	53.69	-5.94	0.68	-3.22	-26.60
Trim / Thin Trees	0.46	0.05	0.66	5.45	0.43	0.23	1.35	11.15	-0.03	0.18	0.69	5.70
Encroachments	0.10	0.01	0.14	1.16	0.09	0.02	0.17	1.40	-0.01	0.01	0.03	0.25
Animal Control	0.28		0.28	2.31	0.16	0.02	0.24	1.98	-0.12	0.02	-0.04	-0.33
Slope Stability	0.06	0.01	0.10	0.83	0.06	0.01	0.10	0.83				0.00
Erosion / Bank Caving	0.02		0.02	0.17	0.02		0.02	0.17				0.00
Crown Surface / Depressions / Rutting	9.91		9.91	81.86	9.76		9.76	80.62	-0.15		-0.15	-1.24
Supplemental												
USACE Erosion Survey	3.25	0.51	5.29	43.70	3.46	0.51	5.50	45.43	0.21		0.21	1.73
DWR UCIP Field Study												0.00
LMA Totals:	20.36	1.44	26.12	215.77	14.32	2.33	23.64	195.28	-6.04	0.89	-2.48	-20.49

## DWR Structure Inspection Summary

No Structures Inspected in this District.

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

## Unit No. 01 Georgiana Slough (Tyler Island), LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
GEO_11-0_L	11.00	1.02	1.11	eroding	M
GEO_9-3_L	9.30	2.61	2.82	eroding	M
GEO_8-3_L	8.30	3.91	4.01	eroding	M
GEO_7-2_L	7.20	4.98	5.04	eroding	M
GEO_6-8_L	6.80	5.15	5.39	critical	U
GEO_6-3_L	6.30	5.49	6.27	eroding	M
GEO_5-8_L	5.80	6.38	6.46	eroding	M
GEO_5-3_L	5.30	6.64	7.28	eroding	M
GEO_4-5_L	4.50	7.53	7.80	critical	U
GEO_4-3_L	4.30	7.85	8.05	eroding	M
GEO_3-8_L	3.80	8.12	8.59	eroding	M
GEO_2-5_L	2.50	9.73	9.90	eroding	M
GEO_2-0_L	2.00	10.15	10.27	repaired	C
GEO_1-7_L	1.70	10.45	10.74	eroding	M
GEO_0-3_L	0.30	11.51	11.86	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0563 - Tyler Island	13.00	Inactive	09/08/2014	M

**DWR Flood System Repair Project Summary**

N/A

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0556_01_R_2012_01	Serious	Seepage			Right	38.186710	-121.525750
DWR_RD0556_01_R_2012_02	Serious	Seepage			Right	38.188220	-121.526697

**Unit No. 01 Georgiana Slough (Tyler Island)**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0563_01_s_2012_38	Serious	Erosion	1.08	1.11	Left	38.226946	-121.530010
DWR_RD0563_01_R_2012_05	Serious	Seepage	2.19	2.57	Left	38.218550	-121.542700
130-137	Critical	Seepage	2.21		Left	38.218180	-121.542730
DWR_RD0563_01_s_2012_39	Serious	Erosion	2.61	2.82	Left	38.214133	-121.537778
DWR_RD0563_01_s_2012_40	Serious	Erosion	3.91	4.01	Left	38.200733	-121.542571
DWR_RD0563_01_s_2012_42	Serious	Erosion	5.15	5.39	Left	38.188216	-121.558442
DWR_RD0563_01_s_2012_43	Serious	Erosion	5.49	6.27	Left	38.185479	-121.563296
DWR_RD0563_01_R_2012_01	Critical	Erosion	6.74		Left	38.175350	-121.580030
DWR_RD0563_01_s_2012_46	Serious	Erosion	7.85	8.59	Left	38.160261	-121.585056
DWR_RD0563_01_s_2012_49	Critical	Erosion	9.73	9.78	Left	38.150820	-121.593650
DWR_RD0563_01_s_2012_51	Serious	Erosion	10.15	10.21	Left	38.147537	-121.599433
DWR_RD0563_01_s_2012_55	Serious	Erosion	11.51	11.80	Left	38.131126	-121.588340

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported routine maintenance is ongoing and noted encroachment enforcement remains an ongoing process that is leading to varied success.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include encroachment control, visual inspections, erosion repairs, rodent baiting and hole grouting, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency mentioned an active ongoing program in place and provided estimated budget for the routine maintenance based on prior year's expenditure. The reported total estimated budget for the fiscal year is \$111,400.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# Reclamation District No. 0755 Randall

**Sacramento County**

**Contact**

Douglas Hemly  
Trustee  
11275 State Highway 160  
Courtland CA 95615  
Phone: (916) 775-1379

RD 755



LMA Short Name : RD0755

Bank Unit Length (Miles)

Unit No. 01 Sacramento River LB 1.83

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on backfilling rodent holes.



**DWR Levee Inspection Summary**

RD0755	Total LMA Miles		1.83									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.94	1.11	6.38	347.79	0.15	2.56	10.39	566.39	-1.79	1.45	4.01	218.60
Trim / Thin Trees	0.01		0.01	0.55					-0.01		-0.01	-0.55
Animal Control	1.35		1.35	73.59	1.34		1.34	73.05	-0.01		-0.01	-0.55
Erosion / Bank Caving	0.01		0.01	0.55	0.01		0.01	0.55				0.00
Operations & Maintenance Manuals	0.02		0.02	1.09	0.02		0.02	1.09				0.00
Emergency Supplies & Equipment	0.02		0.02	1.09	0.02		0.02	1.09				0.00
Flood Preparedness & Training	0.02		0.02	1.09	0.02		0.02	1.09				0.00
Supplemental												
2015 USACE Erosion Survey, DRAFT					0.08		0.08	4.36	0.08		0.08	4.36
DWR UCIP Field Study												0.00
LMA Totals:	3.37	1.11	7.81	425.74	1.64	2.56	11.88	647.61	-1.73	1.45	4.07	221.87

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_35-4_L	35.40	1.24	1.32	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0551 and RD 0755 - Pierson District	9.58	Inactive	07/22/2014	U

**DWR Flood System Repair Project Summary****Unit No. 01 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
131-2014	Critical	Seepage	0.14		Left	38.346922	-121.538156

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include inspections, patrolling, rodent control, tree trimming and thinning, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities. Expenses include costs of inspections, mowing, rodent control, and tree trimming and thinning. The reported total estimated cost for the current fiscal year is \$4,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.



# Reclamation District No. 0765 Glide

## Yolo County

### Contact

David Dickson  
Secretary  
3435 China Hat Island Rd  
West Sacramento CA 95691  
Phone: (602) 312-8488

RD 765



LMA Short Name : RD0765		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	1.72

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on controlling woody vegetation.

**DWR Levee Inspection Summary**

RD0765	Total LMA Miles		1.72									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.19	0.01	0.23	13.36	0.12	3.09	12.48	724.72	-0.07	3.08	12.25	711.36
Trim / Thin Trees	0.36		0.36	20.91	0.19		0.19	11.03	-0.17		-0.17	-9.87
Encroachments	0.02		0.02	1.16	0.06		0.06	3.48	0.04		0.04	2.32
Erosion / Bank Caving						0.01	0.04	2.32		0.01	0.04	2.32
Emergency Supplies & Equipment	0.02		0.02	1.16	0.02		0.02	1.16				0.00
Flood Preparedness & Training	0.02		0.02	1.16	0.02		0.02	1.16				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.60	0.01	0.64	37.17	0.40	3.10	12.80	743.30	-0.20	3.09	12.16	706.14

RD 765

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
West Sacramento - SacYolo South	60.45	Inactive	07/24/2015	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include inspections and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for Levee Unit 1. Expenses include costs of levee patrolling, goat grazing, tree trimming, and vegetation mowing. The reported total estimated cost for the current fiscal year is \$11,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

RD 765

# **Reclamation District No. 0784**

## **Plumas Lake**

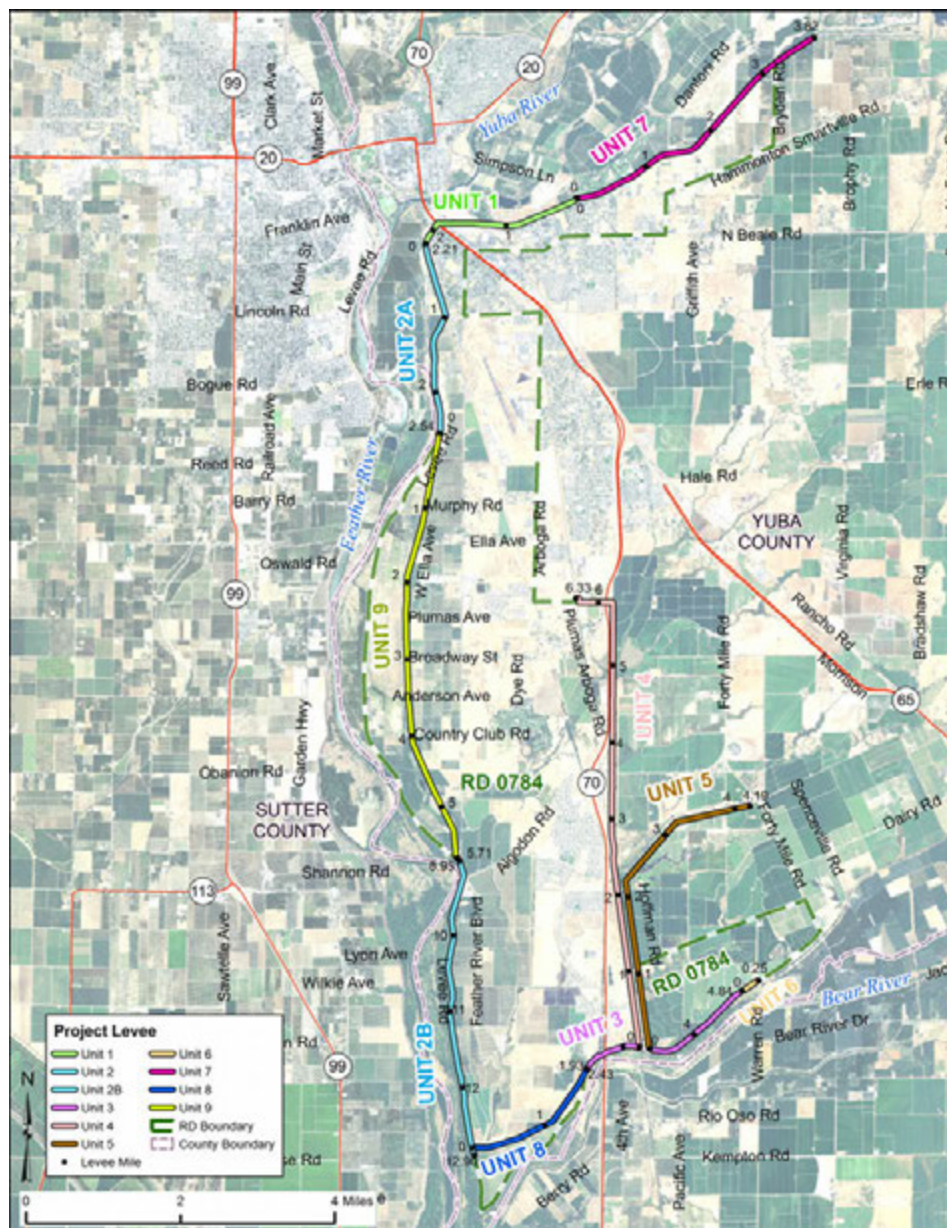
**Yuba County**

**Contact**

Steven Fordice  
General Manager  
1594 Broadway  
Arboga CA 95961  
Phone: (530) 742-0520



RD 784



LMA Short Name : RD0784

Bank Unit Length (Miles)

Unit No. 01	Yuba River	LB	2.21
Unit No. 02A	Feather River	LB	2.54
Unit No. 02B	Feather River	LB	3.95
Unit No. 03A	Bear River	RB	0.78
Unit No. 03B	Bear River	RB	1.49
Unit No. 04	Interceptor Canal	RB	6.33
Unit No. 05	Interceptor Canal	LB	4.19
Unit No. 06	South Dry Creek	RB	0.25
Unit No. 07	Yuba River	LB	3.82
Unit No. 08	Three Rivers	RB	1.93
Unit No. 09	Feather River	LB	5.71

## Threat Assessment &amp; Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should focus on repairing erosion sites.

RD 784

## DWR Levee Inspection Summary

RD0784	Total LMA Miles		33.20									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.03					-0.01		-0.01	-0.03
Supplemental												
USACE Erosion Survey	0.43		0.43	1.30	0.44		0.44	1.33	0.01		0.01	0.03
DWR UCIP Field Study												0.00
LMA Totals:	0.44	0.00	0.44	1.33	0.44	0.00	0.44	1.33	0.00	0.00	0.00	0.00

## DWR Structure Inspection Summary

No Structures Inspected in this District.

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

## Unit No. 02A Feather River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
FHR_17-8_L	17.80	8.96	9.36	eroding	M

## Unit No. 03A Bear River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
BER_4-9_R	4.90	10.36	10.40	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0784 - Best Slough and Dry Creek	7.25	Inactive	03/19/2013	U
RD 0784 - Plumas Lakes Basin	27.27	Active	03/19/2013	U



**DWR Flood System Repair Project Summary****Unit No. 04 Interceptor Canal**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-15-1	Serious	Stability			left	39.027760	-121.540940

**Unit No. 05 Interceptor Canal**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-15-30	Serious	Erosion	2.47		Left	39.008994	-121.535679

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported completed seepage berm improvements by Three Rivers Levee Improvement Authority on Levee Unit 2B and planned seepage berm improvements on Levee Unit 1, LM 1.35 to LM 1.77. The Agency also reported ongoing vegetation control activities on all levee units. Activities include burning, sheep and goat grazing, and slope dragging.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion due to a fallen off concrete weir structure at the end of a pipe crossing on Levee Unit 5, LM 2.47.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include access gate maintenance and repair, burning, erosion repair, flap gate inspections, levee inspections, maintenance equipment repair, mowing, pipe fencing construction, placement of concrete blocks, placement of gravel, relief well testing and maintenance, roadway maintenance, rodent baiting, rodent hole grouting, sheep and goat grazing, slope dragging, spraying, telemetry maintenance, and tree trimming and removal.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs equipment, insurance, professional fees, pump station maintenance, rodent control, salaries, and vegetation control. The reported total estimated cost for the current fiscal year is \$689,160.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported utility crossing investigations and pipe camera inspections on Levee Units 1, 2A, 2B, 3A, and 9.

# Reclamation District No. 0785 Driver

## Yolo County

### Contact

Ross Peabody  
President  
20040 Old River Road  
West Sacramento CA 95691  
Phone: (916) 731-8088

RD 785



LMA Short Name : RD0785		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	2.26
Unit No. 02	Yolo Bypass	LB	3.31

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

**DWR Levee Inspection Summary**

<b>RD0785</b>	Total LMA Miles		<b>5.57</b>									
	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>			
	Overall LMA Rating		<b>U</b>		Overall LMA Rating		<b>U</b>					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
<i>Earthen Levee</i>												
Vegetation	1.16		1.16	<b>20.84</b>	7.67		7.67	<b>137.77</b>	<b>6.51</b>		<b>6.51</b>	<b>116.93</b>
Trim / Thin Trees	0.01		0.01	<b>0.18</b>	0.02		0.02	<b>0.36</b>	<b>0.01</b>		<b>0.01</b>	<b>0.18</b>
Animal Control	0.05		0.05	<b>0.90</b>	0.05		0.05	<b>0.90</b>				<b>0.00</b>
Slope Stability	0.04		0.04	<b>0.72</b>	0.06		0.06	<b>1.08</b>	<b>0.02</b>		<b>0.02</b>	<b>0.36</b>
Erosion / Bank Caving	0.02		0.02	<b>0.36</b>	0.01		0.01	<b>0.18</b>	<b>-0.01</b>		<b>-0.01</b>	<b>-0.18</b>
Operations & Maintenance Manuals	0.06		0.06	<b>1.08</b>					<b>-0.06</b>		<b>-0.06</b>	<b>-1.08</b>
Emergency Supplies & Equipment	0.06		0.06	<b>1.08</b>					<b>-0.06</b>		<b>-0.06</b>	<b>-1.08</b>
Flood Preparedness & Training	0.06		0.06	<b>1.08</b>					<b>-0.06</b>		<b>-0.06</b>	<b>-1.08</b>
<i>Supplemental</i>												
DWR UCIP Field Study												<b>0.00</b>
<i>LMA Totals:</i>	1.45	0.00	1.45	<b>26.05</b>	7.81	0.00	7.81	<b>140.28</b>	<b>6.36</b>	0.00	<b>6.35</b>	<b>114.24</b>

RD 785

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1600, 0827, 0785, and 0537 - SacYolo North	32.06	Inactive	10/10/2014	U

**DWR Flood System Repair Project Summary****Unit No. 02 Yolo Bypass**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0785_02_s_2012_30	Serious	Erosion	2.21		Left	38.613063	-121.600908

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported vegetation issues on all levee units.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported freeboard deficiency on Levee Unit 1, LM 0.00.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include active ongoing programs in place, corrected, pending, low priority, and work in progress for animal control, encroachments, erosion, and slope stability issues.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency reported active ongoing maintenance program in place. The reported total estimated cost for the current fiscal year is \$58,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported plans for reconstructing the levee crown are moving forward.

RD 785

# Reclamation District No. 0787

## Fair

### Yolo County

#### **Contact**

Roger Cornwell  
General Manager  
41758 County Road 112  
Knights Landing CA 95645  
Phone: (530) 735-6274



RD 787



LMA Short Name : RD0787		Bank	Unit Length (Miles)
Unit No. 01	Colusa Basin Drain	LB	4.45

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- There is erosion occurring in this Area that should be monitored.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.



**DWR Levee Inspection Summary**

RD0787	Total LMA Miles		4.45									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					0.46		0.46	10.34	0.46		0.46	10.34
Flood Preparedness & Training	0.04		0.04	0.90	0.04		0.04	0.90				0.00
Supplemental												
USACE Erosion Survey	0.02		0.02	0.45	0.29		0.29	6.52	0.27		0.27	6.07
DWR UCIP Field Study												0.00
LMA Totals:	0.06	0.00	0.06	1.35	0.79	0.00	0.79	17.76	0.73	0.00	0.73	16.42

RD 787

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Colusa Basin Drain, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
CBD_0-5_L		0.39	0.50	eroding	M
CBD_0-9_L		0.67	0.85	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River west bank	119.72	Active	03/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Colusa Basin Drain**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
USACE_CESPK_FAIR_2010_p_0044	Critical	Stability	1.47		Left	38.801010	-121.748380

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of performed maintenance activities. Activities include burning, rodent control, slope dragging, and spraying.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities. Expenses include costs of burning, rodent control, seeding of wild oats, slope dragging, and spraying. The reported total estimated cost for the current fiscal year is \$27,700.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

RD 787

# Reclamation District No. 0817 Carlin

RD 817

## Yuba County

### **Contact**

Joe Conant  
President  
P.O Box 261  
Wheatland CA 95692-0261  
Phone: (530) 633-4319

RD 817



LMA Short Name : RD0817		Bank	Unit Length (Miles)
Unit No. 01	South Dry Creek	LB	3.81
Unit No. 02	Bear River	RB	3.86
Unit No. 03	South Dry Creek	RB	1.32

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

**DWR Levee Inspection Summary**

RD0817	Total LMA Miles		8.99									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation		0.96	3.84	42.71	1.64	0.93	5.36	59.62	1.64	-0.03	1.52	16.91
Trim / Thin Trees					0.01		0.01	0.11	0.01		0.01	0.11
Animal Control		0.01	0.04	0.44						-0.01	-0.04	-0.44
Slope Stability												0.00
Interior Drainage & Piping Systems												
Culverts: Inlets / Outlets	0.07		0.07	0.78					-0.07		-0.07	-0.78
Culverts: Breaks / Holes / Cracks		0.02	0.08	0.89						-0.02	-0.08	-0.89
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.07	0.99	4.03	44.83	1.65	0.93	5.37	59.73	1.58	-0.06	1.34	14.90

RD 817

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0817 and RD 2103 - City of Wheatland	16.06	Inactive	07/22/2014	U

**DWR Flood System Repair Project Summary****Unit No. 02 Bear River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0817_02_s_2012_10	Critical	Stability	2.08	3.18	Right	38.989338	-121.468640
240-3	Critical	Erosion	2.72	2.74	Right	38.992170	-121.457332

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency provided a summary of levee conditions and performance issues for all levee units. Issues for Levee Unit 1 include beaver dams, deteriorating or substandard pipes/crossings, a narrow bridge crossing at LM 1.13, excess channel and levee vegetation, levee geometry deficiencies, and sediment accumulation. Issues for Levee Unit 2 include erosion at LM 2.63 and 2.74, landscaping at LM 1.80 and 2.08, excess channel vegetation, narrow levee crown, sediment accumulation, and waterway migration. Issues for Levee Unit 3 include beaver dams, deteriorating or substandard pipes/crossings, a narrow bridge crossing at LM 1.28, excess channel and levee vegetation, and sediment accumulation.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported freeboard deficiencies at Levee Units 1 and 3 and noted that high water marks from 2006 flood event are at the levee crown elevation. The Agency also reported slope stability issues due to a narrow crown and steep slopes at Levee Unit 2 between LM 2.00 and 3.19. The Agency also reported burrow issues on all levee units.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include roadway grading, rodent baiting and grouting, and vegetation burning, grazing, mowing and trimming.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of roadway and levee crown grading, rodent baiting and trapping, tree thinning and trimming, and vegetation grazing, mowing and spraying. The reported total estimated cost for the current fiscal year is \$504,500. The Agency also reported that the district expects to complete and execute State cost share agreement through FSRP to design and implement repairs for these identified critical erosion sites. The Agency estimates the total cost for this project to be between \$1.75 and \$7.8 million.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

RD 817

# Reclamation District No. 0827 Elkhorn

RD 827

## Yolo County

### Contact

Daniel Ramos  
President  
P.O Box 781  
West Sacramento CA 95691  
Phone: (916) 372-6170



RD 827



LMA Short Name : RD0827		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	1.34
Unit No. 02	Yolo Bypass	LB	2.78

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

**DWR Levee Inspection Summary**

RD0827	Total LMA Miles		4.12									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					1.10		1.10	26.68	1.10		1.10	26.68
Animal Control					0.04		0.04	0.97	0.04		0.04	0.97
Slope Stability	0.01		0.01	0.24	0.02		0.02	0.49	0.01		0.01	0.24
Erosion / Bank Caving	0.01		0.01	0.24	0.01	0.01	0.05	1.21		0.01	0.04	0.97
Cracking												0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.02	0.00	0.02	0.49	1.17	0.01	1.21	29.35	1.15	0.01	1.19	28.86

RD 827

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1600, 0827, 0785, and 0537 - SacYolo North	32.06	Inactive	10/10/2014	U

**DWR Flood System Repair Project Summary****Unit No. 02 Yolo Bypass**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
241-2010	Serious	Stability	0.43	0.40	Left	38.670762	-121.641842

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported access gate issues on Levee Unit 1, LM 1.10, berm erosion on Levee Unit 1, LM 0.27 and LM 0.28, burrow holes in Levee Unit 2, LM 0.64, cracking along Levee Unit 2, LM 1.55 and LM 2.14, a landside ditch at the toe of Levee Unit 2, LM 0.01 to LM 0.53, landside swelling and cracking along the slope of Levee Unit 2, LM 2.31, railroad debris on Levee Unit 1, LM 0.25 and LM 0.43, and issues with weeds on both sides of Levee Unit 2, LM 0.15 to LM 2.74. The Agency also reported that a bulk of weeds has been removed from Levee Unit 1, LM 0.03.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported cracking along the top of Levee Unit 2, LM 0.80 to LM 2.13, and slumping and caving along the waterside of Levee Unit 1, LM 0.27.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of actions taken on inspection items listed by DWR in the inspection report. The actions include deficiency responses including pending, too wet to work, and work in progress for bank caving, cracking, encroachments, erosion, and slope stability.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of goat grazing, miscellaneous and routine maintenance, and spraying. The reported total estimated cost for the current fiscal year is \$ 50,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

RD 827

# Reclamation District No. 0900

## West Sacramento

RD 900

### Yolo County

#### **Contact**

Kenric Jameson  
Manager  
1420 Merkley Avenue #4  
West Sacramento CA 95691  
Phone: (916) 371-1483



LMA Short Name : RD0900		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	7.70
Unit No. 02	Yolo Bypass	LB	5.26

Threat Assessment & Recommendations

- The LMA should focus on repairing erosion sites.
- The LMA should continue to maintain the area at the high level seen during the last inspection.



## DWR Levee Inspection Summary

RD0900	Total LMA Miles		12.96									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.54		1.54	11.88	0.08		0.08	0.62	-1.46		-1.46	-11.26
Encroachments	0.04		0.04	0.31	0.05		0.05	0.39	0.01		0.01	0.08
Animal Control	0.01		0.01	0.08					-0.01		-0.01	-0.08
Slope Stability	0.01		0.01	0.08	0.01		0.01	0.08				0.00
Supplemental												
USACE Erosion Survey	0.23		0.23	1.77	0.42		0.42	3.24	0.19		0.19	1.47
DWR UCIP Field Study												0.00
LMA Totals:	1.83	0.00	1.83	14.12	0.56	0.00	0.56	4.32	-1.27	0.00	-1.27	-9.80

RD 900

## DWR Structure Inspection Summary

No Structures Inspected in this District.

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

## Unit No. 01 Sacramento River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_57-2_R	57.20	1.91	1.99	repaired	C
SAC_57-0_R	57.00	2.05	2.11	repaired	C
SAC_56-7_R	56.70	2.35	2.47	eroding	M
SAC_56-5_R	56.50	2.55	2.64	eroding	M
SAC_55-7_R	55.70	3.27	3.48	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
West Sacramento - SacYolo South	60.45	Inactive	07/24/2015	U

## DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include rodent baiting and trapping. The Agency also provided action taken on inspection items listed by DWR in the inspection report. The actions taken include progress work for encroachment control, slope stability, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of rodent baiting and trapping and vegetation mowing and spraying. The reported total estimated cost for the current fiscal year is \$81,200.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported construction of the Southport EIP is planned to begin in spring 2016. The Agency also reported that non-Project Levee Unit 1 is in the process of being admitted into the RIP and eligible for the PL 84-99 assistance, and it noted that this process should be completed by early 2016.



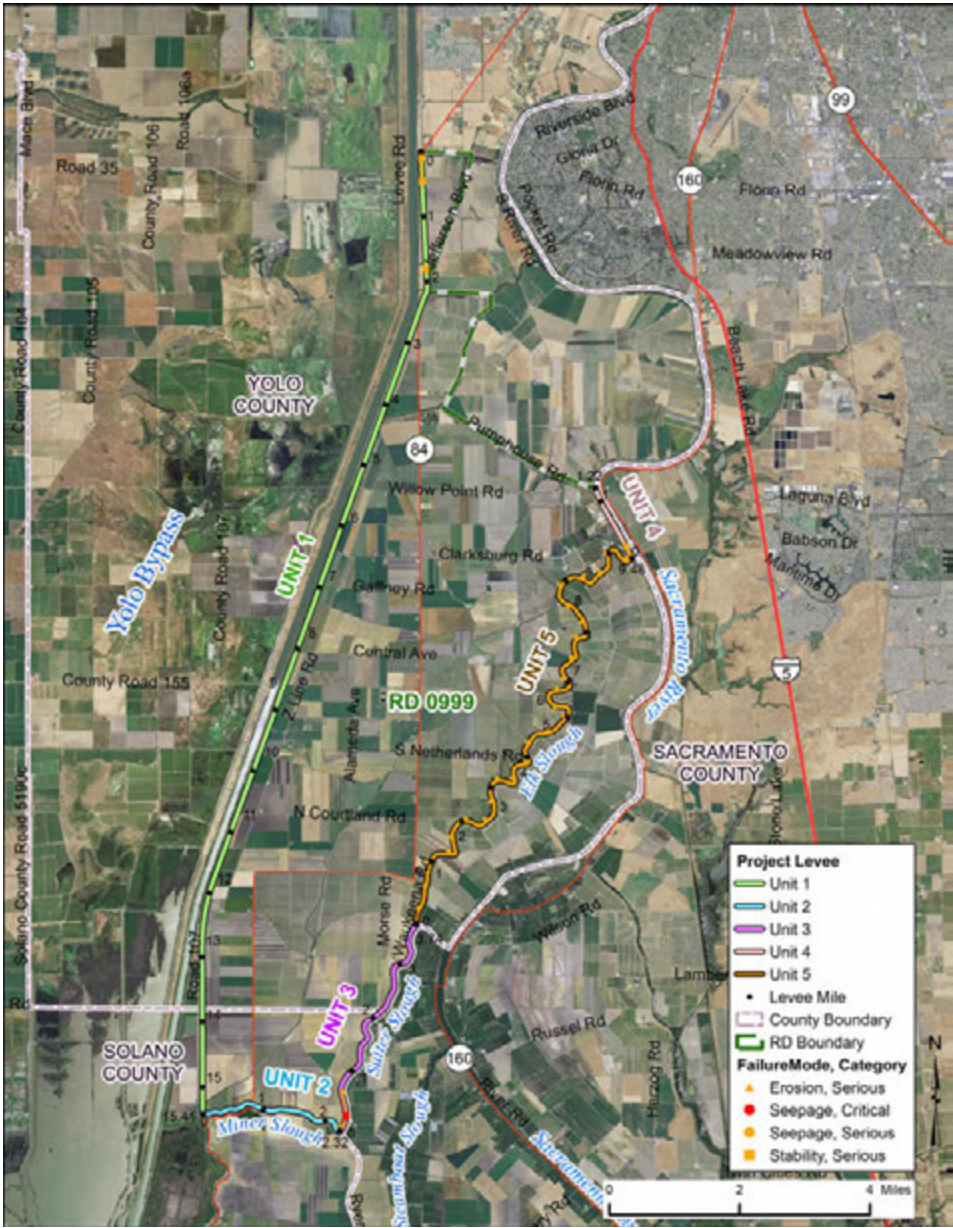
# Reclamation District No. 0999 Netherlands

RD 999

## Yolo County

### Contact

Thomas Slater  
President  
38563 Netherlands Road  
Clarksburg CA 95612  
Phone: (916) 240-5610



LMA Short Name : RD0999		Bank	Unit Length (Miles)
Unit No. 01	Yolo Bypass	LB	15.41
Unit No. 02	Miner Slough	RB	2.31
Unit No. 03	Sutter Slough	RB	3.74
Unit No. 04	Sacramento River	RB	1.22
Unit No. 05	Elk Slough	RB	9.48

### Threat Assessment & Recommendations

- The crown roadway in this Area may not be able to be driven in all types of weather.
- There is woody vegetation that significantly impacts access and visibility in this Area.
- There is erosion occurring in this Area that should be monitored.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.
- The LMA should focus more on controlling woody vegetation.
- The LMA should focus on repairing erosion sites.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.

### DWR Levee Inspection Summary

RD0999	Total LMA Miles		32.17									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.42	0.06	0.66	2.05	0.28	0.16	0.92	2.86	-0.14	0.10	0.26	0.81
Trim / Thin Trees	3.27	0.10	3.67	11.41	3.63	0.21	4.47	13.90	0.36	0.11	0.80	2.49
Encroachments	0.33	0.06	0.57	1.77	0.17	0.02	0.25	0.78	-0.16	-0.04	-0.32	-0.99
Animal Control	1.44		1.44	4.48	0.11	0.01	0.15	0.47	-1.33	0.01	-1.29	-4.01
Slope Stability	0.07		0.07	0.22	0.05	0.01	0.09	0.28	-0.02	0.01	0.02	0.06
Erosion / Bank Caving	0.01		0.01	0.03		0.02	0.08	0.25	-0.01	0.02	0.07	0.22
Crown Surface / Depressions / Rutting	3.12		3.12	9.70	6.35	0.10	6.75	20.99	3.23	0.10	3.63	11.29
Repair Gates	0.01		0.01	0.03					-0.01		-0.01	-0.03
Supplemental												
USACE Erosion Survey	0.18	0.01	0.22	0.68	0.89	0.41	2.53	7.87	0.71	0.40	2.31	7.18
DWR UCIP Field Study												0.00
LMA Totals:	8.85	0.23	9.77	30.37	11.48	0.94	15.24	47.38	2.63	0.71	5.47	17.01

RD 999

### DWR Structure Inspection Summary

Structure Name	Overall Rating
Elk Slough Inlet Structure	A

### DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

## Unit No. 01 Yolo Bypass, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
DWS_5-0_L		4.83	4.85	eroding	M

## Unit No. 03 Sutter Slough, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
STR_24-7_R	24.70	0.24	0.65	critical	U
STR_25-2_R	25.20	0.97	1.10	eroding	M
STR_25-7_R	25.70	1.43	1.58	eroding	M
STR_27-1_R	27.10	2.87	2.92	eroding	M
STR_27-3_R	27.30	3.05	3.23	eroding	M
STR_26-5_L	26.50	4.56	4.68	eroding	M

## Unit No. 04 Sacramento River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_41-9_R	41.90	0.02	0.28	eroding	M

## Unit No. 05 Elk Slough, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
ELK_0-2_R	0.20	0.00	9.48	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
West Sacramento - SacYolo South	60.45	Inactive	07/24/2015	U

## DWR Flood System Repair Project Summary

## Unit No. 01 Yolo Bypass

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
142-22	Serious	Stability	0.48		Left	38.498098	-121.581817
142-23	Serious	Stability	1.88	1.78	Left	38.477878	-121.580723

## Unit No. 03 Sutter Slough

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
305-25	Serious	Erosion	0.11	0.63	Right	38.287890	-121.605089
305-01	Critical	Seepage	0.22		Right	38.289394	-121.604538

## Unit No. 04 Sacramento River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0999_04_s_2012_8	Serious	Erosion	0.02	0.28	Right	38.414387	-121.522871
303-29	Serious	Seepage	0.03	0.04	Right	38.414434	-121.523318
303-30	Serious	Seepage	0.17	0.21	Right	38.416262	-121.524420

## Unit No. 05 Elk Slough

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD0999_05_s_2012_94	Serious	Erosion	0.21	9.48	Right	38.335616	-121.583615

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include burning, cleaning of a seepage ditch at various locations, goat grazing, mowing, patrolling, rodent control, and spraying. The Agency also mentioned erosion repair on Levee Unit 5, LM 7.75, and a pipeline inspection on Levee Unit 5, LM 9.47.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of burning, cleaning of a seepage/irrigation ditch, engineering services, inspections, mowing, roadway maintenance, rodent control, and spraying. The reported total estimated cost for the current fiscal year is \$145,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

RD 999

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# Reclamation District No. 1000

## Natomas

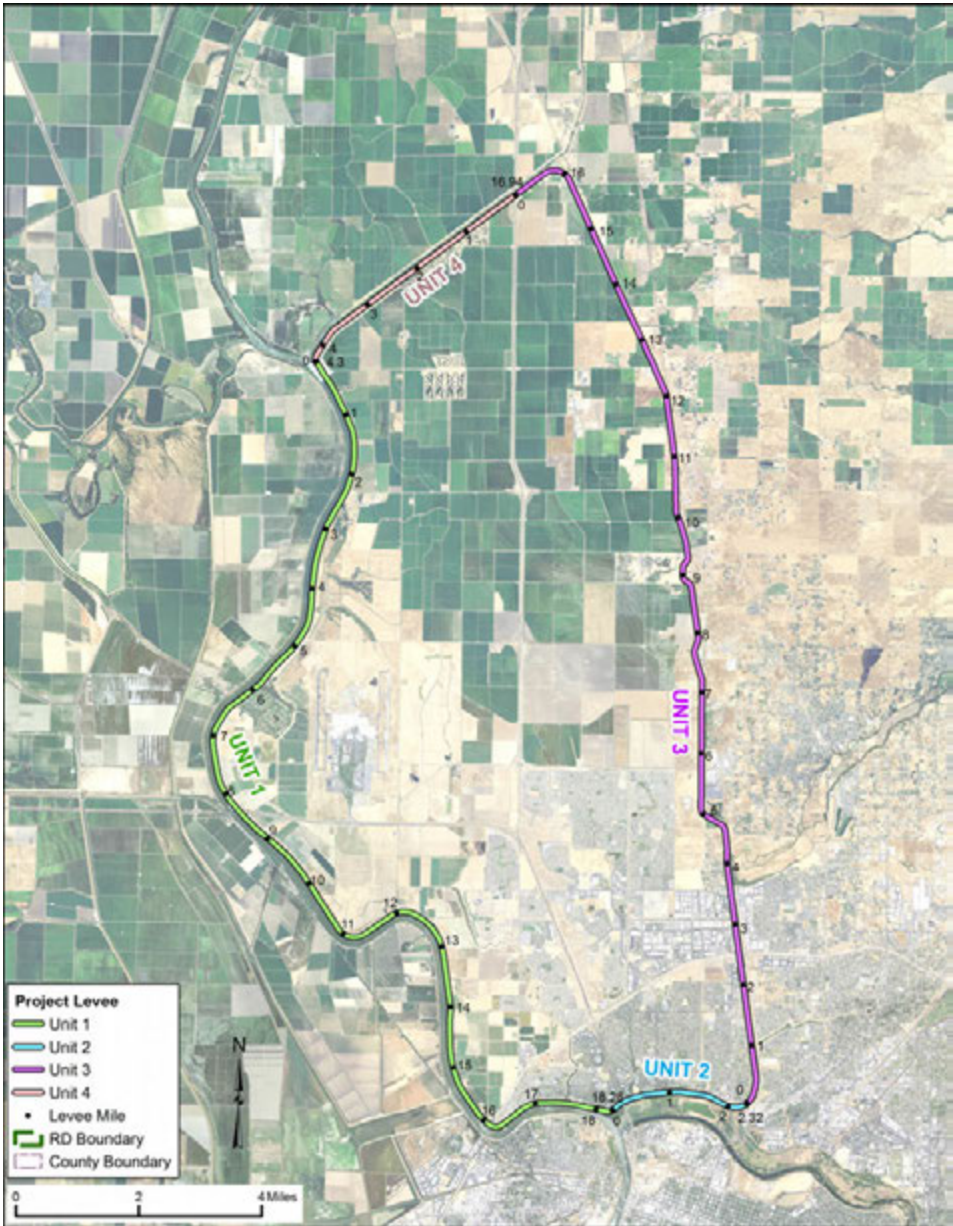
Sacramento County  
Sutter County

**Contact**

Paul Devereux  
General Manager  
1633 Garden Highway  
Sacramento CA 95833  
Phone: (916) 922-1449

RD 1000





LMA Short Name : RD1000		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	LB	18.28
Unit No. 02	American River	RB	2.32
Unit No. 03	Natomas East Canal	RB	16.93
Unit No. 04	Natomas Cross Canal	LB	4.30

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should focus more on controlling woody vegetation.

## DWR Levee Inspection Summary

RD1000	Total LMA Miles		41.84									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.23		0.23	0.55					-0.23		-0.23	-0.55
Trim / Thin Trees	0.01		0.01	0.02	0.10		0.10	0.24	0.09		0.09	0.22
Encroachments	0.01		0.01	0.02					-0.01		-0.01	-0.02
Animal Control					0.01		0.01	0.02	0.01		0.01	0.02
Slope Stability					0.01		0.01	0.02	0.01		0.01	0.02
Supplemental												
USACE Erosion Survey	0.10		0.10	0.24	0.13		0.13	0.31	0.03		0.03	0.07
LMA Totals:	0.35	0.00	0.35	0.84	0.25	0.00	0.25	0.60	-0.10	0.00	-0.10	-0.24

## DWR Structure Inspection Summary

RD 1000

No Structures Inspected in this District.

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

## Unit No. 01 Sacramento River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_78-3_L	78.30	0.48	0.61	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1000 - Natomas	41.71	Active	05/16/2013	U

## DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported encroachments limiting access and visibility and reported unauthorized vehicle traffic damaging levee slopes on Levee Unit 1 at various locations. The Agency also mentioned that the district does not have a landside access road for maintenance on Levee Unit 1 south of Powerline Road and along Levee Units 2 and 3. The Agency also reported steep landside slopes along Levee Units 2 and 3 which are hindering the district's efforts to control vegetation growth. The Agency also reported the capacity of the lower NEMDC floodway has been reduced due to vegetation growth in the channel.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported seepage on Levee Unit 1, south of the Interstate 5 (I-5) crossing, and mentioned that a temporary berm is being constructed by SACFA. The Agency also reported seepage on Levee Unit 2 between LM 0.80 and 2.03 and on Levee Unit 3 between LM 4.00 and 16.94. The Agency noted a gap in the levee at Levee Unit 3 at the Sankey Road crossing, leading to a freeboard deficiency for the 200-year flood event. The Agency also identified insufficient freeboard for the 200-year flood on Levee Unit 1 near the I-5 crossing and 500 feet downstream, at various locations of Levee Unit 3, and on Levee Unit 4 at the Natomas Mutual Water Company water intake facilities at Bennett and Northern pumping plants.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities and the locations of these activities. Activities include encroachment control, gate repair, inspection, patrolling, roadway maintenance, rodent baiting and trapping, and vegetation grazing, mowing, spraying, thinning and trimming. The Agency also reported removal of beaver dams on a regular basis along Natomas East Main Drainage Canal (NEMDC) and Pleasant Grove Cross Canal (PGCC) areas. The Agency reported the approximate total costs for operation and maintenance of the levees for the previous fiscal year as \$1,600,000.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency referred to the approximate expenses of \$1,225,000 for the previous fiscal year and stated that the expenses include all operations, administrative and labor cost, levee repair and equipment purchases.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency mentioned the next phase of levee construction that will cover Unit 2, which will include a slurry wall, landside access, and flattening of the levee slope. The Agency also mentioned updating the Emergency Response Plan. The Agency also mentioned that following the most recent periodic inspection by the USACE in 2010, it was determined that the district does not meet the standards to remain in the Rehabilitation and Inspection Programs (RIP). Subsequent to the inspection results, the district addressed critical items in the inspection and requested USACE to re-inspect the levees to be reinstated into the RIP. Prior to USACE's re-inspection, the district submitted a Letter of Intent (LOI) to submit a System-Wide Improvement Framework plan (SWIF) within two years to address the items noted on the PI and to bring the district in compliance. This year, the district submitted an interim draft SWIF report pursuant to USACE requirements, demonstrating the district's progress towards the SWIF submission in May 2016.

# Reclamation District No. 1001 Nicolaus

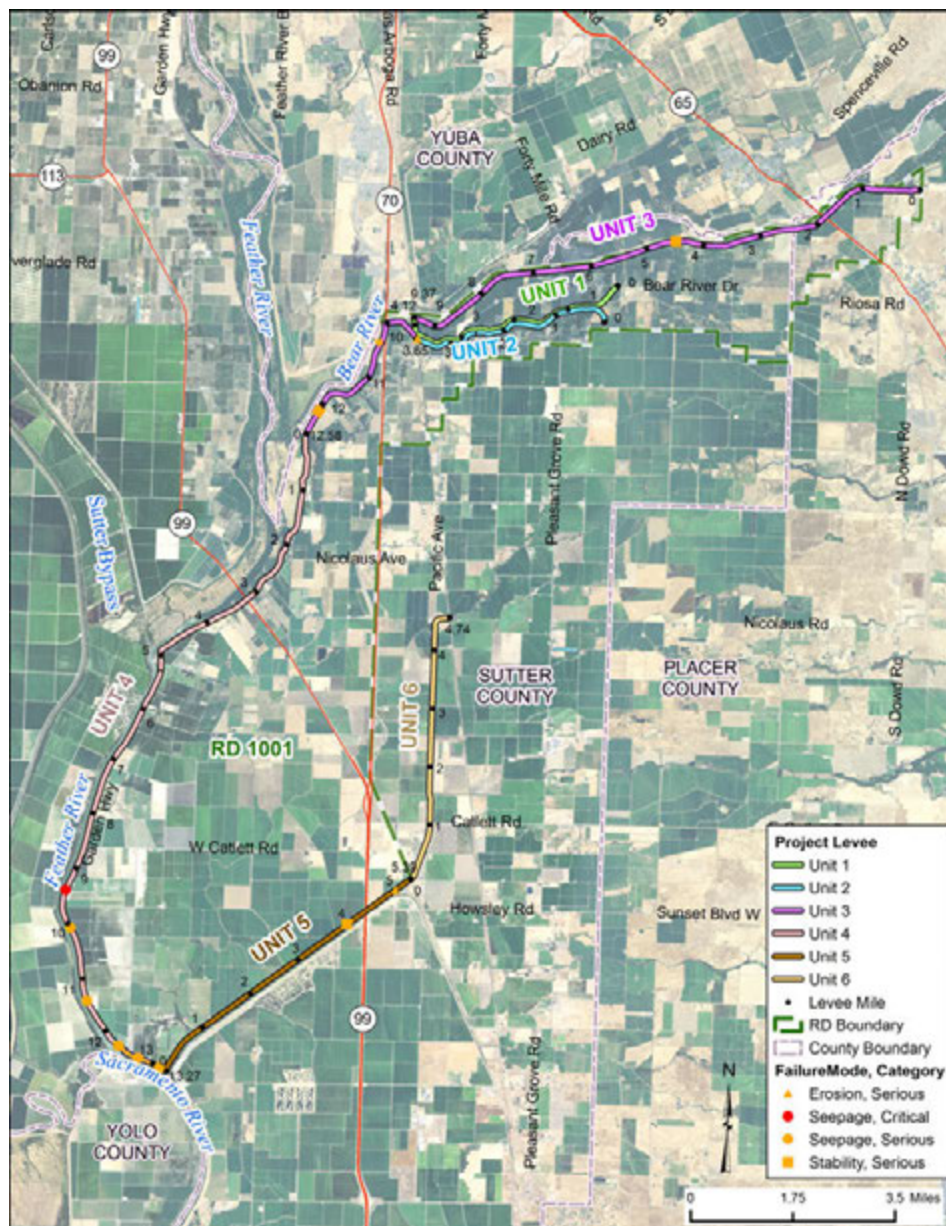
**Sutter County**

RD 1001

**Contact**

Robert Scheiber  
President  
1959 Cornelius Ave  
Rio Oso CA 95674  
Phone: (530) 656-2318





LMA Short Name : RD1001

Bank Unit Length (Miles)

Unit No. 01	Yankee Slough	RB	4.12
Unit No. 02	Yankee Slough	LB	3.65
Unit No. 03	Bear River	LB	12.58
Unit No. 04	Feather River	LB	13.27
Unit No. 05	Natomas Cross Canal	RB	5.39
Unit No. 06	East Side Canal	RB	4.74

### Threat Assessment & Recommendations

- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should focus on repairing erosion sites.

**DWR Levee Inspection Summary**

RD1001	Total LMA Miles		43.74									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	2.10		2.10	4.80	2.24		2.24	5.12	0.14		0.14	0.32
Trim / Thin Trees	0.05		0.05	0.11	0.05		0.05	0.11				0.00
Encroachments	0.03		0.03	0.07	0.02		0.02	0.05	-0.01		-0.01	-0.02
Animal Control	0.01		0.01	0.02	0.03		0.03	0.07	0.02		0.02	0.05
Slope Stability	0.04		0.04	0.09	0.13		0.13	0.30	0.09		0.09	0.21
Erosion / Bank Caving	0.01		0.01	0.02	0.05		0.05	0.11	0.04		0.04	0.09
Supplemental												
USACE Erosion Survey	1.92		1.92	4.39	1.85		1.85	4.23	-0.07		-0.07	-0.16
DWR UCIP Field Study												0.00
LMA Totals:	4.16	0.00	4.16	9.51	4.37	0.00	4.37	9.99	0.21	0.00	0.21	0.48

**DWR Structure Inspection Summary**

RD 1001

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

## Unit No. 02 Yankee Slough, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
YAS_1-7_L		1.33	1.36	eroding	M

## Unit No. 03 Bear River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
BER_5-7_L	5.70	7.22	7.31	eroding	M
BER_2-5_L	2.50	10.36	10.40	eroding	M
BER_1-9_L	1.90	11.08	11.16	eroding	M
BER_0-8_L	0.80	12.07	12.16	eroding	M

## Unit No. 04 Feather River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
FHR_6-6_L	6.60	5.80	5.93	eroding	M
FHR_6-0_L	6.00	6.42	6.51	eroding	M
FHR_5-8_L	5.80	6.57	6.77	eroding	M
FHR_5-0_L	5.00	7.47	7.79	eroding	M
FHR_3-8_L	3.80	8.57	8.97	eroding	M
FHR_1-0_L	1.00	11.18	11.37	eroding	M
FHR_0-6_L	0.60	11.59	11.75	eroding	M

## Unit No. 05 Natomas Cross Canal, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
NCC_3-0_R		2.31	2.34	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1001 - Bear River and Yankee Slough	13.47	Active	11/18/2013	U
RD 1001 - Nicolaus, Feather River	30.21	Active	11/18/2013	U

RD 1001



**DWR Flood System Repair Project Summary****Unit No. 02 Yankee Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
USACE_CESPK_NIC2_2012_p_0218	Critical	Erosion	3.61		Left	38.965670	-121.533130

**Unit No. 03 Bear River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
246-1	Serious	Stability	4.48		Left	38.991848	-121.452080
DWR_RD1001_03_s_2012_19	Serious	Erosion	10.36	10.40	Left	38.964583	-121.544967
DWR_RD1001_03_s_2012_21	Serious	Stability	12.16	12.10	Left	38.946477	-121.564094

**Unit No. 04 Feather River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-15-18	Critical	Stability			Right	38.818860	-121.550172
FSRP-15-17	Critical	Stability			Right	38.807310	-121.569404
247-2	Critical	Seepage	9.41		Left	38.825391	-121.639144
247-2008	Serious	Seepage	10.12	10.05	Left	38.815835	-121.637095
247-2017	Serious	Seepage	11.40		Left	38.797975	-121.631134
247-31	Serious	Seepage	13.17	12.28	Left	38.781802	-121.607110

**Unit No. 05 Natomas Cross Canal**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
USACE_CESPK_NIC5_2012_p_0144	Serious	Stability	4.04		Right	38.819140	-121.549640
USACE_CESPK_NIC5_2012_p_0166	Serious	Erosion	5.06		Right	38.828130	-121.534650

RD 1001

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of actions taken on inspection items listed by DWR in the inspection report. The actions include corrected, pending, and work in progress for animal control, encroachments, erosion, slope stability, tree trimming and thinning, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency mentioned permitting for a planned erosion repair site on Levee Unit 5, LM 3.65 to LM 3.70. The estimated cost for the current fiscal year is \$250,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that a Slow Rise Emergency Action Plan is on file at the district's office.

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RD 1001

# Reclamation District No. 1500

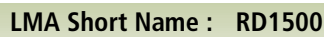
## Sutter Basin

### Sutter County

RD 1500

#### **Contact**

Scott Tucker  
President  
P.O Box 96  
Robbins CA 95676  
Phone: (530) 738-4423



## Threat Assessment & Recommendations

- A - 138

**DWR Levee Inspection Summary**

RD1500	Total LMA Miles		53.87									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	2.53		2.53	4.70					-2.53		-2.53	-4.70
Trim / Thin Trees	0.02	0.01	0.06	0.11	0.03	0.01	0.07	0.13	0.01		0.01	0.02
Encroachments	0.07		0.07	0.13	0.14		0.14	0.26	0.07		0.07	0.13
Animal Control	0.03		0.03	0.06	0.05		0.05	0.09	0.02		0.02	0.04
Slope Stability					0.01		0.01	0.02	0.01		0.01	0.02
Erosion / Bank Caving					0.02		0.02	0.04	0.02		0.02	0.04
Underseepage Relief Wells		0.01	0.04	0.07						-0.01	-0.04	-0.07
Supplemental												
USACE Erosion Survey	0.10		0.10	0.19	3.23		3.23	6.00	3.13		3.13	5.81
DWR UCIP Field Study												0.00
LMA Totals:	2.75	0.02	2.83	5.25 *	3.48	0.01	3.52	6.53 *	0.73	-0.01	0.69	1.28

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

RD 1500

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_86-3_L	86.30	1.34	1.95	eroding	M
SAC_87-1_L	87.10	2.30	2.52	eroding	M
SAC_92-8_L	92.80	8.33	8.47	eroding	M
SAC_95-8_L	95.80	11.80	11.98	eroding	M
SAC_96-2_L	96.20	11.99	12.26	removed	W
SAC_99-0_L	99.00	13.98	14.26	eroding	M
SAC_104-0_L	104.00	18.38	19.06	eroding	M
SAC_104-5_L	104.50	19.16	19.47	eroding	M
SAC_116-0_L	116.00	30.60	30.75	eroding	M
SAC_116-5_L	116.50	30.94	31.60	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1500 and Tisdale Bypass - Sutter Basin South	59.22	Inactive	09/08/2014	M

**DWR Flood System Repair Project Summary****Unit No. 01 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD1500_01_s_2012_34	Serious	Erosion			Left	38.870474	-121.752237
DWR_RD1500_01_s_2012_29	Serious	Erosion			Left	38.871853	-121.749330

**Unit No. 02 Sutter Bypass**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
294-35	Serious	Seepage	0.80	1.79	Right	38.769586	-121.664602
294-39	Serious	Seepage	7.25		Right	38.858627	-121.650487
Sac-14	Serious	Seepage	7.45		Right	38.861420	-121.649400
294-06	Serious	Seepage	7.62		Right	38.863709	-121.648421
294-99	Serious	Seepage	8.94	10.93	Right	38.880401	-121.636564
294-07	Critical	Seepage	9.07		Right	38.882215	-121.635989
294-08	Critical	Seepage	9.47		Right	38.887933	-121.635840
294-114	Critical	Seepage	9.52		Right	38.888648	-121.635940
294-10	Critical	Seepage	9.54		Right	38.888935	-121.635981
294-115	Critical	Seepage	9.74		Right	38.891792	-121.636405
294-11	Critical	Seepage	10.25		Right	38.899209	-121.637700
294-12	Critical	Seepage	10.31		Right	38.900064	-121.637846
294-13	Critical	Seepage	10.34		Right	38.900493	-121.637921

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency provided a summary of integrity issues and their locations with corresponding suggestions and cost estimates for needed repair works. Integrity issues for Levee Unit 1 include boils at LM 13.00; a dip in the levee crown on the paved road at LM 9.18; erosion or sloughing at LM 2.37, 2.50, 8.75, 11.91 to 12.34, 12.64, 18.50, and 31.60 to 32.20; and heavy seepage at LM 12.50 to 14.35, 22.00 to 24.00, and 29.88. Integrity issues for Levee Unit 2 include boils at LM 9.00 to 11.00, 15.80 to 16.00, 18.50 to 19.00, and heavy seepage at LM 7.35 to 7.70 and 19.88 to 20.75.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported boils along the Sutter Bypass levee at LM 18.25. The Agency noted that these boils, including a large 20-inch diameter boil along with small 3 to 4-inch diameter boils, are located in an irrigation delivery canal near the landside toe. The Agency reported that these boils are being closely monitored at this time. The Agency also noted sloughing of a maintenance road adjacent to the Sutter Bypass levee at LM 0.75 to 1.55. The Agency believes that this sloughing may be caused in whole or in part by possible deep under-seepage of water from the Sutter Bypass during high water conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include debris removal, restoration and levee repair, cleaning channels, minor structure repair, pump maintenance, levee patrolling, adding riprap, rodent control, tree trimming, and vegetation burning, spraying and mowing.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of adding riprap, crown roadway, diversion structures, gates and culverts, patrolling, pumps and motors, and vegetation burning, mowing, spraying, and thinning and trimming. The reported total estimated cost for the current fiscal year is \$580,200.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported the district is currently attempting to come to agreement with DWR on repairing four critical seepage sites on Sutter Bypass under DWR-FSRP. The Agency also reported entering into an agreement with DWR to add gravel on 11.8 miles of the levee crown. The reported gravel project will cost \$600,000.

# Reclamation District No. 1600 Mull

**Yolo County**

RD 1600

**Contact**

Kent Lang  
President  
21548 Old River Road  
West Sacramento CA 95691  
Phone: (916) 744-1094



RD 1600

## RD 1600

- RD 1600

**DWR Levee Inspection Summary**

RD1600	Total LMA Miles		14.69									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	20.90		20.90	142.25	18.86		18.86	128.37	-2.04		-2.04	-13.88
Trim / Thin Trees		0.01	0.04	0.27	0.02		0.02	0.14	0.02	-0.01	-0.02	-0.14
Encroachments					0.02		0.02	0.14	0.02		0.02	0.14
Animal Control					0.03	0.01	0.07	0.48	0.03	0.01	0.07	0.48
Slope Stability	0.03		0.03	0.20	0.14		0.14	0.95	0.11		0.11	0.75
Erosion / Bank Caving	0.78	0.01	0.82	5.58	0.75		0.75	5.11	-0.03	-0.01	-0.07	-0.48
Crown Surface / Depressions / Rutting	1.40		1.40	9.53					-1.40		-1.40	-9.53
Supplemental												
USACE Erosion Survey	0.05		0.05	0.34	0.90		0.90	6.13	0.85		0.85	5.79
DWR UCIP Field Study												0.00
LMA Totals:	23.16	0.02	23.24	158.18	20.72	0.01	20.76	141.30	-2.44	-0.01	-2.48	-16.88

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

RD 1600

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_71-3_R	71.30	0.56	0.66	eroding	M
SAC_74-4_R	74.40	3.58	3.83	eroding	M
SAC_75-3_R	75.30	4.34	4.86	eroding	M
SAC_77-0_R	77.00	6.30	6.36	removed	W
SAC_77-7_R	77.70	6.95	6.98	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1600, 0827, 0785, and 0537 - SacYolo North	32.06	Inactive	10/10/2014	U

**DWR Flood System Repair Project Summary****Unit No. 01 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD1600_01_s_2012_10	Serious	Erosion		4.86	Right	38.728684	-121.605844
FSRP-14-36	Serious	Erosion	6.99	6.96	Right	38.765190	-121.595490

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported loss of grade at Levee Unit 2, about 2 miles south of Fremont Weir. The landside levee slope in this area is 1:1, and the levee is 30 feet high. The Agency mentioned that when the bypass was full during the 2006 and 1997 flood events, this area has slipped. The Agency also reported an erosion site identified in 2006 on Levee Unit 2, 2.5 miles south of Fremont Weir, where the bypass side of the levee was eroded by high flood waters and wave action. The Agency also mentioned giant erosion holes on the waterside of Levee Unit 1 at LM 7.00, LM 7.13, and LM 7.27, and warned of a levee failure during the next large flood event. The Agency also reported 3 mitigation sites encroaching on the side of Levee Unit 1. Additionally, the Agency reported issues with Elderberry bushes at various locations on both levee units which cannot be removed per CA Dept. of Fish and Wildlife regulations.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported locations with deficient levee crown height at Levee Unit 1, LM 2.96 to LM 5.93. Repairs have not been completed due to budget restrictions but are in progress. The Agency also mentioned giant erosion holes on the waterside of Levee Unit 1, LM 7.00, LM 7.13, and LM 7.27, and warned of a levee failure during the next large flood event. The Agency also reported 3 mitigation sites encroaching on the side of Levee Unit 1, obscuring visibility, and impeding the ability to maintain the levee. Due to lack of visibility, a maintenance truck has caused damage to the levee crown and side when driving off the side.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on both levee units. Activities include clearing and cleaning of brush, repacking the levee side with a tractor, pump maintenance, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of contingency appropriations, contributions to Mid-Valley Levee Project, ditch clearing, engineering services, insurance, management, office overhead, patrolling, pump maintenance, roadway maintenance, and vegetation control. The reported total estimated cost for the current fiscal year is \$133,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# Reclamation District No. 1601 Twitchell

**Sacramento County**

RD 1601

**Contact**

Juan Mercado Jr  
President  
2360 West Twitchell Island Rd  
Rio Vista CA 94571  
Phone: (916) 777-6992

RD 1601



LMA Short Name : RD1601		Bank	Unit Length (Miles)
Unit No. 01	Threemile Slough	LB	2.43

Threat Assessment & Recommendations

- The crown roadway in this Area may not be able to be driven in all types of weather.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.



**DWR Levee Inspection Summary**

RD1601	Total LMA Miles		2.43									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Crown Surface / Depressions / Rutting					0.42		0.42	17.31	0.42		0.42	17.31
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	0.00	0.00	0.00	0.42	0.00	0.42	17.31	0.42	0.00	0.42	17.31

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

RD 1601

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1601 - Twitchell Island	2.51	Active	06/24/2015	U

**DWR Flood System Repair Project Summary**

N/A

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
1047-6	Serious	Erosion			Right	38.112730	-121.617019
DWR_RD1601_01_R_2012_05	Critical	Seepage			Right	38.097625	-121.669275
1046-26	Critical	Seepage			Right	38.098202	-121.658355
1046-45	Serious	Seepage			Right	38.095051	-121.634114

**Unit No. 01 Threemile Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD1601_01_R_2012_03	Critical	Seepage	1.92		Right	38.094990	-121.684240
DWR_RD1601_01_R_2012_06	Critical	Seepage	2.20		Right	38.091010	-121.681580

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported routine maintenance is ongoing and noted encroachment enforcement remains an ongoing process that is leading to varied success.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include encroachment control, visual inspections, erosion repairs, rodent baiting and hole grouting, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency mentioned active ongoing program in place and provided an estimated budget for the routine maintenance based on prior year's expenditure. The reported total estimated budget for the fiscal year is \$249,800.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



# Reclamation District No. 1660 Tisdale

## Sutter County

### **Contact**

Andy Duffey  
General Manager  
P.O Box 129  
Meridian CA 95957  
Phone: (530) 696-2569

RD 1660



LMA Short Name : RD1660		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	LB	2.94
Unit No. 02	Sutter Bypass	RB	9.10

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should repair locations where the levee slope may be unstable.

**DWR Levee Inspection Summary**

RD1660	Total LMA Miles		12.04									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Encroachments	0.01		0.01	0.08	0.01		0.01	0.08				0.00
Animal Control					0.01		0.01	0.08	0.01		0.01	0.08
Slope Stability	0.05		0.05	0.42	0.05		0.05	0.42				0.00
Supplemental												
USACE Erosion Survey	0.10		0.10	0.83	0.03		0.03	0.25	-0.07		-0.07	-0.58
DWR UCIP Field Study												0.00
LMA Totals:	0.16	0.00	0.16	1.33	0.10	0.00	0.10	0.83	-0.06	0.00	-0.06	-0.50

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_120-6_L	120.60	1.33	1.36	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0070 and RD 1660 - Sutter Basin North	39.90	Inactive	10/18/2013	U

**DWR Flood System Repair Project Summary****Unit No. 02 Sutter Bypass**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
248-17	Critical	Seepage	5.66		Right	39.108209	-121.782280

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported seepage at Levee Unit 2, LM 5.68.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported seepage and a boil at Levee Unit 2, LM 5.68, and noted the boil starts flowing clear water when water reaches the toe of the levee in the channel.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected encroachment issues.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of levee slope dragging, debris removal, levee crown grading, rodent control, thinning and pruning trees, and vegetation burning and spraying. The reported total estimated cost for the current fiscal year is \$70,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# Reclamation District No. 2035 **Conaway**

## Yolo County

### **Contact**

Mike Hall  
General Manager  
45332 County Road 25  
Woodland CA 95776  
Phone: (530) 662-6200

RD 2035



LMA Short Name : RD2035		Bank	Unit Length (Miles)
Unit No. 01	Cache Creek Settling Basin	RB	2.01
Unit No. 02	Yolo Bypass	RB	7.63
Unit No. 03	Willow Slough Bypass	LB	2.51

Threat Assessment & Recommendations

- The LMA should focus on repairing erosion sites.



**DWR Levee Inspection Summary**

RD2035	Total LMA Miles		12.15									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					0.04		0.04	0.33	0.04		0.04	0.33
Animal Control					0.01		0.01	0.08	0.01		0.01	0.08
Cracking					0.01		0.01	0.08	0.01		0.01	0.08
Crown Surface / Depressions / Rutting					0.06		0.06	0.49	0.06		0.06	0.49
Supplemental												
USACE Erosion Survey	1.39		1.39	11.44	1.31		1.31	10.78	-0.08		-0.08	-0.66
DWR UCIP Field Study												0.00
LMA Totals:	1.39	0.00	1.39	11.44	1.43	0.00	1.43	11.77	0.04	0.00	0.04	0.33

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 02 Yolo Bypass, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
YOL_0-1_R		0.28	0.36	eroding	M
YOL_1-2_R		1.20	1.24	eroding	M
YOL_2-0_R		1.98	2.03	eroding	M
YOL_2-3_R		2.26	2.60	eroding	M
YOL_2-8_R		2.78	3.26	eroding	M
YOL_4-2_R		4.09	4.41	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Cache Creek - RD 2035 - Willow Bypass	29.21	Inactive	06/20/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.



**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported excessive vegetation on Levee Unit 1 between LM 0.00 and 2.00. The Agency also reported multiple issues on Levee Unit 2. Issues include encroachments at LM 0.00, 0.02, 1.70, 2.04, 2.10, 3.40, 4.44, 6.53, and 6.53; landside erosion at LM 6.50; depression at LM 0.03 and 0.25; and vegetation issues at LM 1.69 and 2.14. The Agency also mentioned multiple issues on Levee Unit 3. Issues include encroachments at LM 0.00, 2.00, 2.17, and 2.50 and vegetation between LM 1.46 and 1.74. The Agency also reported a partially open outlet gate blocked by debris at Levee Unit 3, LM 2.50.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported multiple issues on Levee Unit 2. Issues include erosion at LM 0.33 to 1.74, 1.97 to 2.60, 2.73 to 3.26, 3.34 to 4.43, and 5.19 to 6.20 and freeboard deficiency at LM 0.01 to 0.02, 0.12 to 1.74, 1.89 to 2.40, 2.41 to 3.34, and 3.70 to 4.10. The Agency also mentioned it was unable to inspect multiple pipe crossings on Levee Units 2 and 3 due to high vegetation and other issues.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include surveying, inspection, slope dragging, rodent control, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of emergency stockpile material, slope dragging, rodent baiting and trapping, and vegetation control. The reported total estimated cost for the current fiscal year is \$130,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported a survey of the levee crown was performed and analyzed, and a report was submitted to the Central Valley Flood Protection Board indicating that the levee does not provide adequate freeboard.

# Reclamation District No. 2060 Hastings

## Solano County

### Contact

Henry Kuechler III  
President  
1143 Crane Street  
Suite 200  
Menlo Park CA 94025  
Phone: (650) 328-0820

RD 2060



LMA Short Name : RD2060		Bank	Unit Length (Miles)
Unit No. 01	Lindsey Slough	LB	6.97
Unit No. 02	Ulati Creek	RB	3.64
Unit No. 03	Cache Slough	RB	5.03

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- There is erosion occurring in this Area that should be monitored.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.

**DWR Levee Inspection Summary**

RD2060	Total LMA Miles		15.65									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	7.33		7.33	46.85	8.75		8.75	55.92	1.42		1.42	9.08
Erosion / Bank Caving	0.05	0.01	0.09	0.58					-0.05	-0.01	-0.09	-0.58
Repair Gates	0.01		0.01	0.06	0.01		0.01	0.06				0.00
Supplemental												
USACE Erosion Survey	0.99		0.99	6.33	1.00		1.00	6.39	0.01		0.01	0.06
DWR UCIP Field Study												0.00
LMA Totals:	8.38	0.01	8.42	53.81	9.76	0.00	9.76	62.38	1.38	-0.01	1.34	8.56

RD 2060

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Lindsey Slough, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
LDS_1-9_L	1.90	1.86	1.93	eroding	M
LDS_2-4_L	2.40	2.44	2.47	eroding	M

**Unit No. 03 Cache Slough, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
CHS_23-6_R	23.60	1.52	1.74	eroding	M
CHS_23-0_R	23.00	2.02	2.08	eroding	M
CHS_22-9_R	22.90	2.12	2.17	eroding	M
CHS_22-8_R	22.80	2.18	2.23	eroding	M
CHS_22-6_R	22.60	2.35	2.53	eroding	M
CHS_22-5_R	22.50	2.55	2.58	eroding	M
CHS_21-1_R	21.10	3.78	4.09	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2060 - Hastings Tract	15.62	Inactive	06/13/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Lindsey Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
151-124	Serious	Erosion	1.54		Left	38.252408	-121.722437
DWR_RD2060_01_s_2012_4	Serious	Erosion	1.86	1.93	Left	38.256535	-121.724753
151-137	Serious	Erosion	4.31		Left	38.261218	-121.760405

**Unit No. 03 Cache Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
314-263	Serious	Erosion	1.30		Right	38.290388	-121.728219
DWR_RD2060_03_R_2012_01	Serious	Erosion	1.43		Right	38.289540	-121.726430
314-105	Serious	Erosion	1.53		Right	38.288305	-121.725230
314-270	Serious	Erosion	1.68		Right	38.286560	-121.723589
314-232	Serious	Erosion	2.08	2.02	Right	38.283287	-121.718117
DWR_RD2060_03_s_2012_8	Serious	Erosion	2.18	2.23	Right	38.282100	-121.716817
DWR_RD2060_03_s_2012_11	Serious	Erosion	3.78	4.00	Right	38.264585	-121.698868
314-238	Serious	Erosion	4.25		Right	38.258430	-121.695443

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include gate maintenance, erosion repair, inspection, slope dragging, rodent control, surveying and engineering, roadway maintenance, and vegetation control. The Agency also provided action taken on inspection items listed by DWR in the inspection report. The actions taken include corrected, pending, and low priority for encroachments, erosion, and vegetation issues.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of inspections, roadway maintenance, slope dragging, rodent control, and vegetation spraying and mowing. The reported total estimated cost for the fiscal year is \$74,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# Reclamation District No. 2068 Yolano

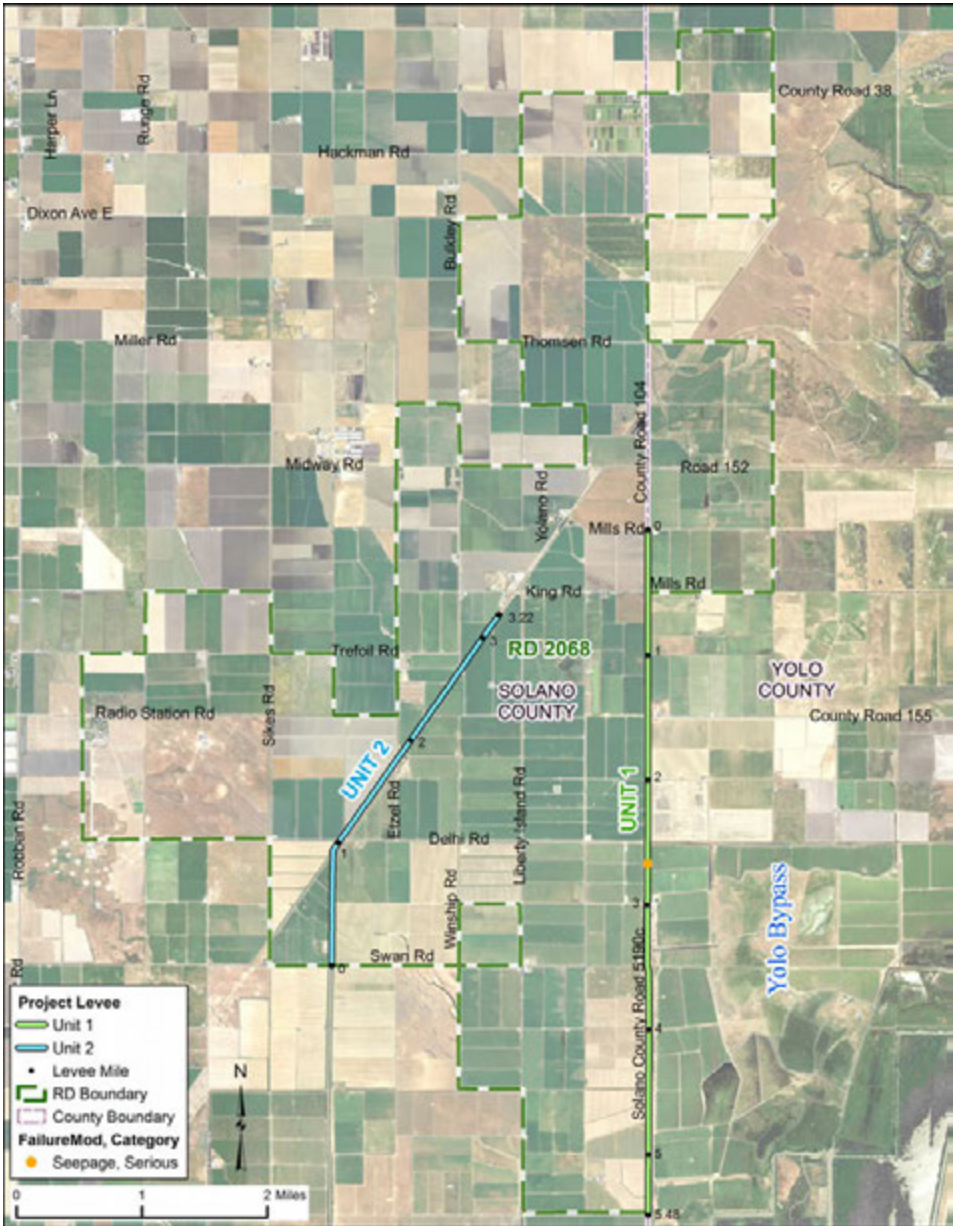
## Solano County

### **Contact**

Cliff Detar  
President  
7178 Yolano Road  
Dixon CA 95620  
Phone: (707) 678-5412



RD 2068



LMA Short Name : RD2068		Bank	Unit Length (Miles)
Unit No. 01	Yolo Bypass	RB	5.48
Unit No. 02	Back Levee	LB	3.22

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.



**DWR Levee Inspection Summary**

RD2068	Total LMA Miles		8.71									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					0.10		0.10	1.15	0.10		0.10	1.15
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	0.00	0.00	0.00	0.10	0.00	0.10	1.15	0.10	0.00	0.10	1.15

RD 2068

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2068 and RD 2098 - Yolano-Cache Slough	19.68	Inactive	06/13/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Yolo Bypass**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
152-28	Serious	Seepage	2.67		Right	38.369851	-121.693950

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include inspection, rodent control, roadway maintenance, and vegetation burning, mowing and spraying.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of gate repair, inspection, roadway maintenance, and vegetation burning, mowing, and spraying. The reported total estimated cost for the current fiscal year is \$28,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

RD 2068

# **Reclamation District No. 2098**

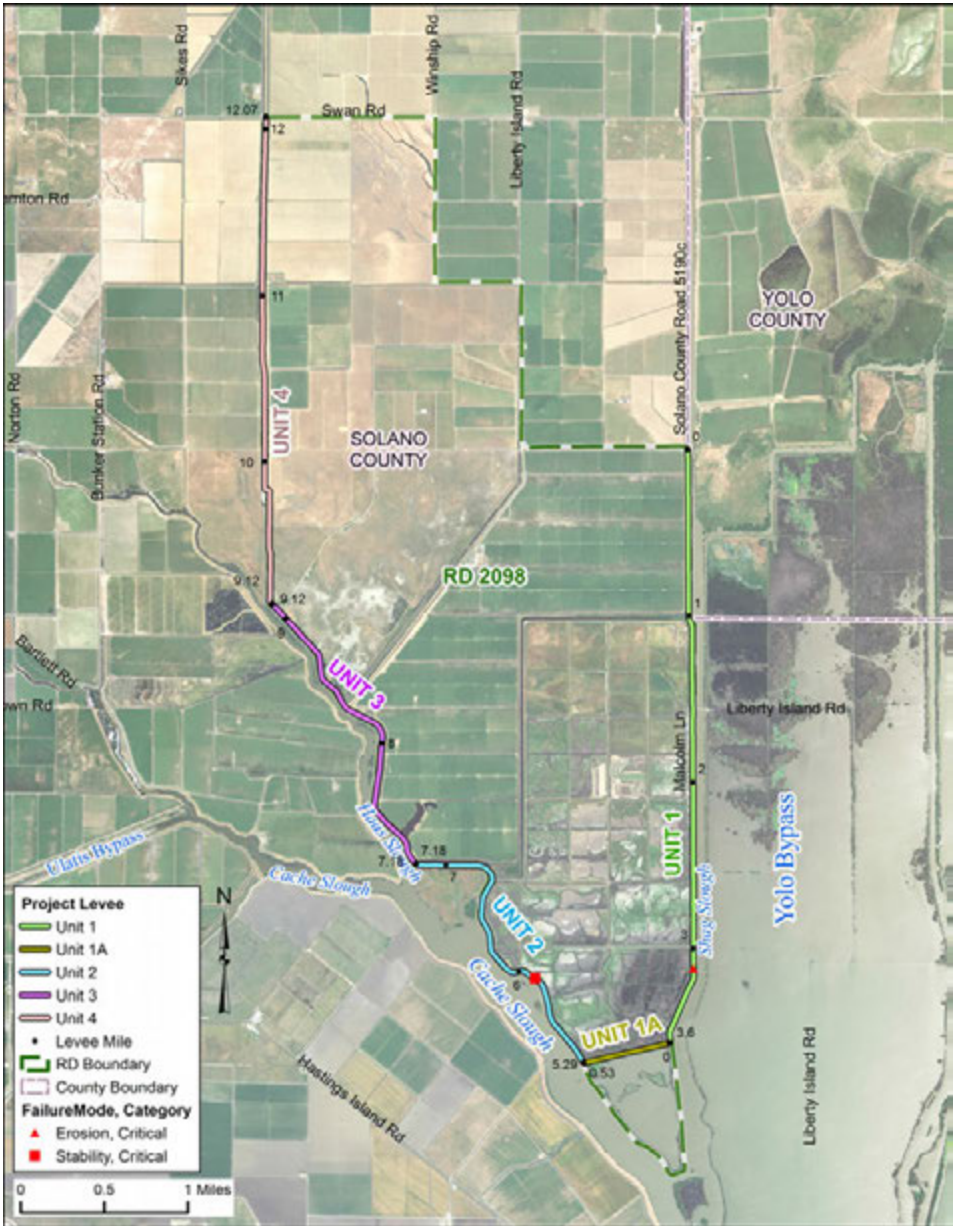
## **Cache and Haas Slough**

**Solano County**

**Contact**

Tom Schene  
President  
7178 Yolano Road  
Dixon CA 95620-9621  
Phone: (707) 678-3419

RD 2098



LMA Short Name : RD2098		Bank	Unit Length (Miles)
Unit No. 01	Yolo Bypass	RB	3.60
Unit No. 01A	Cross Levee	RB	0.53
Unit No. 02	Cache Slough	LB	1.89
Unit No. 03	Haas Slough	RB	1.94
Unit No. 04	Back Levee	LB	2.95

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.
- The LMA should ensure that the capacity of the channel as designed and constructed is maintained.

# SACRAMENTO SYSTEM : Reclamation District No. 2098 Cache and Haas Slough

## DWR Levee Inspection Summary

RD2098	Total LMA Miles		10.91									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.90	1.86	9.34	85.64	3.36	0.52	5.44	49.88	1.46	-1.34	-3.90	-35.76
Slope Stability	0.29	0.01	0.33	3.03	0.15		0.15	1.38	-0.14	-0.01	-0.18	-1.65
Erosion / Bank Caving	0.21		0.21	1.93	0.21		0.21	1.93				0.00
Repair Gates		0.02	0.08	0.73		0.02	0.08	0.73				0.00
Supplemental												
USACE Erosion Survey	0.39		0.39	3.58	0.69		0.69	6.33	0.30		0.30	2.75
DWR UCIP Field Study												0.00
LMA Totals:	2.79	1.89	10.35	94.90	4.41	0.54	6.57	60.24	1.62	-1.35	-3.78	-34.66

RD 2098

## DWR Structure Inspection Summary

No Structures Inspected in this District.

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

### Unit No. 03 Haas Slough, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
HAS_7-9_L		7.33	7.72	eroding	M

### Unit No. 04 Back Levee, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
HAS_9-7_L		9.44	9.74	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2068 and RD 2098 - Yolano-Cache Slough	19.68	Inactive	06/13/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Yolo Bypass**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD2098_01_s_2012_3	Serious	Erosion	0.44	0.73	Right	38.322738	-121.694010
153-84	Serious	Stability	2.53	2.80	Right	38.292390	-121.693570
DWR_RD2098_01_s_2012_12	Critical	Erosion	3.12		Right	38.283868	-121.693627

**Unit No. 02 Cache Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
313-14	Critical	Stability	5.89		Left	38.283037	-121.711073

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include roadway maintenance, rodent control, and vegetation burning, spraying and grazing.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of erosion repair, levee and pipe inspection, rodent control, and vegetation control. The reported total estimated cost for the current fiscal year is \$32,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Reclamation District No. 2103**

## **Wheatland Vicinity**

**Placer County**  
**Yuba County**

**Contact**

Dean Webb  
President  
1758 Oakley Lane  
Wheatland CA 95692  
Phone: (530) 633-4072



RD 2103



LMA Short Name : RD2103		Bank	Unit Length (Miles)
Unit No. 01	South Dry Creek	LB	4.64
Unit No. 02	Bear River	RB	4.88

Threat Assessment & Recommendations

- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on backfilling rodent holes.

### DWR Levee Inspection Summary

RD2103	Total LMA Miles		9.53									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.07		0.07	0.74	0.13		0.13	1.37	0.06		0.06	0.63
Animal Control					0.02	0.01	0.06	0.63	0.02	0.01	0.06	0.63
Crown Surface / Depressions / Rutting	0.01		0.01	0.11					-0.01		-0.01	-0.11
Flood Preparedness & Training	0.10		0.10	1.05	0.10		0.10	1.05				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.18	0.00	0.18	1.89	0.25	0.01	0.29	3.04 *	0.07	0.01	0.11	1.15

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

RD 2103

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0817 and RD 2103 - City of Wheatland	16.06	Inactive	07/22/2014	U
RD 2103 - Grasshopper Slough	1.07	Inactive	07/22/2014	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported beaver dams in the low flow channel at Levee Unit 1 and suspected the presence of beaver dens in the levee side. The Agency also reported excess in-channel vegetation and sediment accumulation at Levee Unit 1 and 2, restricting flows and reducing channel capacity. The Agency also mentioned a critical erosion site repaired by DWR at Levee Unit 2, LM 0.60 to LM 0.80. Trees and shrubs were planted, but they do not appear to comply with current vegetation standards. The Agency also reported the placement of rock on all-weather patrol roads on Levee Unit 1, LM 0.50 to LM 2.00.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported the presence of beavers and squirrels at Levee Unit 1. The Agency also reported freeboard deficiencies throughout Levee Unit 1 and stated that the Bear River North Levee Rehabilitation Project completed in 2009 has corrected erosion, pipe crossing, stability, and under-seepage issues at Levee Unit 2. The Agency also mentioned a critical erosion site repaired by DWR at Levee Unit 2, LM 0.60 to LM 0.80. The site has become overgrown and difficult to inspect.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include goat and sheep grazing, high water monitoring, rodent baiting, rodent hole backfilling and compacting, spraying, and trimming, thinning, or removing large vegetation.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of goat and sheep grazing, levee road grading, rodent baiting, rodent hole backfilling and compacting, spraying, and trimming, thinning, or removing large vegetation. The reported total estimated cost for the current fiscal year is \$276,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that a feasibility study through DWR's Yuba Feather Flood Protection Program has identified freeboard deficiencies, slope stability issues, and through and under-seepage throughout Levee Unit 1. Remedial measures and costs are being developed and should be available in Spring 2016. The Agency also mentioned levee crown grading and placement of rock in FSRP eligible areas on the patrol road on Levee Unit 2. The preliminary cost estimate is \$43,000 for 0.6 miles. The Agency also reported passing of Proposition 218 in July 2010 to increase local funding for OMRR&R of the improved levee by up to \$64,000 per year, and the submission of the Addendum to Supplemental Operation and Maintenance Manual and Project Completion Report to DWR and CVFPB in 2010.

# Reclamation District No. 2104

## Peters Pocket Tract

RD 2104

**Solano County**

**Contact**

Ken Machado  
President  
33 North San Pedro Street  
San Jose CA 95110  
Phone: (408) 280-7577

RD 2104



LMA Short Name : RD2104		Bank	Unit Length (Miles)
Unit No. 01	Cache Slough/Unit No. 02 Haas Slough	LB	6.85

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The crown roadway in this Area may not be able to be driven in all types of weather.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.



### DWR Levee Inspection Summary

RD2104	Total LMA Miles		6.85									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	21.10	10.94	64.86	947.09	3.12	11.74	50.08	731.27	-17.98	0.80	-14.78	-215.82
Trim / Thin Trees	0.07		0.07	1.02	0.02		0.02	0.29	-0.05		-0.05	-0.73
Erosion / Bank Caving	0.16		0.16	2.34	0.15	0.01	0.19	2.77	-0.01	0.01	0.03	0.44
Crown Surface / Depressions / Rutting	14.53		14.53	212.17	9.96		9.96	145.44	-4.57		-4.57	-66.73
Repair Gates	0.03	0.01	0.07	1.02	0.02	0.02	0.10	1.46	-0.01	0.01	0.03	0.44
Emergency Supplies & Equipment	0.07		0.07	1.02	0.07		0.07	1.02				0.00
Flood Preparedness & Training	0.07		0.07	1.02	0.07		0.07	1.02				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	36.03	10.95	79.83	1,165.68	13.41	11.77	60.49	883.28	-22.62	0.82	-19.34	-282.40

RD 2104

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2104 - Peters Pocket	6.83	Inactive	06/24/2015	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 Cache Slough/Unit No. 02 Haas Slough

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-14-10	Serious	Stability	5.35	5.36	LB	38.323568	-121.752286
DWR_RD2104_01_s_2012_33	Serious	Erosion	5.37	5.36	Right	38.323780	-121.752410

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include tree trimming and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of vegetation control. The reported total estimated cost for the current fiscal year is \$1,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

RD 2104



# Adin Community Service District Channels

## Modoc County

### **Contact**

Katie Bidwell  
President  
PO Box 258  
Adin CA 96006  
Phone: (530) 260-6396



LMA Short Name : NA0030

Bank Unit Length (Miles)

No Units Associated with this District.

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last Channel inspection.

**DWR Levee Inspection Summary**

Adin

Levees in this District are not Inspected.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

Channel Name	Overall Rating
Ash Creek	A
Dry Creek	A

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report**

No Reporting by this District.

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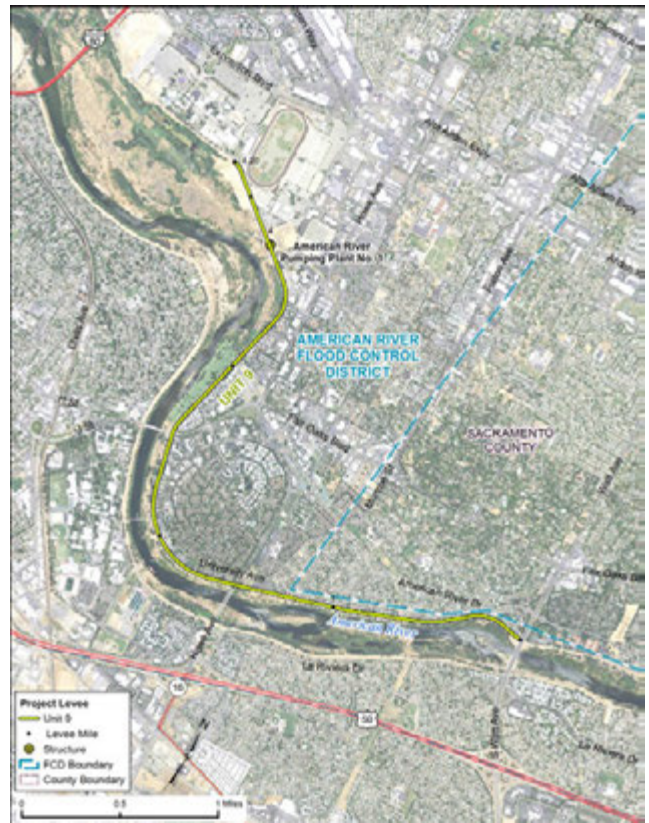
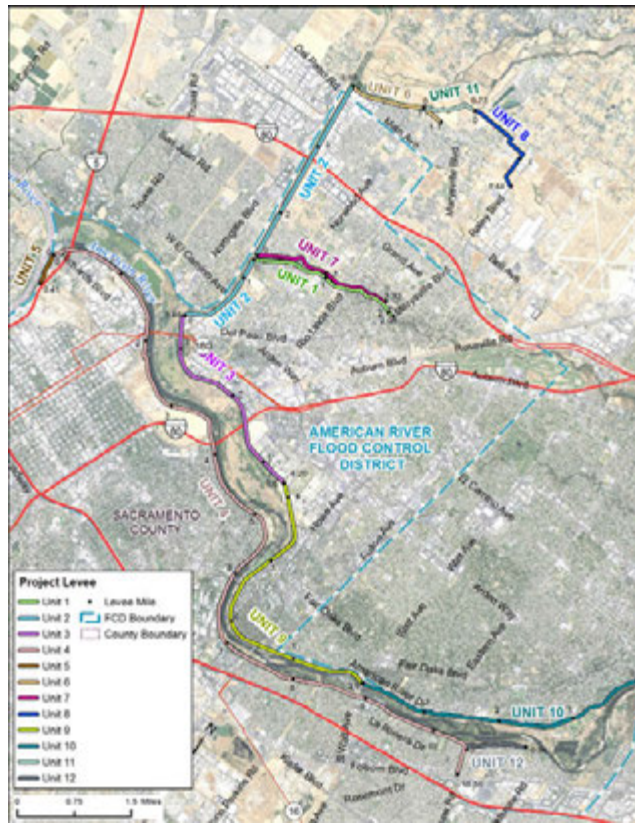
# American River Flood Control District

## Sacramento County

### **Contact**

Karolyn Simon  
President  
165 Commerce Circle #C  
Sacramento CA 95815  
Phone: (916) 929-4006





LMA Short Name : NA0001

Bank Unit Length (Miles)

Unit No. 01	Arcade Creek	LB	2.08
Unit No. 02	Natomas E Canal	LB	3.93
Unit No. 03	American River	RB	2.86
Unit No. 04	American River	LB	10.86
Unit No. 05	Sacramento River	LB	0.41
Unit No. 06	Linda Creek	LB	1.30
Unit No. 07	Arcade Creek	RB	1.93
Unit No. 08	Magpie Creek Diversion	LB	1.44
Unit No. 09	American River	RB	4.20
Unit No. 10	American River	RB	3.90
Unit No. 11	New Linda Creek	LB	0.73
Unit No. 12	American River	LB	0.84

ARFCD

## Threat Assessment &amp; Recommendations

- The LMA should enhance its rodent control program.

## DWR Levee Inspection Summary

NA0001	Total LMA Miles		34.47									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.07	0.01	0.11	0.32	0.04		0.04	0.12	-0.03	-0.01	-0.07	-0.20
Encroachments	0.01		0.01	0.03	0.02		0.02	0.06	0.01		0.01	0.03
Animal Control	0.04		0.04	0.12	0.11		0.11	0.32	0.07		0.07	0.20
Slope Stability	0.04		0.04	0.12	0.07		0.07	0.20	0.03		0.03	0.09
Erosion / Bank Caving	0.01		0.01	0.03					-0.01		-0.01	-0.03
Supplemental												
USACE Erosion Survey	0.01		0.01	0.03	0.04		0.04	0.12	0.03		0.03	0.09
DWR UCIP Field Study												0.00
LMA Totals:	0.18	0.01	0.22	0.64 *	0.28	0.00	0.28	0.81	0.10	-0.01	0.06	0.17

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

## DWR Structure Inspection Summary

No Structures Inspected in this District.

## DWR Channel Inspection Summary

No Channels Inspected in this District.



## USACE 2015 Sacramento River Erosion Summary

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

## Unit No. 04 American River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
LAR_1-8_L	1.80	1.61	1.65	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
American River FCD - American R right bank, NEMDC	14.09	Active	09/10/2010	M
American River FCD - Dry Cr, NEMDC, Arcade Cr	7.08	Active	09/10/2010	M
MA 09 - City of Sacramento - American R left bank	35.27	Active	05/14/2014	U

## DWR Flood System Repair Project Summary

No POI Repair Sites.

## DWR Summary of Local Maintaining Agency Report

**Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported elderberry bushes blocking the visibility on Levee Unit 4, LM 2.77, 2.86, 4.51, and 6.24.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion on Levee Unit 1, LM 1.75, and a repaired erosion site on Levee Unit 3, LM 1.82.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include encroachment removal, erosion repair, gate maintenance, inspection, rodent control, roadway grading, and vegetation control. The Agency also provided actions taken on inspection items listed by DWR in the inspection report.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of general maintenance, management and professional services, equipment rental and repair, encroachment remediation, emergency preparedness, shop supplies, staff training and uniforms, special projects, rodent control, and vegetation control. The reported total estimated cost for the current fiscal year is \$1,755,700.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

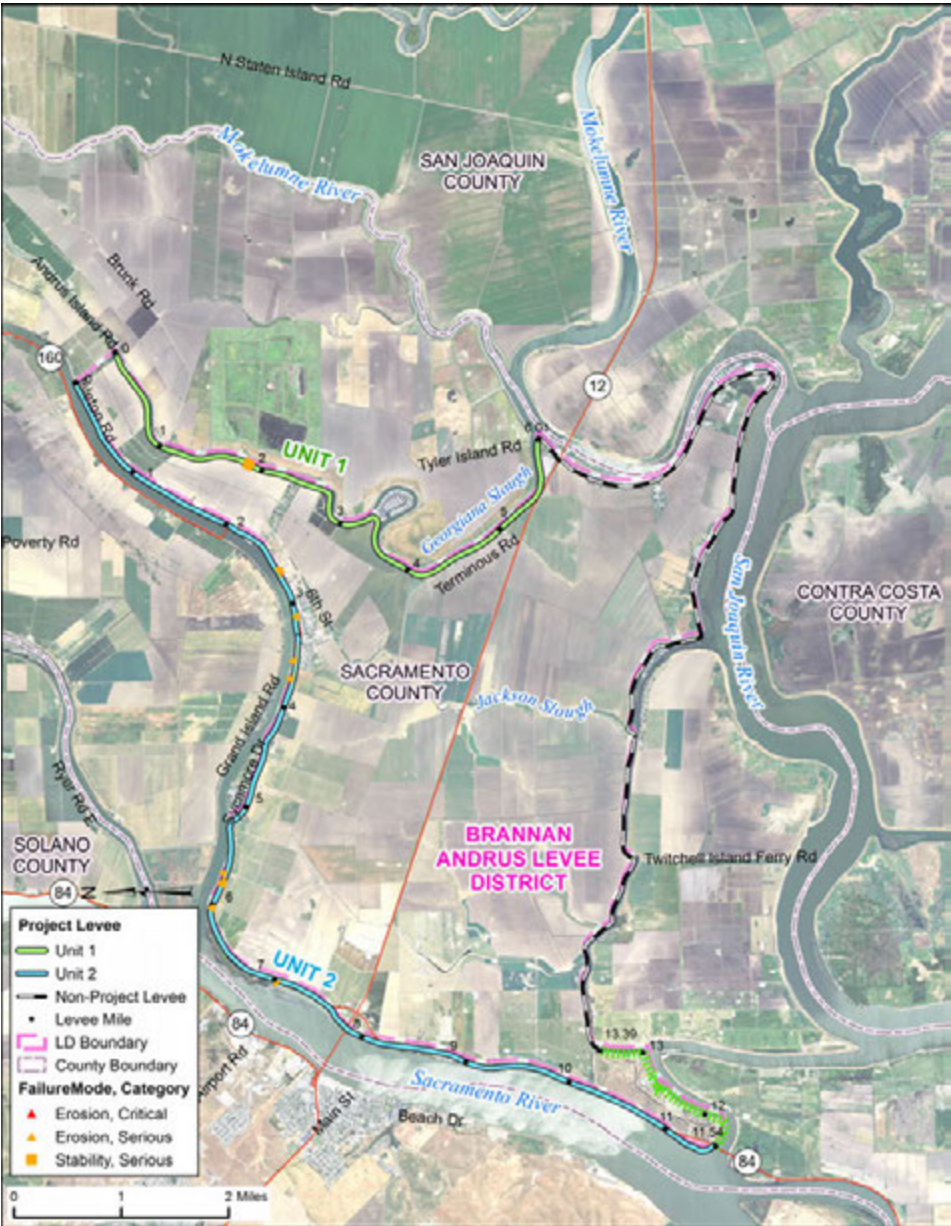
# Brannan Andrus Levee Maintenance District

**Solano County**

**Contact**

Larry Gardiner  
President  
P.O. Box 338  
Walnut Grove CA 95690  
Phone: (916) 425-1571

BALMD



LMA Short Name : NA0002		Bank	Unit Length (Miles)
Unit No. 01	Georgiana Slough	RB	6.01
Unit No. 02	Sacramento River	LB	11.54

Threat Assessment & Recommendations

- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling woody vegetation.
- The LMA should focus on repairing erosion sites.

**DWR Levee Inspection Summary**

NA0002	Total LMA Miles		17.55									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.18	0.09	0.54	3.08	0.54	0.15	1.14	6.49	0.36	0.06	0.60	3.42
Trim / Thin Trees	0.59	0.50	2.59	14.75	0.54	0.82	3.82	21.76	-0.05	0.32	1.23	7.01
Encroachments	0.09		0.09	0.51	0.08		0.08	0.46	-0.01		-0.01	-0.06
Animal Control	0.01		0.01	0.06	0.01		0.01	0.06				0.00
Erosion / Bank Caving					0.01		0.01	0.06	0.01		0.01	0.06
Crown Surface / Depressions / Rutting	0.01		0.01	0.06					-0.01		-0.01	-0.06
Supplemental												
USACE Erosion Survey	0.58	0.47	2.46	14.01	0.34	0.74	3.30	18.80	-0.24	0.27	0.84	4.79
DWR UCIP Field Study												0.00
LMA Totals:	1.46	1.06	5.70	32.47	1.52	1.71	8.36	47.62	0.06	0.65	2.66	15.15

BALMD

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

>>> DRAFT DATA <<<

**Unit No. 02 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_18-1_L	18.10	2.58	2.63	eroding	M
SAC_18-0_L	18.00	2.66	2.74	eroding	M
SAC_17-2_L	17.20	3.37	3.56	critical	U
SAC_16-8_L	16.80	3.62	3.73	critical	U
SAC_15-0_L	15.00	5.67	5.70	repaired	C
SAC_13-6_L	13.60	6.98	7.04	eroding	M
SAC_12-1_L	12.10	8.20	8.42	critical	U
SAC_11-2_L	11.20	8.96	9.18	critical	U
SAC_10-8_L	10.80	9.78	9.93	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Brannan-Andrus LMD - RD 0556	27.48	Inactive	03/26/2013	U

**DWR Flood System Repair Project Summary****Unit No. 02 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_NA0002_02_s_2012_18	Serious	Erosion	2.65	2.74	Left	38.165303	-121.600477
DWR_NA0002_02_R_2012_01	Serious	Erosion	3.13		Left	38.162720	-121.608380
DWR_NA0002_02_s_2012_19	Serious	Erosion	3.37	3.56	Left	38.162641	-121.612800
USACE_CESPK_BRN2_2011_p_0392	Serious	Erosion	5.77		Left	38.173000	-121.653740
USACE_CESPK_BRN2_2011_p_0395	Serious	Erosion	5.80		Left	38.173170	-121.654240
DWR_NA0002_02_s_2012_23	Serious	Erosion	7.02	7.04	Left	38.165990	-121.670770

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported waterside erosion at Levee Unit 2, LM 3.14 and LM 3.40, and waterside toe erosion at Levee Unit 1, LM 4.85. The Agency also reported through-seepage at non-Project Levee Unit 1, LM 1.00 and LM 1.50, and a saturated slope on non-Project Levee Unit 1, LM 2.00, where a French drain does not adequately carry away seepage. The Agency also mentioned crown instability at non-Project Levee Unit 2, LM 4.85, where the crown is constantly shifting toward the landside.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported waterside toe erosion at Levee Unit 1, LM 4.85, and lateral movement at landside toe depth at non-Project Levee Unit 2, LM 4.85.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all Project and non-Project levees. Activities include ditch cleaning, encroachment control, maintenance oversight, management services, minor erosion repair, mowing, riprap replacement, rodent control, sheep grazing, spraying, and surveying and engineering. Activities also include widening of the levee crown to 16 ft at various locations on non-Project Levee Unit 4.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all Project and non-Project levees. Expenses include costs of cleaning ditches and toe drains, construction of a seepage blanket and installation of a French drain, encroachment control, installation of a stability berm to arrest lateral levee drift, maintenance oversight, minor erosion repair, mowing, rodent control, seepage control and toe ditch removal, sheep grazing, spraying, and topping off riprap. The reported total estimated cost for the current fiscal year is \$1,690,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency mentioned geotechnical investigations of the waterside toe erosion at Levee Unit 1, LM 5.70, and a bathymetric survey from 2013. The Agency also mentioned geotechnical investigations and evidence of lateral movement toward the landside at non-Project Levee Unit 2, LM 2.00, and stated that geotechnical monitoring with an inclinometer has been charting lateral movement.

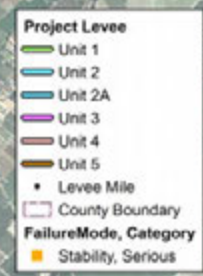
# Butte County Department of Public Works

## Butte County

### **Contact**

Mike Crump  
Director  
7 County Center Drive  
Oroville CA 95965-3397  
Phone: (530) 538-7681





## Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.



**DWR Levee Inspection Summary**

NA0003	Total LMA Miles		23.78									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.13		0.13	0.55	0.13		0.13	0.55				0.00
Trim / Thin Trees					0.06		0.06	0.25	0.06		0.06	0.25
Encroachments	0.04		0.04	0.17					-0.04		-0.04	-0.17
Animal Control					0.02		0.02	0.08	0.02		0.02	0.08
Slope Stability	0.02		0.02	0.08	0.03		0.03	0.13	0.01		0.01	0.04
Supplemental												
USACE Erosion Survey	0.01		0.01	0.04	0.06		0.06	0.25	0.05		0.05	0.21
DWR UCIP Field Study												0.00
LMA Totals:	0.20	0.00	0.20	0.84	0.30	0.00	0.30	1.26	0.10	0.00	0.10	0.42

Butte  
County**DWR Structure Inspection Summary**

Structure Name	Overall Rating
Big Chico Creek Diversion Structure	A
Lindo Channel Control Structure	A
Lindo Channel Diversion Weir	A

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Mud Creek, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
MUD_4-4_R		4.26	4.32	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Chico Creek-Mud Creek - Unit 1	6.80	Inactive	09/30/2012	U
Chico Creek-Mud Creek - Unit 3 east, Sycamore rt	1.87	Inactive	09/30/2012	U
Chico Creek-Mud Creek - Unit 4 east, Sycamore left	0.71	Inactive	09/30/2012	U
Chico Creek-Mud Creek - Unit 5, diversion levee	1.80	Inactive	09/30/2012	U
Chico Creek-Mud Creek - Units 2 north and 3	3.35	Inactive	09/30/2012	U
Chico Creek-Mud Creek - Units 2 south and 4	9.23	Inactive	09/30/2012	U

**DWR Flood System Repair Project Summary****Unit No. 02 Mud Creek**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
USACE_CESPK_CM2A_2010_p_0075	Serious	Stability	5.63	5.95	Left	39.738901	-121.930170

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported normal levee maintenance operations and timely repair of any damaged areas by the County and stated that there was no new information to report. The Agency also reported that ongoing sediment accumulation is reducing system capacity.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported normal levee maintenance operations and timely repair of any damaged areas by the County and stated that there was no new information to report. The Agency also mentioned that ongoing sediment accumulation is reducing system capacity.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency reported normal levee and structure maintenance operations for the entire Sycamore Creek, Mud Creek, and Sandy Gulch system and compliance with the Standard Operation and Maintenance manuals.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency reported normal O&M activities planned for the levees and structures in compliance with O&M manual for Chico Creek, Mud Creek, and Sandy Gulch for the current fiscal year. The reported total estimated O&M cost for the current fiscal year is \$150,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that construction plans, Design Memorandum Number 5, and O&M manual for the system are on file with the Butte County Public Works.

# California Department of Fish and Game Shea Levee

## Shasta County

### Contact

Steve Baumgartner  
District Ranger  
601 Locust  
Redding CA 96001  
Phone: (530) 225-2370

Shea Levee



LMA Short Name : NA0018		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	LB	0.30

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on controlling woody vegetation.
- The LMA should enhance its rodent control program.

### DWR Levee Inspection Summary

NA0018	Total LMA Miles		0.30									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			U	Overall LMA Rating			U				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.22		0.22	73.23	0.27		0.27	89.87	0.05		0.05	16.64
Trim / Thin Trees	0.14		0.14	46.60	0.26		0.26	86.55	0.12		0.12	39.94
Animal Control	0.06		0.06	19.97	0.08		0.08	26.63	0.02		0.02	6.66
Operations & Maintenance Manuals	0.01		0.01	3.33	0.01		0.01	3.33				0.00
Emergency Supplies & Equipment	0.01		0.01	3.33	0.01		0.01	3.33				0.00
Flood Preparedness & Training	0.01		0.01	3.33	0.01		0.01	3.33				0.00
LMA Totals:	0.45	0.00	0.45	149.79	0.64	0.00	0.64	213.03	0.19	0.00	0.19	63.24

Shea Levee

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

No USACE Ratings available.

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that no known conditions exist that might impair or compromise level of flood protection.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency reported no activity took place during the previous fiscal year.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of planned maintenance activities for the entire levee. Activities include levee inspection and vegetation control.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

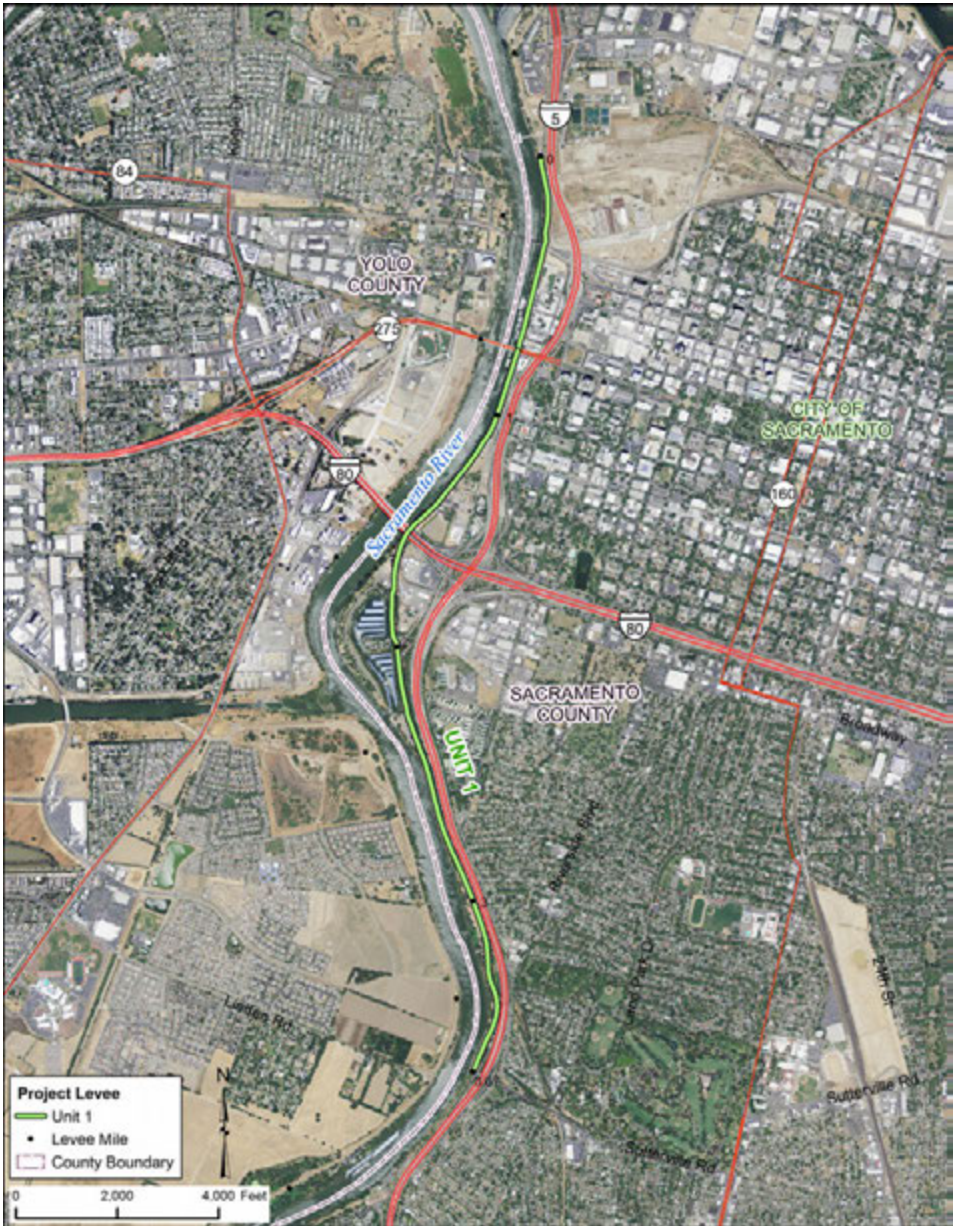


# City of Sacramento

## Sacramento County

### **Contact**

William Roberts  
Operations Superintendent  
5730 24th Street  
Sacramento CA 95822  
Phone: (916) 808-6955



LMA Short Name : NA0005		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	LB	3.67

Threat Assessment & Recommendations

- The LMA should focus on repairing erosion sites.
- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.

**DWR Levee Inspection Summary**

NA0005	Total LMA Miles		3.67									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control					0.01		0.01	0.27	0.01		0.01	0.27
Slope Stability					0.01		0.01	0.27	0.01		0.01	0.27
Supplemental												
USACE Erosion Survey	0.09		0.09	2.45	0.13		0.13	3.54	0.04		0.04	1.09
DWR UCIP Field Study												0.00
LMA Totals:	0.09	0.00	0.09	2.45	0.15	0.00	0.15	4.08	0.06	0.00	0.06	1.63

City of  
Sacramento**DWR Structure Inspection Summary**

Structure Name	Overall Rating
El Camino Avenue Bridge	A
Magpie Creek Pumping Plant	A

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_58-5_L	58.50	1.31	1.39	eroding	M
SAC_56-6_L	56.60	2.85	2.90	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
MA 09 - City of Sacramento - American R left bank	35.27	Active	05/14/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported availability of as-built drawings of Sacramento River slurry wall, revetment, relief wells, piezometers, and Old Sacramento floodwalls. The Agency mentioned the maintenance on relief wells installed by USACE is planned for November 2015. The Agency reported on the existing miscellaneous facilities such as buildings, fences, landscaping, and a museum at Levee Unit 1 and provided their locations. The Agency also reported erosion sites at LM 0.77 to 0.79.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that no known conditions exist that might impair or compromise the level of flood protection.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include CCTV pipe condition assessment, cleaning, erosion repairing, fence repairing, grazing, inspections, mowing, rodent baiting and grouting, spraying, tree trimming, and tree removal.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of levee patrolling, roadway maintenance, rodent control, and vegetation control. The reported total estimated cost for the current fiscal year is \$400,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that its Letter of Intent is being finalized and this letter will be sent out to homeowners and businesses who are in violation. The Agency also stated that the district is in the process of finalizing permits and the Army Corps of Engineers' Memorandum of Understanding.

# Eastern Honcut Creek

Honcut  
Creek

**Yuba County**

**Contact**

No Contact Information Available



Honcut  
Creek



LMA Short Name : NA0006		Bank	Unit Length (Miles)
Unit No. 01	Van Tress	LB	1.46

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The crown roadway in this Area may not be able to be driven in all types of weather.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.



**DWR Levee Inspection Summary**

NA0006	Total LMA Miles		1.46									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation		2.95	11.80	810.66	1.78	1.10	6.18	424.57	1.78	-1.85	-5.62	-386.09
Trim / Thin Trees		0.01	0.04	2.75		0.01	0.04	2.75				0.00
Crown Surface / Depressions / Rutting					0.59		0.59	40.53	0.59		0.59	40.53
Operations & Maintenance Manuals	0.01		0.01	0.69	0.01		0.01	0.69				0.00
Flood Preparedness & Training	0.01		0.01	0.69	0.01		0.01	0.69				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.03	2.96	11.87	815.47	2.40	1.11	6.84	469.91	2.37	-1.85	-5.03	-345.56

Honcut Creek

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Honcut Creek Area - Eastern	1.45	Inactive	06/20/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

# Knights Landing Ridge Drainage District

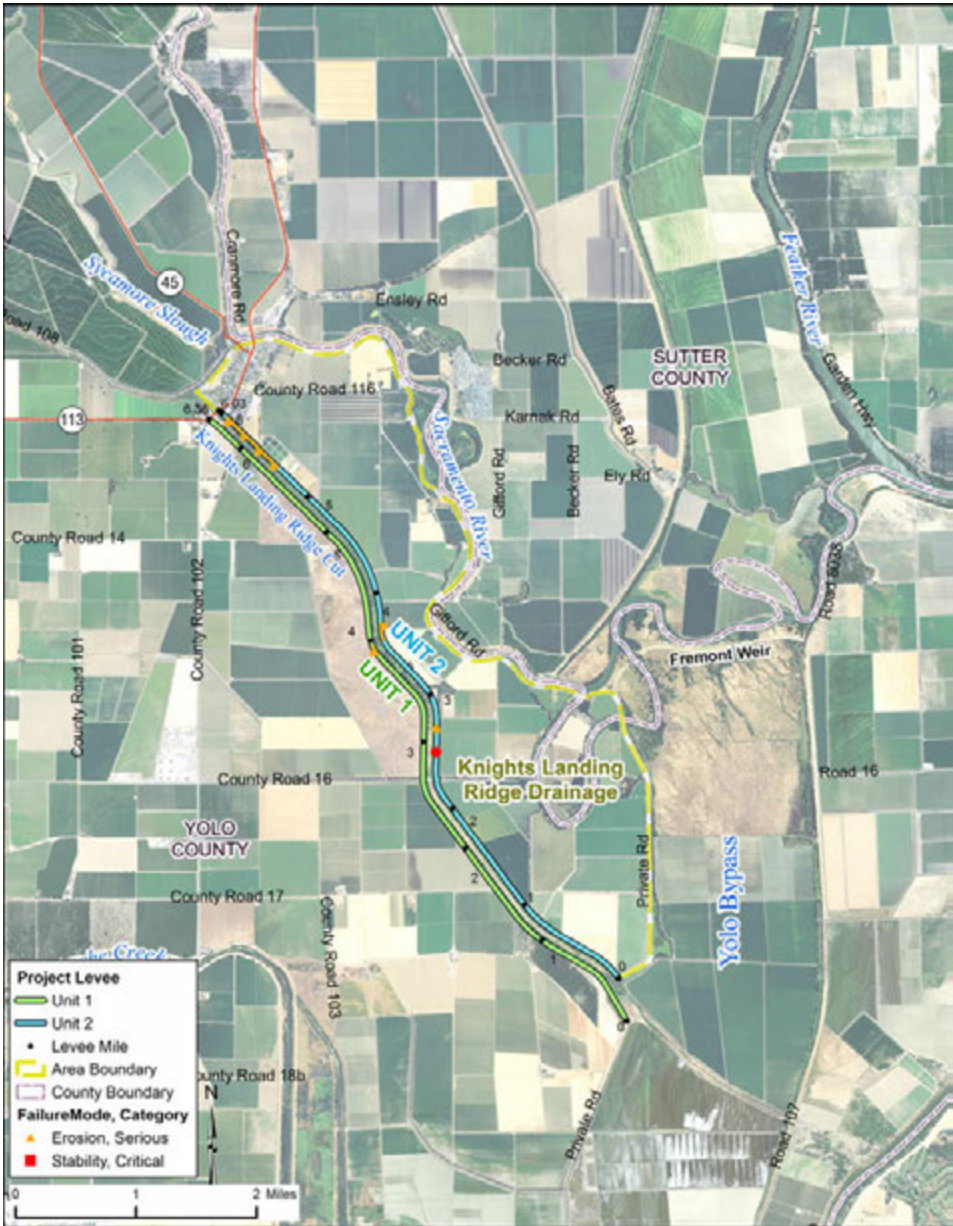
Knights  
Landing

## Yolo County

### **Contact**

Lewis Bair  
Manager  
P.O Box 50  
Grimes CA 95950  
Phone: (530) 437-2221

Knights  
Landing



LMA Short Name : NA0008		Bank	Unit Length (Miles)
Unit No. 01	Knights Landing Ridge Cut	RB	6.36
Unit No. 02	Knights Landing Ridge Cut	LB	6.03

Threat Assessment & Recommendations

- There is a significant erosion site in this Area that should be monitored.
- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus on repairing erosion sites.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

### DWR Levee Inspection Summary

NA0008	Total LMA Miles		12.39									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation		0.01	0.04	0.32	0.73	0.01	0.77	6.22	0.73		0.73	5.89
Encroachments	0.24		0.24	1.94					-0.24		-0.24	-1.94
Animal Control					0.04	0.02	0.12	0.97	0.04	0.02	0.12	0.97
Erosion / Bank Caving	0.01	0.02	0.09	0.73		0.01	0.04	0.32	-0.01	-0.01	-0.05	-0.40
Cracking												0.00
Crown Surface / Depressions / Rutting					0.01		0.01	0.08	0.01		0.01	0.08
Supplemental												
USACE Erosion Survey	0.07		0.07	0.57	1.43		1.43	11.54	1.36		1.36	10.98
DWR UCIP Field Study												0.00
LMA Totals:	0.32	0.03	0.44	3.55 *	2.21	0.04	2.37	19.13	1.89	0.01	1.93	15.58

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

Knights  
Landing

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

#### Unit No. 01 Knights Landing Ridge Cut, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
KLR_3-5_R		3.36	3.44	eroding	M
KLR_3-9_R		3.88	3.95	eroding	M

#### Unit No. 02 Knights Landing Ridge Cut, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
KLR_3-0_L		2.72	2.93	eroding	M
KLR_3-1_L		2.98	3.11	eroding	M
KLR_3-7_L		3.60	3.73	eroding	M
KLR_4-7_L		4.30	4.55	eroding	M
KLR_5-8_L		5.36	5.93	eroding	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Cache Crk U1 - Yolo Bypass U2 - Knights Landing U1	19.49	Inactive	06/20/2014	U
Knights Landing U2 - Yolo Bypass - Service Area 6	15.19	Active	03/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Knights Landing Ridge Cut**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_NA0008_01_s_2012_2	Serious	Erosion	3.88	3.95	Left	38.764037	-121.701434

**Unit No. 02 Knights Landing Ridge Cut**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
217-6	Critical	Stability	2.50		Left	38.751767	-121.692731
DWR_NA0008_02_s_2012_2	Serious	Erosion	2.72		Left	38.754899	-121.692653
DWR_NA0008_02_s_2012_4	Serious	Erosion	3.60	3.73	Left	38.765522	-121.700608
DWR_NA0008_02_s_2012_6	Serious	Erosion	5.36	5.93	Left	38.786566	-121.716724

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities for all the levee units. Activities include levee patrolling, roadway maintenance, rodent baiting and monitoring, vegetation burning, clearing, mowing and spraying, and tree thinning and trimming. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected and low priority issues for encroachment, erosion, and vegetation control. The Agency reported the total maintenance cost for the previous fiscal year as \$31,350.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of levee patrolling, roadway maintenance, rodent baiting and monitoring, vegetation burning, clearing, mowing and spraying, and tree thinning and trimming. The reported total estimated cost for the current fiscal year is \$38,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



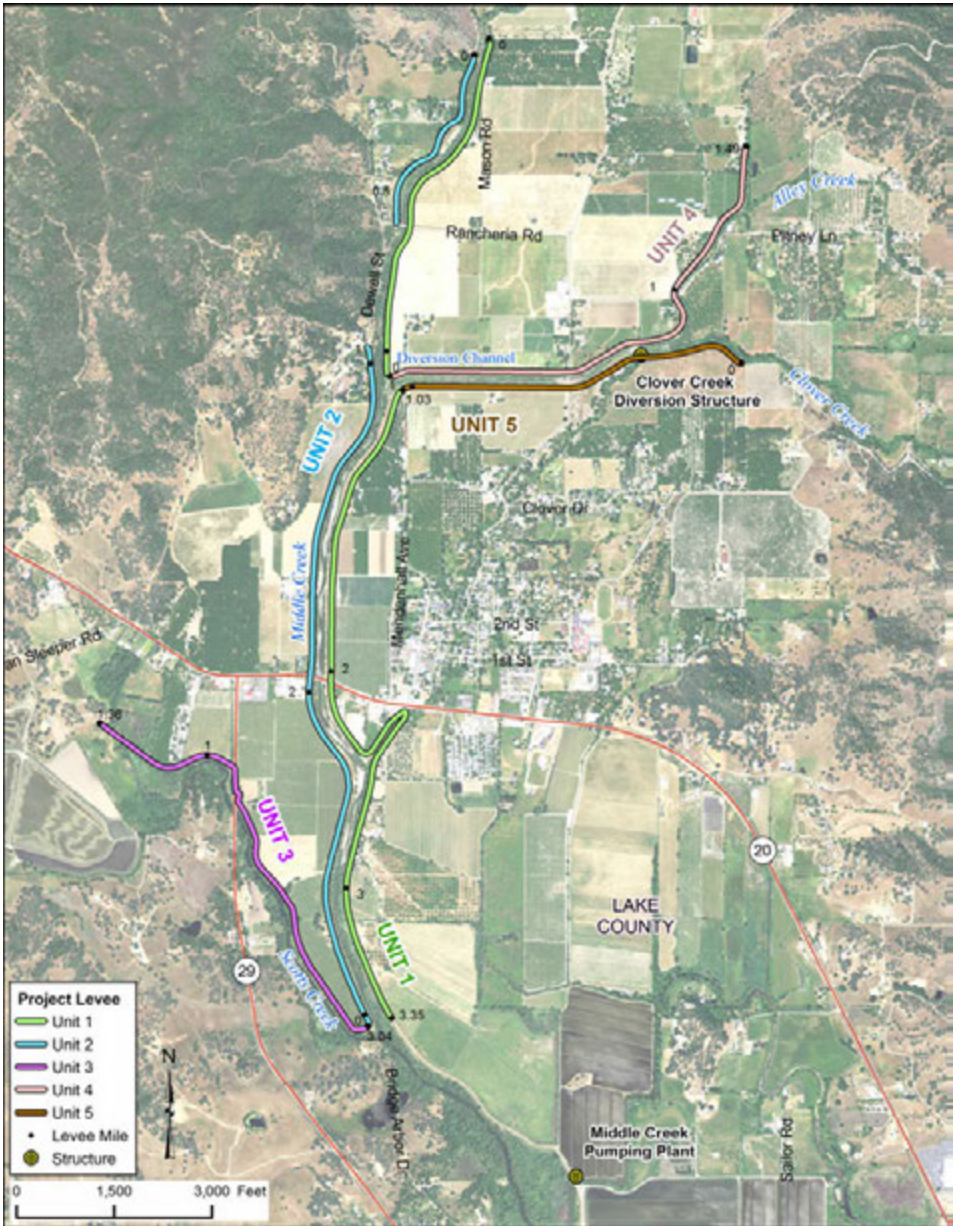
# Lake County Watershed Protection District

Lake  
County

## Lake County

### **Contact**

Scott De Leon  
Director  
255 North Forbes Street  
Suite 309  
Lakeport CA 95453  
Phone: (707) 263-2344



LMA Short Name : NA0009		Bank	Unit Length (Miles)
Unit No. 01	Middle Creek	LB	3.35
Unit No. 02	Middle Creek	RB	2.66
Unit No. 03	Scotts Creek	LB	1.36
Unit No. 04	Page, Alley and Clover Creek Diversion	RB	1.49
Unit No. 05	Clover Creek and Clover Creek Diversion	LB	1.03

Threat Assessment & Recommendations

- The LMA should focus more on controlling woody vegetation.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.

### DWR Levee Inspection Summary

NA0009	Total LMA Miles		9.89									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.22		0.22	2.22	0.24		0.24	2.43	0.02		0.02	0.20
Trim / Thin Trees	0.34		0.34	3.44	0.35		0.35	3.54	0.01		0.01	0.10
Encroachments	0.01		0.01	0.10	0.01		0.01	0.10				0.00
Slope Stability	0.04	0.01	0.08	0.81	0.04		0.04	0.40		-0.01	-0.04	-0.40
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.61	0.01	0.65	6.57 *	0.64	0.00	0.64	6.47	0.03	-0.01	-0.01	-0.10

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

Lake  
County

### DWR Structure Inspection Summary

Structure Name	Overall Rating
Clover Creek Diversion Structure	A

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Middle Creek left bank - Unit 1 north	2.56	Inactive	01/20/2015	U
Middle Creek left bank - Unit 5 and part of 1	2.34	Inactive	01/20/2015	U
Middle Creek right bank - Unit 2	3.44	Inactive	01/20/2015	U
Middle Creek right bank - Unit 2 north	0.58	Inactive	01/20/2015	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

# Marysville Levee Commission

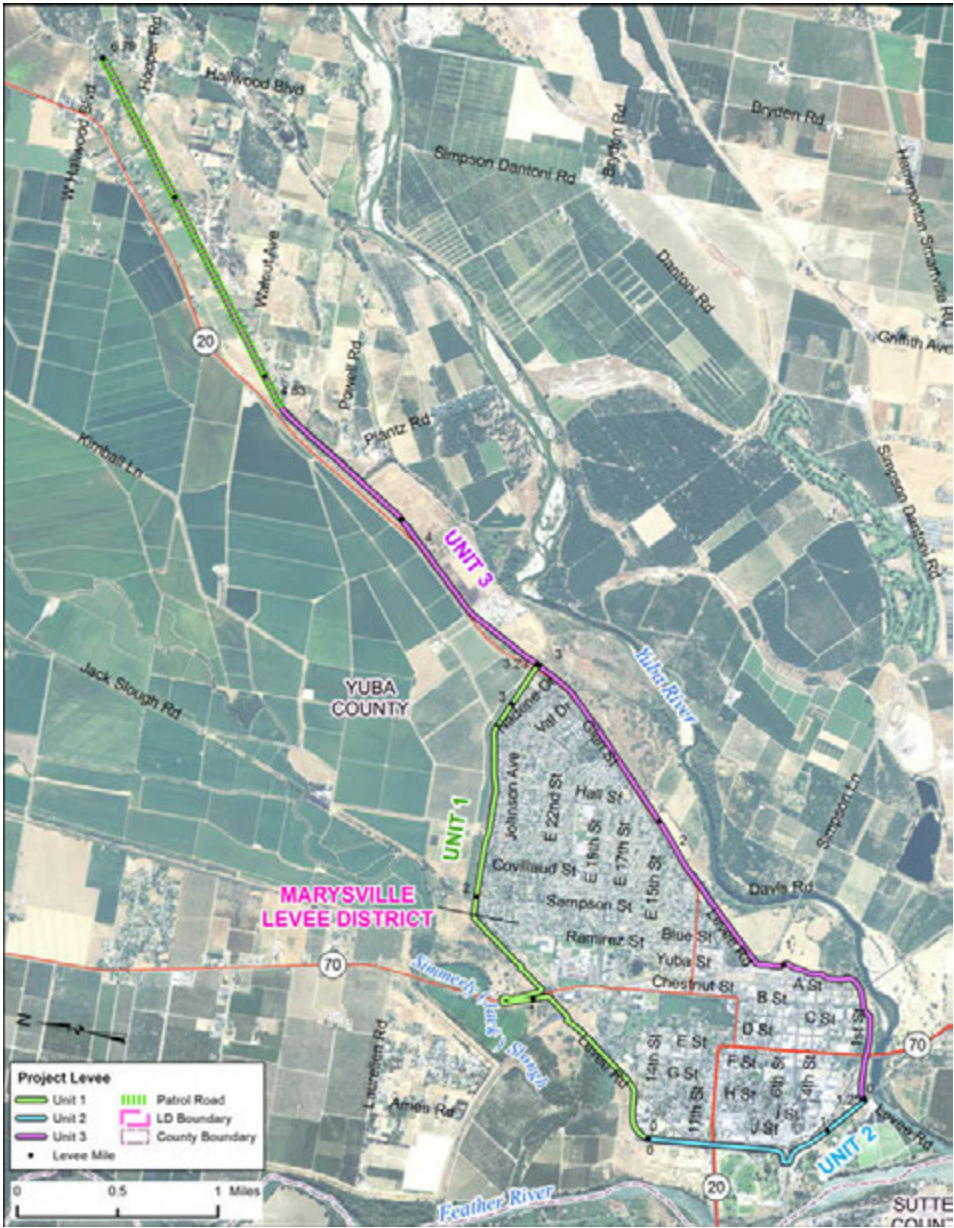
Marysville  
Levee

## Yuba County

### **Contact**

Pat Ajuira  
President  
P.O Box 150  
Marysville CA 95901  
Phone: (530) 742-3734





LMA Short Name : NA0004		Bank	Unit Length (Miles)
Unit No. 01	Simmerly Slough	LB	3.23
Unit No. 02	Feather River	LB	1.25
Unit No. 03	Yuba River	RB	6.79

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.



**DWR Levee Inspection Summary**

NA0004	Total LMA Miles		11.27									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.02		0.02	0.18	4.10		4.10	36.39	4.08		4.08	36.22
Slope Stability					0.01		0.01	0.09	0.01		0.01	0.09
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.02	0.00	0.02	0.18	4.11	0.00	4.11	36.48	4.09	0.00	4.09	36.30

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

Marysville  
Levee**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
City of Marysville - Unit 3, NE extension	1.83	Inactive	09/10/2010	U
City of Marysville - Units 1, 2, and 3	7.43	Active	12/17/2010	M

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported well maintained conditions of all levee units and perfect levee performance. The Agency also stated encroachments were kept to a minimum, and vegetation was maintained by burning, mowing, tree removal, and weed eaters.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include burning, disking firebreaks, mowing, and slope dragging. The Agency also reported actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected issues for vegetation control on Levee Unit 1.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

# Plumas County

## Plumas County

Plumas  
County

### **Contact**

Robert Perreault  
Director  
1834 East Main Street  
Quincy CA 95971  
Phone: (530) 283-6268



LMA Short Name : NA0015		Bank	Unit Length (Miles)
Unit No. 01	North Fork Feather River	LB	1.89
Unit No. 02	North Fork Feather River	RB	1.36

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- There are one or more locations of unstable slopes and/or cracking in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should repair locations where the levee slope may be unstable.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.

**DWR Levee Inspection Summary**

NA0015	Total LMA Miles		3.25									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.20		1.20	36.93	6.44		6.44	198.17	5.24		5.24	161.24
Slope Stability	0.06	0.09	0.42	12.92	0.05	0.09	0.41	12.62	-0.01		-0.01	-0.31
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	1.26	0.09	1.62	49.85	6.49	0.09	6.85	210.78	5.23	0.00	5.23	160.93

**DWR Structure Inspection Summary**

Structure Name	Overall Rating
North Fork Feather River Diversion Channel Drop Structure No. 1	A
North Fork Feather River Diversion Channel Drop Structure No. 2	A
North Fork Feather River Diversion Channel Drop Structure No. 3	A
North Fork Feather River Diversion Channel Drop Structure No. 4	A
North Fork Feather River Diversion Channel Drop Structure No. 5	A
North Fork Feather River Diversion Channel Drop Structure No. 6	A
North Fork Feather River Diversion Channel Drop Structure No. 7	A
North Fork Feather River Diversion Structure	A

Plumas  
County**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
North Fork Feather River at Chester - east levee	1.88	Inactive	08/26/2015	U
North Fork Feather River at Chester - west levee	1.36	Active	08/26/2015	M

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency mentioned an ongoing MOU with CA Conservation Crew for vegetation removal on Levee Units 1 and 2.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of planned maintenance activities for all levee units. Activities include erosion repair and trimming of vegetation by CA Conservation Crew.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.



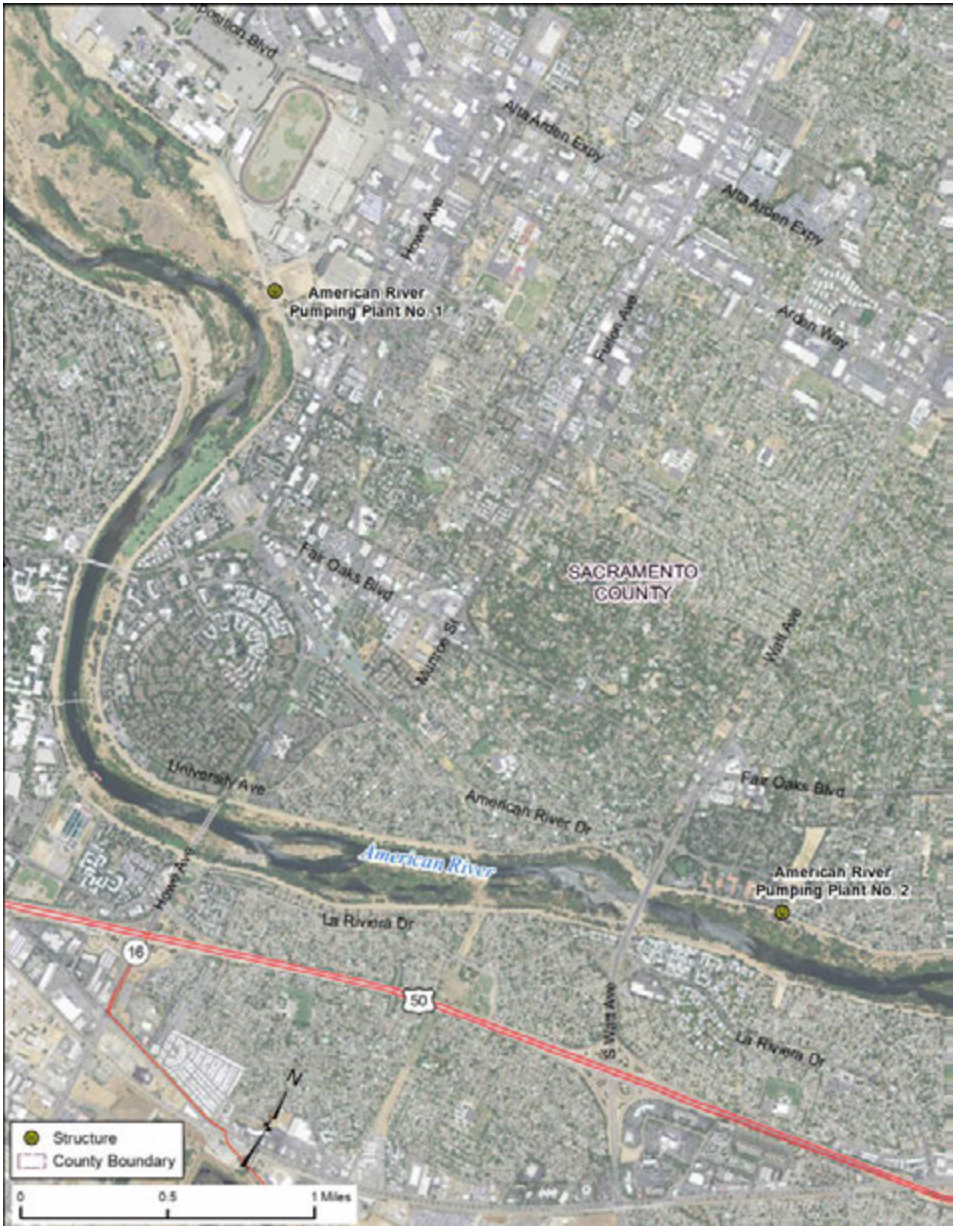
# Sacramento County Structures

## Sacramento County

Sacramento  
County

### **Contact**

Michael L. Peterson  
Director  
827 Seventh St  
Room 301  
Sacramento CA 95814  
Phone: (916) 874-8913



Sacramento  
County

LMA Short Name : NA0050	Bank	Unit Length (Miles)
-------------------------	------	---------------------

No Units Associated with this District.

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.
- The LMA should ensure that the SPFC structure is able to perform as designed and constructed.

**DWR Levee Inspection Summary**

Levees in this District are not Inspected.

**DWR Structure Inspection Summary**

Structure Name	Overall Rating
American River Pumping Plant No. 1 Howe Avenue Storm Drain D - 05	A
American River Pumping Plant No. 2 Willhaggin Storm Drain D - 43	A
Mayhew Drain Closure Structure	M

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

Sacramento  
County

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

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# Sacramento River West Side Levee District

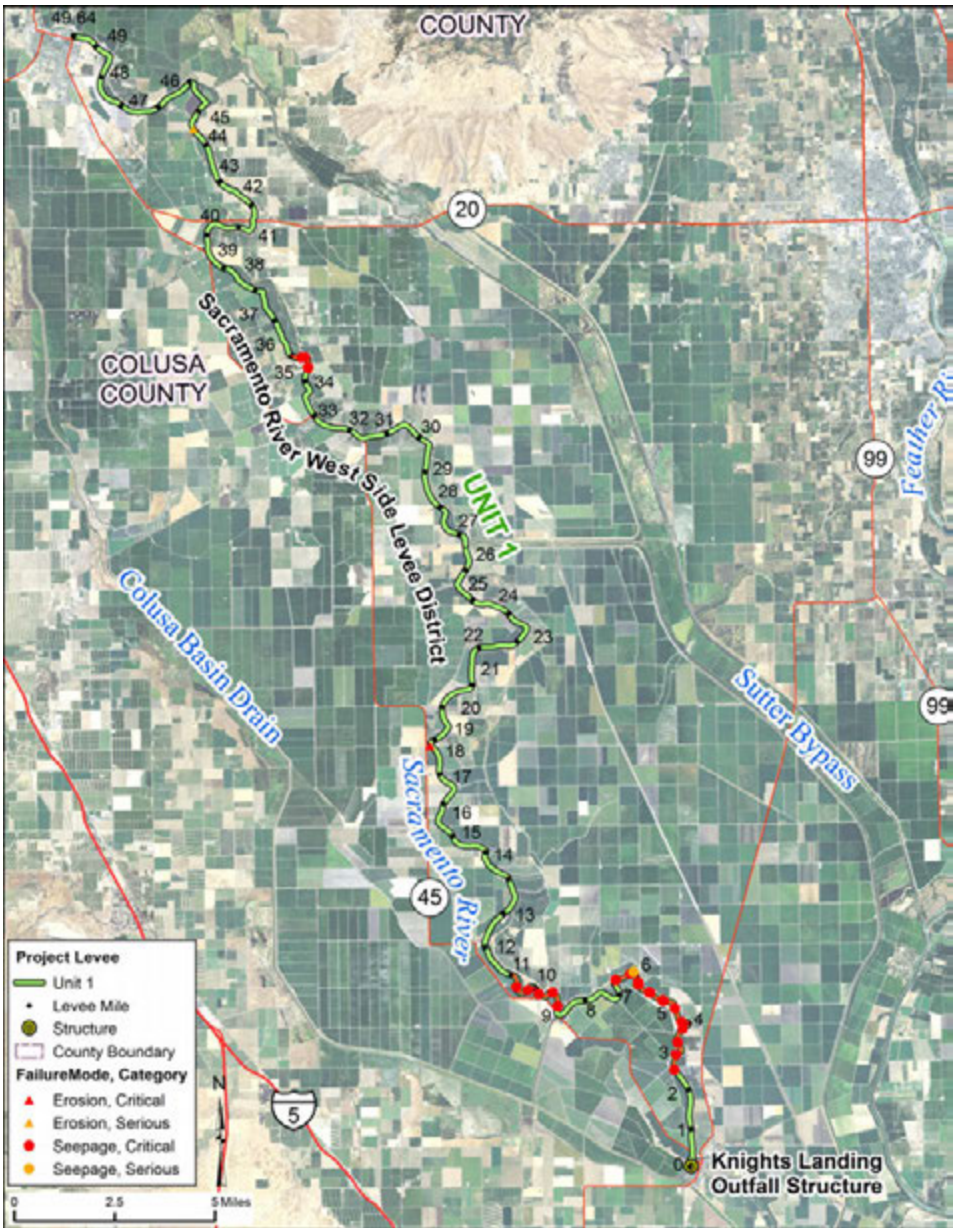
Sacramento County

WSLD

**Contact**

Lewis Bair  
Manager  
P.O. Box 50  
Grimes CA 95950  
Phone: (530) 437-2221





LMA Short Name : NA0016		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	49.64

Threat Assessment & Recommendations

- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.



## DWR Levee Inspection Summary

NA0016	Total LMA Miles		49.64									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					0.43		0.43	0.87	0.43		0.43	0.87
Trim / Thin Trees					0.07		0.07	0.14	0.07		0.07	0.14
Encroachments					0.04		0.04	0.08	0.04		0.04	0.08
Animal Control	0.01		0.01	0.02	0.07	0.01	0.11	0.22	0.06	0.01	0.10	0.20
Slope Stability					0.04		0.04	0.08	0.04		0.04	0.08
Crown Surface / Depressions / Rutting					0.04		0.04	0.08	0.04		0.04	0.08
Supplemental												
USACE Erosion Survey	1.60		1.60	3.22	1.05		1.05	2.12	-0.55		-0.55	-1.11
DWR UCIP Field Study												0.00
LMA Totals:	1.61	0.00	1.61	3.24	1.74	0.01	1.78	3.59 *	0.13	0.01	0.17	0.34

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

## DWR Structure Inspection Summary

No Structures Inspected in this District.

WSLD

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

## Unit No. 01 Sacramento River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_101-3_R	101.30	11.50	11.53	eroding	M
SAC_111-0_R	111.00	18.76	18.78	eroding	M
SAC_115-9_R	115.90	23.55	23.65	eroding	M
SAC_118-0_R	118.00	25.75	25.91	eroding	M
SAC_122-0_R	122.00	29.69	29.73	eroding	M
SAC_122-3_R	122.30	29.96	30.00	eroding	M
SAC_123-7_R	123.70	31.43	31.45	eroding	M
SAC_125-6_R	125.60	33.29	33.37	eroding	M
SAC_127-9_R	127.90	35.23	35.33	eroding	M
SAC_136-6_R	136.60	42.90	43.09	eroding	M
SAC_141-5_R	141.50	47.62	47.77	eroding	M
SAC_143-5_R	143.50	49.46	49.57	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River west bank	119.72	Active	03/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
158-40	Serious	Seepage	2.58	5.74	Right	38.834169	-121.731501
158-221	Serious	Seepage	4.75		Right	38.859161	-121.731836
158-29	Serious	Seepage	6.09		Right	38.870470	-121.749657
158-222	Serious	Seepage	9.00	10.96	Right	38.858098	-121.785343
FSRP-13-6	Serious	Erosion	12.32	12.22	Right	38.885090	-121.817030
DWR_NA0016_01_s_2012_2	Critical	Erosion	18.76	18.78	Right	38.954060	-121.840560
FSRP-13-8	Serious	Erosion	22.02	22.06	Right	38.989340	-121.817920
288-226	Serious	Seepage	34.31	35.03	Right	39.091426	-121.895247
288-54	Critical	Seepage	34.65		Right	39.095602	-121.896102
FSRP-13-9	Serious	Erosion	39.33	39.38	Right	39.144840	-121.937880
USACE_CESPK_SWS2_2010_p_0279	Serious	Erosion	43.49		Right	39.179230	-121.945930

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include patrolling, roadway maintenance, rodent baiting, and vegetation burning, mowing, and spraying. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected, low priority, and work in progress for animal control, encroachments, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$189,900.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of periodic inspection, levee patrolling, roadway maintenance, rodent baiting and monitoring, and vegetation burning, mowing, and spraying. The reported total estimated cost for the current fiscal year is \$161,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Solano County Public Works**

## **Mellin Levee**

### **Solano County**

Solano  
County

#### **Contact**

Bill Emlen  
Director of Resource Office  
675 Texas Street  
Suite 5500  
Fairfield CA 94533  
Phone: (707) 784-6765



Solano  
County

LMA Short Name : NA0012		Bank	Unit Length (Miles)
Unit No. 01	Mellin Levee	RB	0.59

Threat Assessment & Recommendations

- The LMA should focus more on controlling woody vegetation.
- The LMA should continue to maintain the area at the high level seen during the last inspection.

**DWR Levee Inspection Summary**

NA0012	Total LMA Miles		0.59									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	1.69	0.01		0.01	1.69				0.00
Trim / Thin Trees						0.01	0.04	6.75		0.01	0.04	6.75
Flood Preparedness & Training	0.01		0.01	1.69					-0.01		-0.01	-1.69
LMA Totals:	0.02	0.00	0.02	3.37	0.01	0.01	0.05	8.43 *	-0.01	0.01	0.03	5.06

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

Solano  
County

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Mellin Levee - Rio Vista	0.62	Inactive	07/22/2015	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported excessive vegetation growth on the levee road and noted mowing is scheduled for early October.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported loss of high ground where the levee originally ends as shown on the as-built drawing.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities for Levee Unit 1. Activities include gate maintenance, levee crown grading, and vegetation mowing. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected, pending, and work in progress for encroachment and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities. Expenses include costs of roadway maintenance, levee patrolling, vegetation mowing and spraying, and tree trimming. The reported total estimated cost for the current fiscal year is \$8,900.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



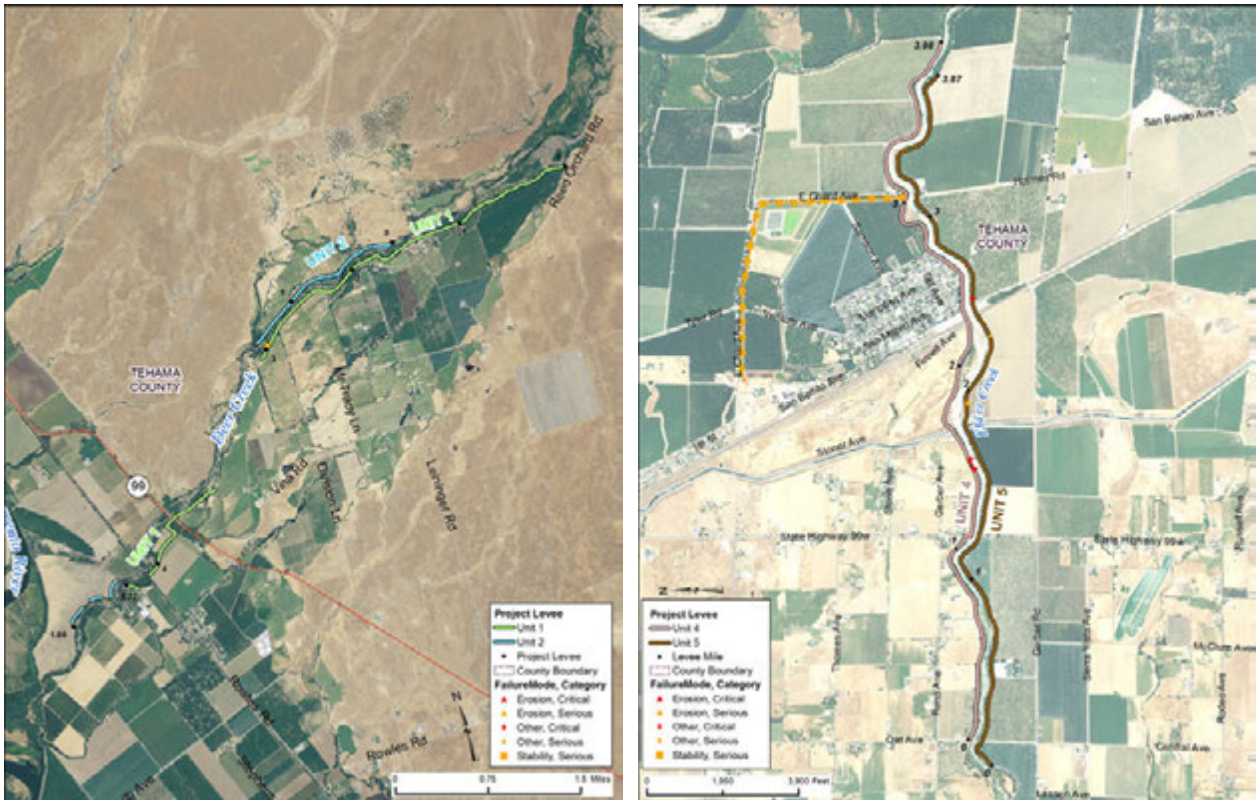
# Tehama County Flood Control and Water Conservation District

## Tehama County

Tehama  
County

### **Contact**

Gary Antone  
Public Works Director  
9380 San Benito Avenue  
Gerber CA 96035  
Phone: (530) 385-1462



Tehama  
County

LMA Short Name : NA0019		Bank	Unit Length (Miles)
Unit No. 01	Deer Creek	LB	4.22
Unit No. 02	Deer Creek	RB	1.89
Unit No. 04	Elder Creek	LB	3.98
Unit No. 05	Elder Creek	RB	3.87

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus on repairing erosion sites.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should ensure that the capacity of the channel as designed and constructed is maintained.

## DWR Levee Inspection Summary

NA0019	Total LMA Miles		13.97									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.40		1.40	10.02	1.25		1.25	8.95	-0.15		-0.15	-1.07
Encroachments	0.07		0.07	0.50	0.07		0.07	0.50				0.00
Animal Control	0.04		0.04	0.29	0.01		0.01	0.07	-0.03		-0.03	-0.21
Slope Stability	0.36		0.36	2.58	0.37		0.37	2.65	0.01		0.01	0.07
Erosion / Bank Caving	0.04		0.04	0.29	0.05	0.41	1.69	12.10	0.01	0.41	1.65	11.81
Supplemental												
USACE Erosion Survey	0.16		0.16	1.15	0.15		0.15	1.07	-0.01		-0.01	-0.07
DWR UCIP Field Study												0.00
LMA Totals:	2.07	0.00	2.07	14.82	1.90	0.41	3.54	25.34	-0.17	0.41	1.47	10.52

## DWR Structure Inspection Summary

No Structures Inspected in this District.

## DWR Channel Inspection Summary

Channel Name	Overall Rating
McClure Creek	M
Salt Creek	A

Tehama  
County

## USACE 2015 Sacramento River Erosion Summary

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

## Unit No. 01 Deer Creek, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
DEC_2-4_L		2.96	2.98	eroding	M

## Unit No. 02 Deer Creek, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
DEC_0-9_R		0.85	0.90	eroding	M

## Unit No. 04 Elder Creek, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
ELC_1-4_L		1.43	1.49	eroding	M

## Unit No. 05 Elder Creek, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
ELC_3-0_R		3.01	3.03	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Deer Creek left bank, Unit 1 east - Tehama County	3.09	Inactive	09/08/2014	U
Deer Creek left bank, Unit 1 west - Tehama County	1.14	Inactive	09/08/2014	U
Deer Creek right bank, Unit 2 - Tehama County	1.45	Inactive	09/08/2014	U
Elder Creek left bank, Unit 4 - Gerber levee	4.64	Inactive	09/30/2012	U
Elder Creek left bank, Unit 4 east	0.83	Inactive	09/30/2012	U
Elder Creek right bank, Unit 5	3.86	Inactive	09/30/2012	U

**DWR Flood System Repair Project Summary****Unit No. 01 Deer Creek**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-14-33	Serious	Erosion	2.76	2.79	LB	39.964940	-122.028830
DWR_NA0019_01_s_2012_1	Serious	Erosion	2.96	2.98	Left	39.962910	-122.031421

**Unit No. 04 Elder Creek**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_NA0019_04_s_2012_9	Critical	Erosion	1.43	1.49	Left	40.051596	-122.164179
24-4	Serious	Stability	3.03		Right	40.056377	-122.138912
57-2004	Critical	Other	3.73	3.93	Left	40.055820	-122.128270

**Unit No. 05 Elder Creek**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-13-16	Critical	Erosion	1.92	1.94	Right	40.052220	-122.158270

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there are no new concerns or issues with the current levee operation or maintenance of all levee units except the repair of an overtopping section of Levee Unit 4 and the repair of an erosion section of Levee Unit 5.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported two erosion sites on Levee Unit 1, identified as DWR Inspection Items 39 and 17, at LM 2.78 and LM 0.01. The Agency stated that Item 39 will be monitored during high water events and repaired in fall 2016, and the landowner at Item 17, which is associated with a landside irrigation ditch, has been asked to repair the erosion. The Agency also referred to several erosion sites on Levee Unit 4, LM 1.43 to 1.49, and on both water and landside and levee crown between LM 3.78 and 3.93. These issues have been identified as DWR Inspection Items 9, 22, 23, and 24. The Agency also reported significant erosion with the potential of causing levee failure on Levee Unit 5, LM 1.96, identified as DWR Inspection Item 15. The Agency mentioned that most of these erosion problems are planned to be repaired through the FSRP program. The Agency also stated that there are no current levee integrity issues at Levee Unit 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of performed maintenance activities. Activities include vegetation control on all levee units and rodent control on Levee Unit 4 and 5. The reported total maintenance cost for the previous fiscal year was \$30,725.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of clearing flap gates, rodent control, and vegetation control. The reported total estimated cost for the current fiscal year is \$35,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency referred to erosion sites on Levee Unit 4, LM 3.78 to 3.93, DWR Inspection Items 22, 23, and 24, which were caused by overtopping in December 2014. The repair of this section is planned for October 2015 and is estimated to cost \$252,000. The Agency also reported significant erosion at Levee Unit 5, LM 1.96, DWR Inspection Item 15, caused by high flow events in December 2014. The repair of this section is planned for October 2015 through summer 2016 and is estimated to cost \$654,000. The Agency is working with DWR through the FSRP program to fund the repair projects. FSRP proposals also have been drafted to repair 8.5 miles of patrol roads on all four levee units. The reported total estimated cost of the road repair is \$300,000, with a 10 % cost share by the Agency. The Agency also stated that additional applications will be submitted to the FSRP program to repair additional erosion sites and mentioned that DWR is planning a project for summer 2016 to remove 100,000 cubic yards of sediment and vegetation from Elder Creek to reestablish levee design capacity. The Agency also mentioned that an Emergency Operations Plan and a Flood Contingency Map for both the Elder and Deer Creek levee systems are being developed and will be finalized in early 2016.

Tehama  
County

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# Yolo County Planning Resources and Public Works

## Yolo County

### **Contact**

Taro Echiburu  
Director of Planning and Public Works  
292 West Beamer Street  
Woodland CA 95695  
Phone: (530) 666-8775

Cache - Yolo  
County



LMA Short Name : NA0021		Bank	Unit Length (Miles)
Unit No. 01	Right Bank Cache Creek	RB	0.59

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- There is significant rodent activity in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should enhance its rodent control program.

### DWR Levee Inspection Summary

NA0021	Total LMA Miles		0.59									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.38	0.25	1.38	235.16	0.61	0.20	1.41	240.27	0.23	-0.05	0.03	5.11
Trim / Thin Trees	0.08		0.08	13.63	0.03		0.03	5.11	-0.05		-0.05	-8.52
Animal Control						0.04	0.16	27.26		0.04	0.16	27.26
Slope Stability					0.01		0.01	1.70	0.01		0.01	1.70
Operations & Maintenance Manuals		0.02	0.09	15.34		0.02	0.09	15.34				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.46	0.27	1.55	264.13	0.65	0.26	1.70	289.69	0.19	-0.01	0.15	25.56

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Cache Creek - RD 2035 - Willow Bypass	29.21	Inactive	06/20/2014	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

# Yolo County Service Area 6

## Yolo County

### **Contact**

Taro Echiburu  
Director of Planning and Public Works  
292 West Beamer Street  
Woodland CA 95695  
Phone: (530) 666-8775



## Threat Assessment & Recommendations

- A - 244



**DWR Levee Inspection Summary**

NA0022	Total LMA Miles		5.87									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	7.24	0.34	8.60	146.60	3.76	0.25	4.76	81.14	-3.48	-0.09	-3.84	-65.46
Trim / Thin Trees	0.05	0.01	0.09	1.53	0.13	0.01	0.17	2.90	0.08		0.08	1.36
Encroachments	0.28		0.28	4.77	0.04		0.04	0.68	-0.24		-0.24	-4.09
Animal Control	0.06		0.06	1.02	0.03	0.02	0.11	1.88	-0.03	0.02	0.05	0.85
Slope Stability					0.02		0.02	0.34	0.02		0.02	0.34
Erosion / Bank Caving	0.01		0.01	0.17	0.02		0.02	0.34	0.01		0.01	0.17
Crown Surface / Depressions / Rutting					0.02		0.02	0.34	0.02		0.02	0.34
Operations & Maintenance Manuals	0.06		0.06	1.02	0.06		0.06	1.02				0.00
Supplemental												
USACE Erosion Survey	0.91		0.91	15.51	0.48		0.48	8.18	-0.43		-0.43	-7.33
DWR UCIP Field Study												0.00
LMA Totals:	8.61	0.35	10.01	170.63	4.56	0.28	5.68	96.82	-4.05	-0.07	-4.33	-73.81

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Right Bank of Sacramento River at Knights Landing, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_86-9_R	86.90	3.18	3.28	eroding	M
SAC_85-4_R	85.40	4.66	4.86	eroding	M
SAC_83-9_R	83.90	5.67	5.85	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Knights Landing U2 - Yolo Bypass - Service Area 6	15.19	Active	03/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Right Bank of Sacramento River at Knights Landing**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
162-2026	Serious	Seepage	3.39	3.28	Right	38.777515	-121.687111
162-2005	Serious	Seepage	5.69	5.60	Right	38.758577	-121.670615
DWR_NA0022_01_s_2012_5	Serious	Erosion	5.79		Right	38.758948	-121.669103

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported burrow holes and vegetation issues at various locations on Levee Unit 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion on Levee Unit 1, LM 5.85.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include work in progress for animal control, encroachments, erosion, tree trimming, and vegetation control issues.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of encroachment control, tree trimming, and vegetation control. The reported total estimated cost for the current fiscal year is \$40,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

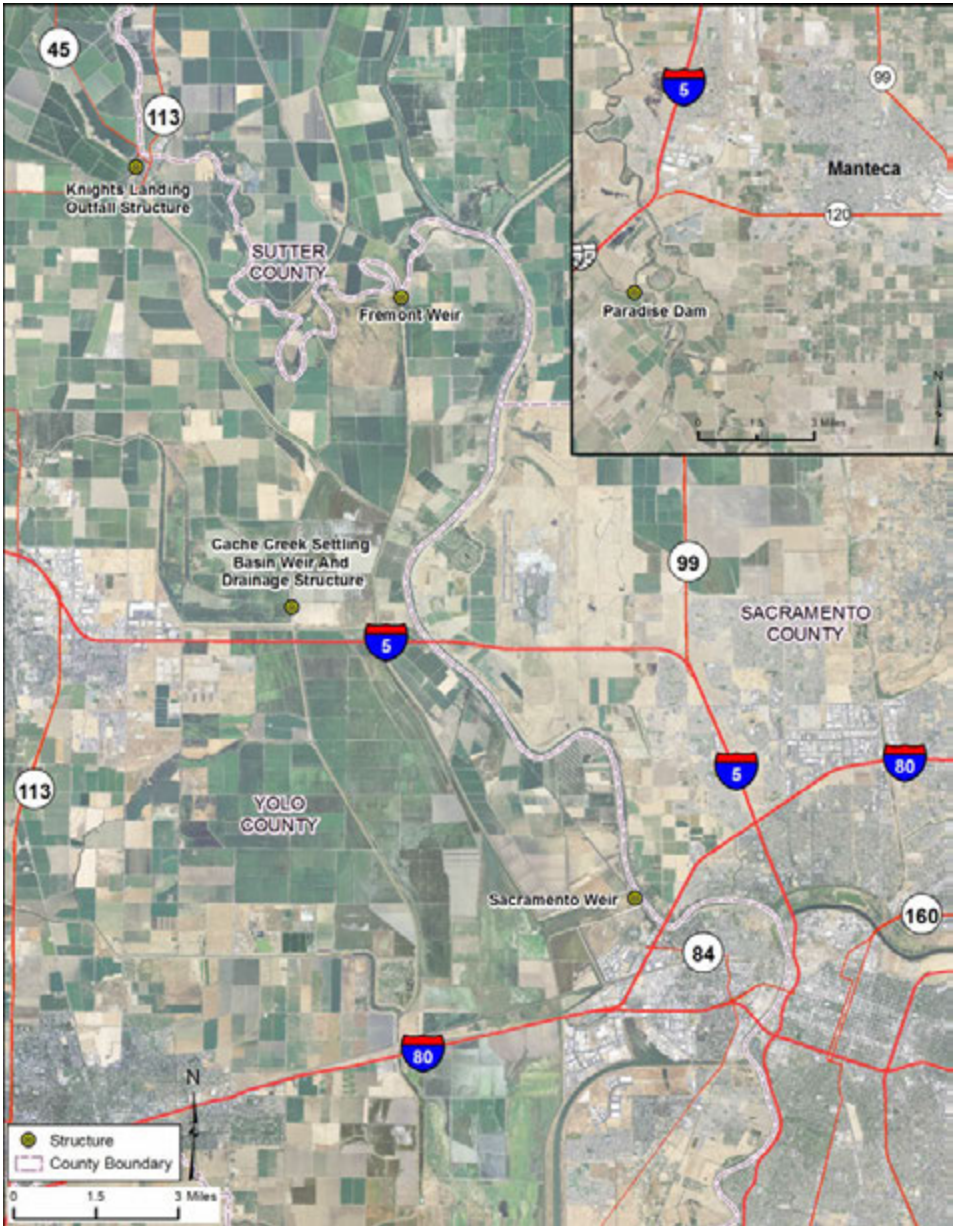
# DWR Sacramento Maintenance Yard Structures

**San Joaquin County**  
**Yolo County**

**Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004

Sacramento  
Yard



LMA Short Name : NA0055

Bank Unit Length (Miles)

No Units Associated with this District.

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.
- The LMA should ensure that the SPFC structure is able to perform as designed and constructed.

**DWR Levee Inspection Summary**Sacramento  
Yard

Levees in this District are not Inspected.

**DWR Structure Inspection Summary**

Structure Name	Overall Rating
Cache Creek Settling Basin Weir And Drainage Structure	A
Fremont Weir	A
Knights Landing Outfall Structure	A
Paradise Dam	M
Sacramento Weir	A

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report**

No Reporting by this District.

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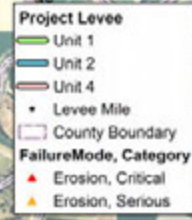


# Sacramento Maintenance Yard Cache Creek

## Yolo County

### **Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004



LMA Short Name : ST0001		Bank	Unit Length (Miles)
Unit No. 01	North Levee	LB	11.69
Unit No. 02	South Levee	RB	11.48
Unit No. 04	East Training Levee of Cache Creek Settling Basin	LB	2.26

### Threat Assessment & Recommendations

- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.

### DWR Levee Inspection Summary

ST0001	Total LMA Miles		25.43									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.15		0.15	0.59	0.20		0.20	0.79	0.05		0.05	0.20
Trim / Thin Trees					0.01		0.01	0.04	0.01		0.01	0.04
Encroachments	0.07		0.07	0.28	0.06		0.06	0.24	-0.01		-0.01	-0.04
Animal Control					0.09		0.09	0.35	0.09		0.09	0.35
Slope Stability					0.04		0.04	0.16	0.04		0.04	0.16
Supplemental												
USACE Erosion Survey	0.21		0.21	0.83	0.24	0.04	0.40	1.57	0.03	0.04	0.19	0.75
DWR UCIP Field Study												0.00
LMA Totals:	0.43	0.00	0.43	1.69	0.64	0.04	0.80	3.15 *	0.21	0.04	0.37	1.46

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

#### Unit No. 01 North Levee, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
CHC_2-4_L		2.57	2.61	critical	U
CHC_2-8_L		2.82	2.86	eroding	M
CHC_3-4_L		3.48	3.57	eroding	M
CHC_3-9_L		3.88	3.96	repaired	C
CHC_4-2_L		4.14	4.29	repaired	C

#### Unit No. 02 South Levee, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
CHC_3-5_R		3.53	3.60	eroding	M
CHC_5-4_L		5.33	5.37	eroding	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Cache Creek - RD 2035 - Willow Bypass	29.21	Inactive	06/20/2014	U
Cache Crk U1 - Yolo Bypass U2 - Knights Landing U1	19.49	Inactive	06/20/2014	U
Yolo Bypass West Levee - Cache Creek Unit 4	3.41	Inactive	06/20/2014	U

**DWR Flood System Repair Project Summary****Unit No. 01 North Levee**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_ST0001_01_s_2012_18	Serious	Erosion	2.57	2.61	Left	38.732836	-121.797893
DWR_ST0001_01_s_2012_30	Critical	Erosion	2.82	2.86	Left	38.734067	-121.793713
DWR_ST0001_01_s_2012_35	Serious	Erosion	5.33	5.37	Left	38.722933	-121.760561

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion at Levee Unit 1, LM 3.90 to 4.20.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported regional subsidence issues in this area.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected issues for encroachments, slope stability, tree trimming, and vegetation control issues.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment removal, minor structure repairs, inspections, roadway grading, rodent control, mowing, burning, dragging of slopes, tree maintenance and vegetation control. The reported total estimated cost for the current fiscal year is \$800,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported easements on Cache Creek have been surveyed and the district will start identifying the encroachments within the levee easements to address them.

# **Sacramento Maintenance Yard**

## **East Levee Yolo Bypass**

### **Yolo County**

#### **Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004



LMA Short Name : ST0004		Bank	Unit Length (Miles)
Unit No. 01	Yolo Bypass	LB	2.01

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.



**DWR Levee Inspection Summary**

ST0004	Total LMA Miles		2.01									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Encroachments					0.01		0.01	0.50	0.01		0.01	0.50
Animal Control					0.01		0.01	0.50	0.01		0.01	0.50
LMA Totals:	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.99	0.02	0.00	0.02	0.99

East Levee  
Yolo**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1600, 0827, 0785, and 0537 - SacYolo North	32.06	Inactive	10/10/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected issues for crown surface depressions and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# **Sacramento Maintenance Yard Maintenance Area 0004**

**Yolo County**

**Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004

MA 4



LMA Short Name : MA0004		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	3.47

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should enhance its rodent control program.

### DWR Levee Inspection Summary

MA0004		Total LMA Miles		3.47									
		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Trim / Thin Trees						0.01		0.01	0.29	0.01		0.01	0.29
Animal Control		0.01		0.01	0.29	0.03		0.03	0.86	0.02		0.02	0.58
Slope Stability						0.03		0.03	0.86	0.03		0.03	0.86
Erosion / Bank Caving			0.01	0.04	1.15	0.01		0.01	0.29	0.01	-0.01	-0.03	-0.86
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.01	0.01	0.05	1.44 *	0.08	0.00	0.08	2.30	0.07	-0.01	0.03	0.86

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
West Sacramento - SacYolo South	60.45	Inactive	07/24/2015	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include encroachment removal, minor structure repairs, inspections, roadway grading, rodent control, mowing, burning, dragging slopes, tree maintenance and vegetation control. The Agency also reported corrected or ongoing corrective actions for Levee Unit 1 in response to DWR inspection comments. The corrected actions included animal control, erosion control, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment removal, minor structure maintenance, inspections, roadway grading, rodent control, mowing, burning, dragging slopes, tree maintenance and vegetation control. The reported total estimated cost for the current fiscal year is \$130,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



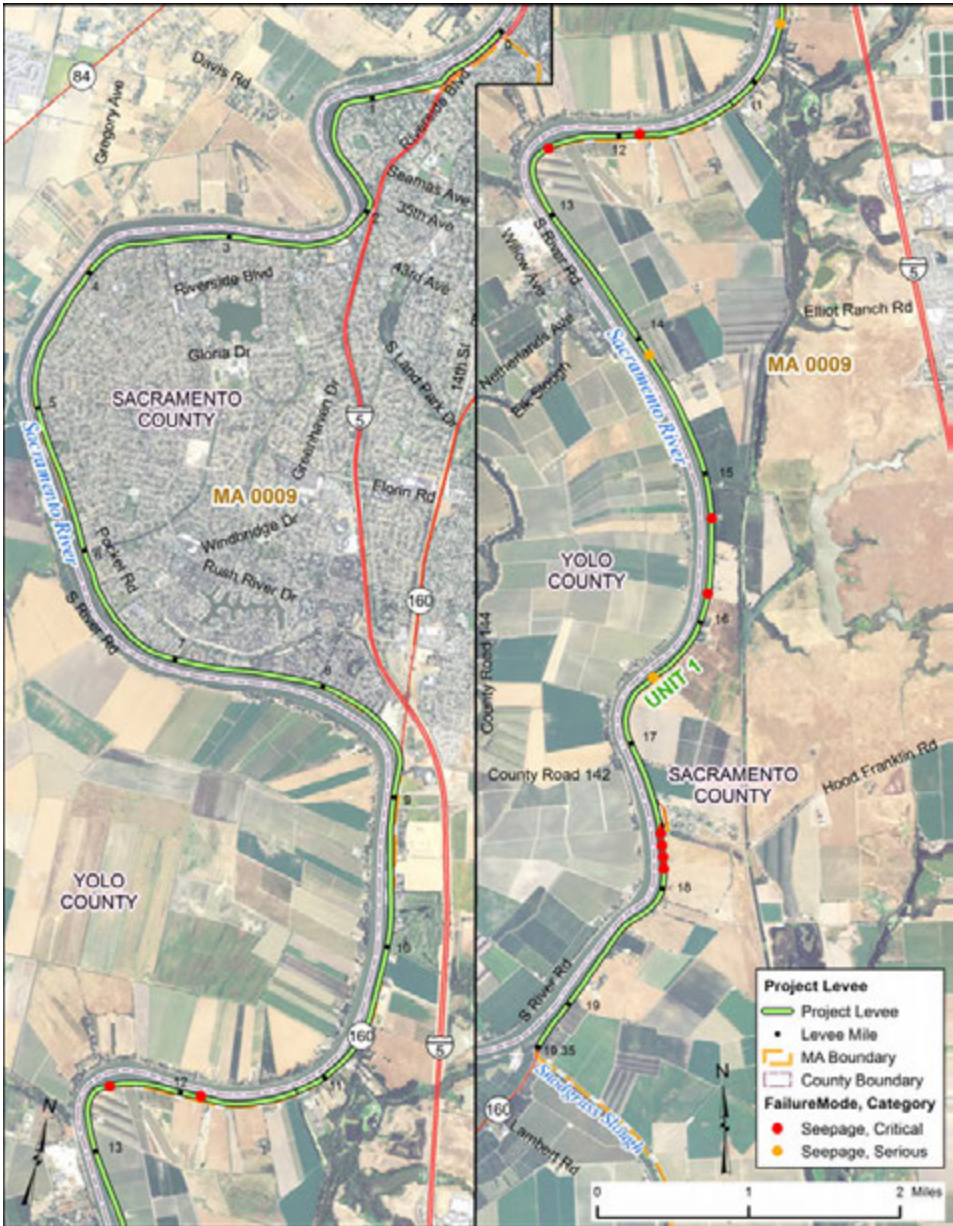
# **Sacramento Maintenance Yard Maintenance Area 0009**

**Sacramento County**

**Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004

MA 9



LMA Short Name : MA0009

Bank Unit Length (Miles)

Unit No. 01 Sacramento River LB 19.35

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should focus on repairing erosion sites.
- The LMA should enhance its rodent control program.

**DWR Levee Inspection Summary**

MA0009	Total LMA Miles		19.35									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.03		0.03	0.16	0.17		0.17	0.88	0.14		0.14	0.72
Trim / Thin Trees	0.05		0.05	0.26	0.08	0.01	0.12	0.62	0.03	0.01	0.07	0.36
Encroachments					0.01		0.01	0.05	0.01		0.01	0.05
Animal Control					0.15	0.02	0.23	1.19	0.15	0.02	0.23	1.19
Slope Stability					0.20	0.01	0.24	1.24	0.20	0.01	0.24	1.24
Erosion / Bank Caving					0.02	0.01	0.06	0.31	0.02	0.01	0.06	0.31
Cracking												0.00
Supplemental												
USACE Erosion Survey	0.42		0.42	2.17	0.39		0.39	2.02	-0.03		-0.03	-0.16
DWR UCIP Field Study												0.00
LMA Totals:	0.50	0.00	0.50	2.58	1.02	0.05	1.22	6.30 *	0.52	0.05	0.72	3.72

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

MA 9

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_55-5_L	55.50	0.39	0.46	eroding	M
SAC_55-2_L	55.20	0.70	0.86	eroding	M
SAC_54-8_L	54.80	1.08	1.14	eroding	M
SAC_53-8_L	53.80	2.02	2.05	eroding	M
SAC_52-7_L	52.70	3.09	3.12	eroding	M
SAC_52-4_L	52.40	3.24	3.26	eroding	M
SAC_50-3_L	50.30	5.35	5.37	eroding	M
SAC_46-7_L	46.70	9.11	9.14	repaired	C

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
MA 09 - City of Sacramento - American R left bank	35.27	Active	05/14/2014	U

**DWR Flood System Repair Project Summary****Unit No. 01 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
106-230	Serious	Seepage	10.59		Left	38.443756	-121.500570
106-129	Critical	Seepage	11.87		Left	38.433998	-121.518403
106-247	Critical	Seepage	12.48		Left	38.433115	-121.529491
106-203	Serious	Seepage	14.13		Left	38.412658	-121.518530
106-254	Critical	Seepage	15.31		Left	38.396600	-121.511911
106-134	Critical	Seepage	15.80		Left	38.389520	-121.512791
106-54	Serious	Seepage	16.49		Left	38.381700	-121.520014
106-165	Critical	Seepage	17.87	17.57	Left	38.363287	-121.519847

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported seepage areas along Levee Unit 1, LM 10.50 to 19.60, which will be monitored during high water.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported seepage areas along Levee Unit 1, LM 10.50 to 19.60, which will be monitored during high water.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include burning, encroachment removal, inspections, minor structure repairs, mowing, roadway grading, rodent control, slope dragging, tree maintenance, and vegetation control. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected issues for animal control, encroachment control, slope stability, tree trimming and thinning, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities. Expenses include costs of burning, encroachment removal, inspections, minor structure repairs, mowing, roadway grading, rodent control, slope dragging, surveying, tree maintenance, and vegetation control. The reported total estimated cost for the current fiscal year is \$1,116,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# Sacramento Maintenance Yard Putah Creek

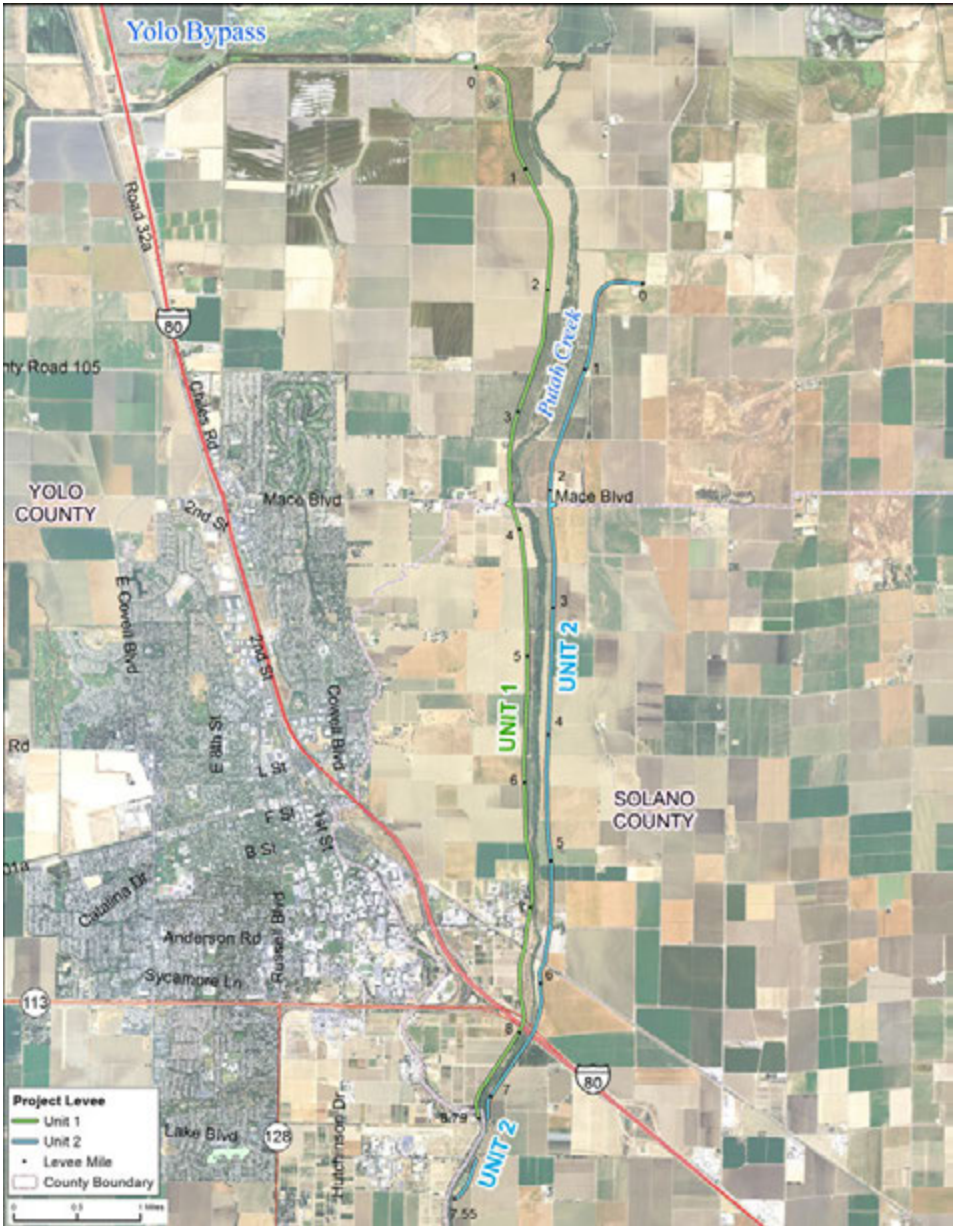
**Yolo County**

**Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004



Putah  
Creek



LMA Short Name : ST0007		Bank	Unit Length (Miles)
Unit No. 01	Putah Creek or North Levee	LB	8.79
Unit No. 02	Putah Creek or South Levee	RB	7.55

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should enhance its rodent control program.



### DWR Levee Inspection Summary

ST0007	Total LMA Miles		16.33									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	10.26	0.03	10.38	63.56	0.75	0.11	1.19	7.29	-9.51	0.08	-9.19	-56.27
Trim / Thin Trees	0.01		0.01	0.06	0.08		0.08	0.49	0.07		0.07	0.43
Encroachments	0.18		0.18	1.10	0.18		0.18	1.10				0.00
Animal Control	0.53		0.53	3.25	0.25		0.25	1.53	-0.28		-0.28	-1.71
Supplemental												
USACE Erosion Survey	0.02		0.02	0.12	0.13		0.13	0.80	0.11		0.11	0.67
DWR UCIP Field Study												0.00
LMA Totals:	11.00	0.03	11.12	68.09	1.39	0.11	1.83	11.21	-9.61	0.08	-9.29	-56.89

Putah  
Creek

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

#### Unit No. 01 Putah Creek or North Levee, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
PUC_0-1_L		0.04	0.12	eroding	M
PUC_7-2_L		6.88	6.93	eroding	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Putah Cr Unit 1 - Yolo Bypass - Willow Slgh Unit 2	19.74	Inactive	05/22/2013	U
Putah Creek right bank - Unit 2	7.15	Inactive	05/22/2013	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include encroachment control, gate and minor structure maintenance, inspections, roadway grading, rodent control, slope dragging, tree trimming, and vegetation control. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected and work in progress for animal control and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment removal, gate and minor structure maintenance, inspections, roadway grading, rodent control, tree trimming, and vegetation control. The reported total estimated cost for the current fiscal year is \$420,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Sacramento Maintenance Yard** **Sacramento Bypass**

Sacramento  
Bypass

**Yolo County**

**Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004

Sacramento Bypass



LMA Short Name : ST0008		Bank	Unit Length (Miles)
Unit No. 01	Sacramento Bypass or North Levee	RB	1.74
Unit No. 02	Sacramento Bypass or South Levee	LB	1.79

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.

**DWR Levee Inspection Summary**

ST0008	Total LMA Miles		3.52									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control					0.01		0.01	0.28	0.01		0.01	0.28
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.28	0.01	0.00	0.01	0.28

Sacramento  
Bypass**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1600, 0827, 0785, and 0537 - SacYolo North	32.06	Inactive	10/10/2014	U
West Sacramento - SacYolo South	60.45	Inactive	07/24/2015	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency mentioned that all levee units are made up of fat clay material and are subject to cracking. The Agency also stated that cracking might lead to sloughing during heavy rains and high water. Monitoring of levees is being performed after rains and during high water.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include burning, encroachment removal, inspections, minor structure repairs, mowing, roadway grading, rodent control, slope dragging, tree maintenance, and vegetation control. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected issues and work in progress for encroachments and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of burning, encroachment removal, inspections, minor structure repairs, mowing, roadway grading, rodent control, slope dragging, tree maintenance, and vegetation control. The reported total estimated cost for the current fiscal year is \$160,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no information to report on Part 5.



# **Sacramento Maintenance Yard** **West Levee Yolo Bypass**

West Levee  
Yolo Bypass

## **Yolo County**

### **Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004

West Levee  
Yolo Bypass



LMA Short Name : ST0011		Bank	Unit Length (Miles)
Unit No. 01	West Levee	RB	2.73
Unit No. 02	West Levee	RB	1.52
Unit No. 03	West Levee	RB	1.15
Unit No. 04	West Levee	RB	3.61

Threat Assessment & Recommendations

- The LMA should focus more on controlling woody vegetation.
- The LMA should continue to maintain the area at the high level seen during the last inspection.

# SACRAMENTO SYSTEM : Sacramento Maintenance Yard West Levee Yolo Bypass

## DWR Levee Inspection Summary

ST0011	Total LMA Miles		9.01									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Trim / Thin Trees					0.69		0.69	7.66	0.69		0.69	7.66
Structures & Concrete Lined Channels												
Flap Gates					0.01		0.01	0.11	0.01		0.01	0.11
Supplemental												
2015 USACE Erosion Survey, DRAFT					0.16		0.16	1.78	0.16		0.16	1.78
DWR UCIP Field Study												0.00
LMA Totals:	0.00	0.00	0.00	0.00	0.86	0.00	0.86	9.55	0.86	0.00	0.86	9.55

West Levee  
Yolo Bypass

## DWR Structure Inspection Summary

No Structures Inspected in this District.

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

### Unit No. 01 West Levee, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
YOL_2-6_R		2.53	2.69	eroding	M

## USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Cache Crk U1 - Yolo Bypass U2 - Knights Landing U1	19.49	Inactive	06/20/2014	U
Knights Landing U2 - Yolo Bypass - Service Area 6	15.19	Active	03/09/2015	U
Putah Cr Unit 1 - Yolo Bypass - Willow Slgh Unit 2	19.74	Inactive	05/22/2013	U
Yolo Bypass West Levee - Cache Creek Unit 4	3.41	Inactive	06/20/2014	U

## DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported several beaver dens have been repaired on Levee Unit 4 between LM 2.00 and 3.00. The Agency noted future beaver activities will be monitored.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected and work in progress for encroachment and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of encroachment removal, minor structure maintenance, inspection, roadway grading, rodent control, tree trimming, and vegetation control. The reported total estimated cost for the current fiscal year is \$324,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# Sacramento Maintenance Yard Willow Slough Bypass

Willow  
Slough

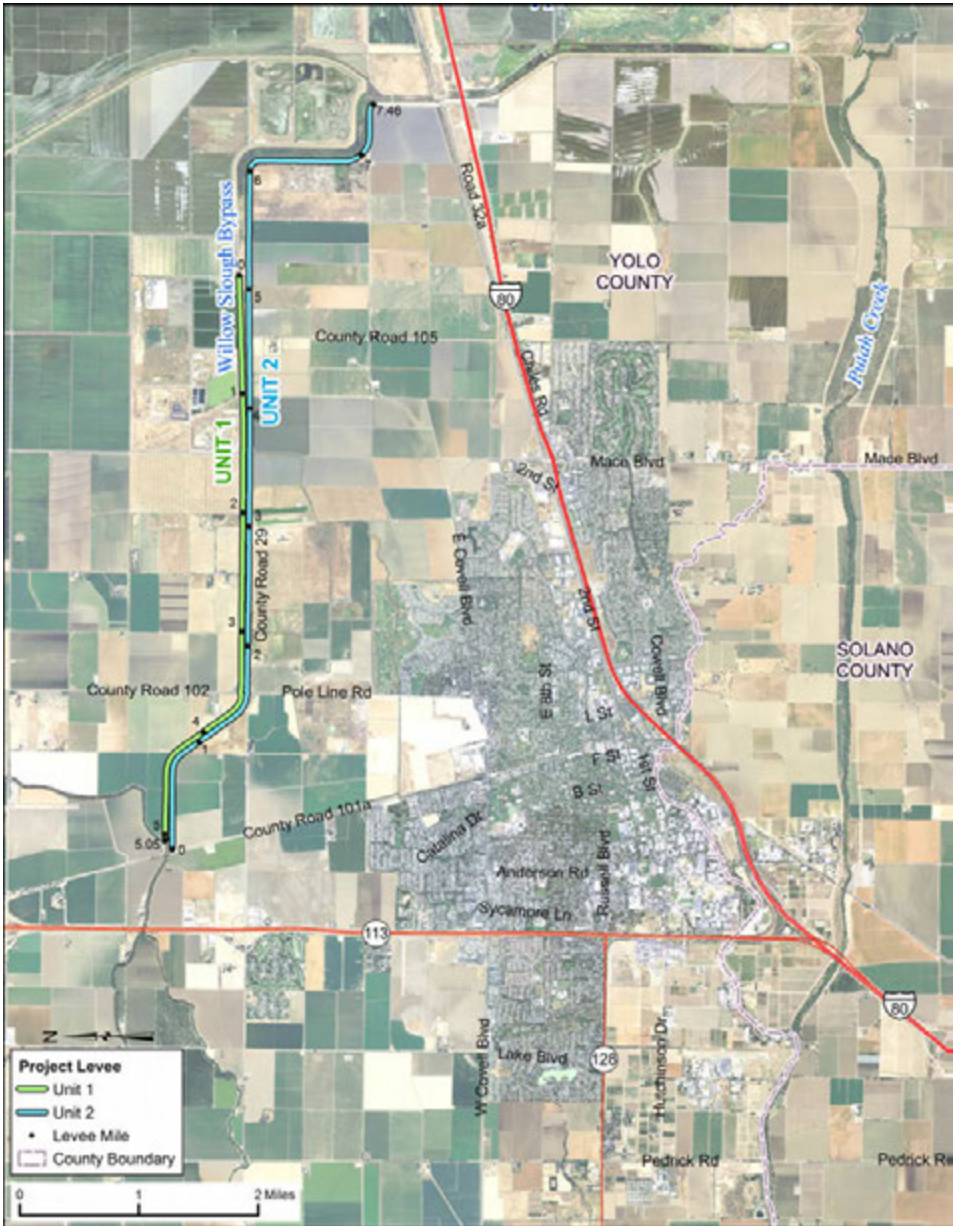
**Yolo County**

**Contact**

Russ Eckman  
Utility Craftworker Superintendent  
1450 River Bank Road  
West Sacramento CA 95605  
Phone: (916) 375-6004



Willow  
Slough



LMA Short Name : ST0012		Bank	Unit Length (Miles)
Unit No. 01	Willow Slough Bypass or North Levee	LB	5.05
Unit No. 02	Willow Slough Bypass or South Levee	RB	7.46

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should focus on repairing erosion sites.



### DWR Levee Inspection Summary

ST0012	Total LMA Miles		12.51									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control					0.02		0.02	0.16	0.02		0.02	0.16
Erosion / Bank Caving	0.05		0.05	0.40	0.15	0.01	0.19	1.52	0.10	0.01	0.14	1.12
Cracking					0.01		0.01	0.08	0.01		0.01	0.08
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.05	0.00	0.05	0.40	0.18	0.01	0.22	1.76 *	0.13	0.01	0.17	1.36

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

Willow  
Slough

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Cache Creek - RD 2035 - Willow Bypass	29.21	Inactive	06/20/2014	U
Putah Cr Unit 1 - Yolo Bypass - Willow Slgh Unit 2	19.74	Inactive	05/22/2013	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported 4 sites of berm erosion on Levee Unit 2, LM 1.10, 1.70, 2.20, and 2.70. The Agency also mentioned that 1,100 tons of riprap have been staged at LM 0.00 for use during a flood fight emergency.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of performed maintenance activities. Activities include burning, encroachment removal, gate and minor structure repairs, inspections, mowing, roadway grading, rodent control, slope dragging, and tree and vegetation control. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected, pending, and working progress for crown surface depressions, erosion, and vegetation.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of burning, encroachment removal, gate and minor structure repairs, inspections, mowing, roadway grading, rodent control, slope dragging, and tree and vegetation control. The reported total estimated cost for the current fiscal year is \$300,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is nothing to report on Part 5.

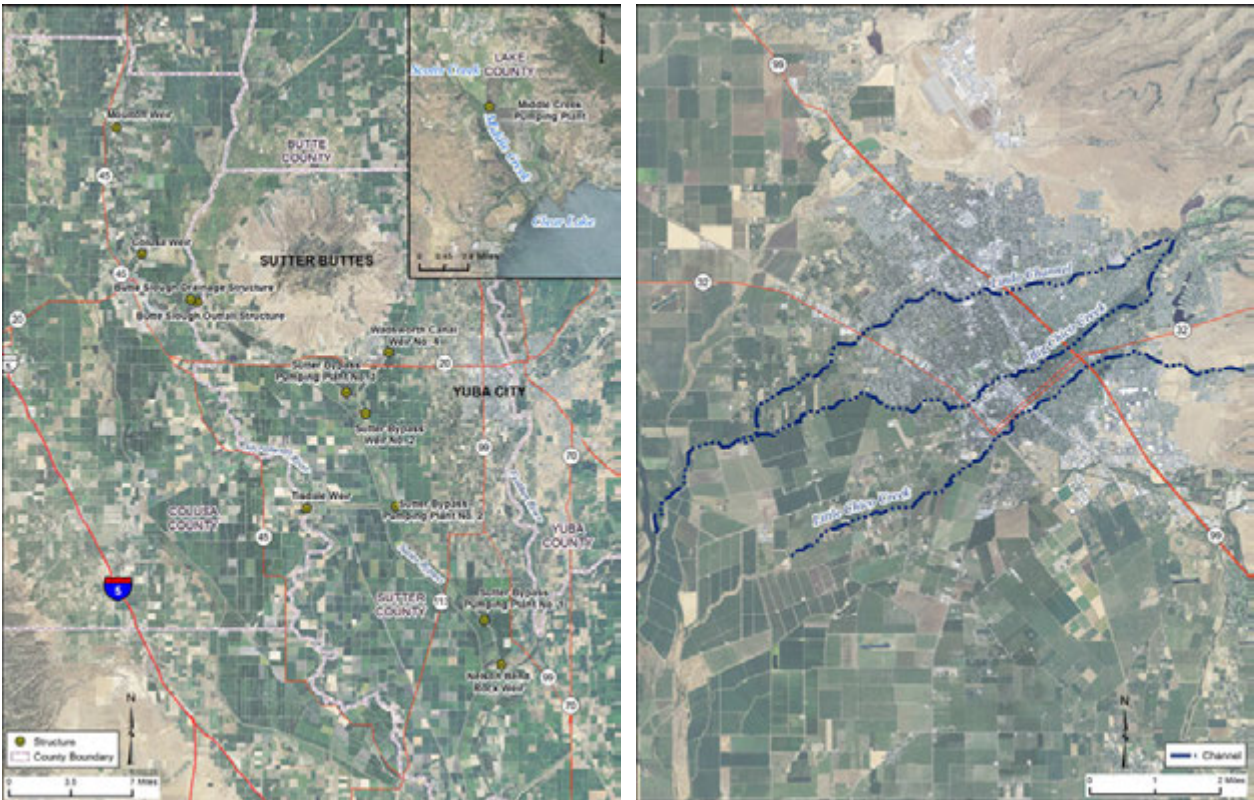
# **DWR Sutter Maintenance Yard**

## **Structures & Channels**

**Butte County**  
**Colusa County**  
**Lake County**  
**Sutter County**

### **Contact**

Joel Farias  
Utility Craftsworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



LMA Short Name : NA0060	Bank	Unit Length (Miles)
-------------------------	------	---------------------

No Units Associated with this District.

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last Channel inspection.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.
- The LMA should ensure that the SPFC structure is able to perform as designed and constructed.

DWR Levee Inspection Summary

Levees in this District are not Inspected.

DWR Structure Inspection Summary

Structure Name	Overall Rating
Butte Slough Drainage Structure	A
Butte Slough Outfall Structure	A
Colusa Weir	A
Goose Lake Overflow Structure	M
Highland Canal Diversion Weir And Drainage Structure	M

**DWR Structure Inspection Summary**

Little Chico Creek Control And Weir Structures	A
M&T Ranch Overflow Structure	A
Middle Creek Pumping Plant	A
Moulton Weir	A
Nelson Bend	A
Sutter Bypass Pumping Plant No. 1	A
Sutter Bypass Pumping Plant No. 2	A
Sutter Bypass Pumping Plant No. 3	A
Sutter Bypass Weir No. 2	A
Tisdale Weir	A
Wadsworth Canal Weir No. 4	A

**DWR Channel Inspection Summary**

Channel Name	Overall Rating
Big Chico Creek	A
Lindo Channel & Sandy Gulch	A
Little Chico Creek	M *

\* Overall channel rating average is less than 0.2; however, U Rated Miles are present, so the overall rating is M instead of A.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report**

No Reporting by this District.

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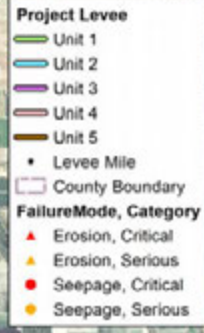
# **Sutter Maintenance Yard**

## **East Levee Sacramento River**

**Colusa County**

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



Unit No. 01	Sacramento River	LB	19.85
Unit No. 02	Colusa Bypass	RB	2.20
Unit No. 03	Colusa Bypass	LB	2.29
Unit No. 04	Moulton Bypass	RB	0.30
Unit No. 05	Moulton Bypass	LB	2.19

- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling woody vegetation.
- The LMA should focus on repairing erosion sites.

### DWR Levee Inspection Summary

ST0003	Total LMA Miles		26.82									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.04		0.04	0.15	0.04		0.04	0.15				0.00
Trim / Thin Trees	0.01		0.01	0.04	0.15		0.15	0.56	0.14		0.14	0.52
Encroachments	0.24		0.24	0.90					-0.24		-0.24	-0.90
Animal Control	0.01		0.01	0.04	0.01		0.01	0.04				0.00
Slope Stability	0.01		0.01	0.04	0.01		0.01	0.04				0.00
Erosion / Bank Caving	0.19		0.19	0.71	0.20	0.02	0.28	1.04	0.01	0.02	0.09	0.34
Supplemental												
USACE Erosion Survey	11.44		11.44	42.65	0.36		0.36	1.34	-11.08		-11.08	-41.31
DWR UCIP Field Study												0.00
LMA Totals:	11.94	0.00	11.94	44.52	0.77	0.02	0.85	3.17 *	-11.17	0.02	-11.09	-41.35

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

#### Unit No. 01 Sacramento River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SAC_152-6_L	152.60	11.53	11.79	eroding	M
SAC_157-7_R	157.70	11.85	11.90	eroding	M
SAC_152-8_L	152.80	11.85	11.90	eroding	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River East Levee - LD 3 Glenn County	38.36	Inactive	05/08/2013	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 Sacramento River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-13-13	Serious	Erosion	4.74	4.74	Left	39.213410	-121.991930
DWR_ST0003_01_s_2012_30	Critical	Erosion	6.76	6.79	Left	39.228311	-121.998555
160-3	Serious	Seepage	8.37		Left	39.247011	-121.999037
DWR_ST0003_01_s_2012_27	Serious	Erosion	10.49	10.47	Left	39.271494	-122.003497
160-35	Serious	Seepage	12.77	13.02	Left	39.297391	-122.014276

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include encroachment removal, inspections, minor structure maintenance, patrolling, restoration/habitat enhancement, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$296,300.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment control, inspections, minor structure maintenance, patrolling, restoration/habitat enhancement, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total estimated cost for the current fiscal year is \$320,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Sutter Maintenance Yard**

## **East Levee Sutter Bypass**

**Sutter County**

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



East Levee  
Sutter



LMA Short Name : ST0002		Bank	Unit Length (Miles)
Unit No. 01	Sutter Bypass Levee	LB	21.68

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should repair locations where the levee slope may be unstable.



**DWR Levee Inspection Summary**

ST0002	Total LMA Miles		21.68									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control	0.01		0.01	0.05					-0.01		-0.01	-0.05
Slope Stability					0.04		0.04	0.19	0.04		0.04	0.19
Erosion / Bank Caving		0.01	0.04	0.18						-0.01	-0.04	-0.18
Supplemental												
USACE Erosion Survey	0.07		0.07	0.32	0.03		0.03	0.14	-0.04		-0.04	-0.19
DWR UCIP Field Study												0.00
LMA Totals:	0.08	0.01	0.12	0.55 *	0.07	0.00	0.07	0.32	-0.01	-0.01	-0.05	-0.23

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

>>> DRAFT DATA <<<

**Unit No. 01 Sutter Bypass Levee, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SBP_11-1_L		10.88	10.91	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River right bank - Sutter Bypass east bank	66.72	Active	02/24/2014	U
Wadsworth Canal right bank - Sutter Bypass East	8.84	Inactive	10/18/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Sutter Bypass Levee**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-13-65	Critical	Seepage	7.90	8.66	Left	39.066360	-121.742320
164-18	Serious	Seepage	11.76		Left	39.012429	-121.723152
164-24	Critical	Seepage	21.29		Left	38.904832	-121.620151

East Levee  
Sutter

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include burning, crown roadway maintenance, encroachment control, inspections, levee restoration, minor structure maintenance, mowing, patrolling, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$612,100.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of burning, crown roadway maintenance, encroachment control, inspections, levee restoration, minor structure maintenance, mowing, patrolling, rodent control, slope dragging, and vegetation control. The reported total estimated cost for the current fiscal year is \$382,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

# Sutter Maintenance Yard East-West Interceptor

## **Contact**

Joel Farias  
Utility Craftsworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071

East - West  
Interceptor



LMA Short Name : ST0020		Bank	Unit Length (Miles)
Unit No. 01	West Levee	RB	1.75
Unit No. 02	East Levee	LB	3.05

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.

**DWR Levee Inspection Summary**

ST0020	Total LMA Miles		4.79									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	2.88		2.88	60.11	2.88		2.88	60.11				0.00
Encroachments	0.25		0.25	5.22	0.25		0.25	5.22				0.00
Erosion / Bank Caving	0.43	0.03	0.55	11.48	0.43	0.03	0.55	11.48	0.00			0.00
Rivers, Channels & Designated Floodways												
Erosion / Bank Caving		0.01	0.04	0.83		0.01	0.04	0.83				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	3.56	0.04	3.72	77.65	3.56	0.04	3.72	77.65	0.00	0.00	0.00	0.00

East - West  
Interceptor**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Interceptor Canal - East	3.03	Inactive	09/10/2010	U
Interceptor Canal - West	1.75	Inactive	10/18/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 West Levee**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_NA0020_01_s_2012_8	Serious	Erosion	0.89		Right	39.171335	-121.744039
63-1	Serious	Erosion	1.14		Right	39.171317	-121.748731
DWR_NA0020_01_s_2012_4	Serious	Erosion	1.14	1.11	Right	39.171292	-121.748868

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities for all levee units. Activities include minor structure maintenance, restoration, roadway maintenance, rodent control, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$41,900.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of inspections, minor structure maintenance, patrolling, restoration/habitat enhancements, roadway maintenance, rodent control, and vegetation control. The reported total estimated cost for the current fiscal year is \$31,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.



# **Sutter Maintenance Yard** **Hamilton Bend**

**Butte County**

**Contact**

Joel Farias  
Utility Craftsworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071

Hamilton  
Bend



LMA Short Name : ST0005		Bank	Unit Length (Miles)
Unit No. 01	Feather River Hamilton Bend	RB	3.39

Threat Assessment & Recommendations

- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling woody vegetation.

**DWR Levee Inspection Summary**

ST0005	Total LMA Miles		3.39									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					0.01		0.01	0.30	0.01		0.01	0.30
Trim / Thin Trees	1.95		1.95	57.45	1.96		1.96	57.74	0.01		0.01	0.29
Crown Surface / Depressions / Rutting	0.02		0.02	0.59	0.03	0.01	0.07	2.06	0.01	0.01	0.05	1.47
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	1.97	0.00	1.97	58.04	2.00	0.01	2.04	60.10	0.03	0.01	0.07	2.06

Hamilton  
Bend**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River - Hamilton - northeast of Afterbay	2.10	Inactive	07/22/2014	U
Feather River right bank - Sutter Bypass east bank	66.72	Active	02/24/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency reported no maintenance was performed during the previous fiscal year.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of roadway grading. The reported total estimated cost for the current fiscal year is \$20,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Sutter Maintenance Yard**

## **Maintenance Area 0001**

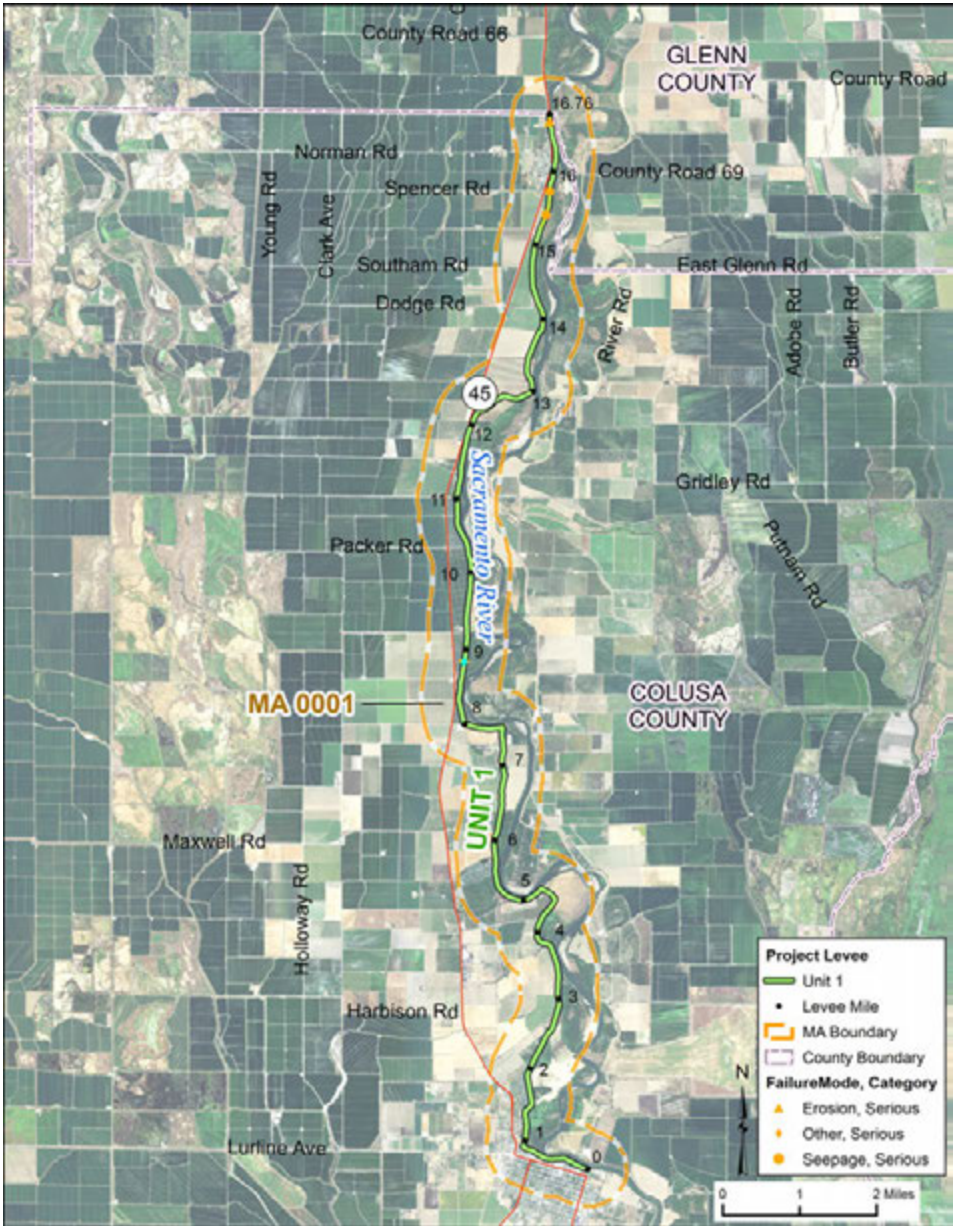
**Colusa County**

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



MA 1



LMA Short Name : MA0001		Bank	Unit Length (Miles)
Unit No. 01	Sacramento River	RB	16.76

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should focus more on controlling vegetation to maintain visibility and access.



**DWR Levee Inspection Summary**

MA0001	Total LMA Miles		16.76									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.04		0.04	0.24	0.04		0.04	0.24				0.00
Animal Control					0.02		0.02	0.12	0.02		0.02	0.12
Erosion / Bank Caving					0.01		0.01	0.06	0.01		0.01	0.06
Supplemental												
USACE Erosion Survey	0.24		0.24	1.43	0.68		0.68	4.06	0.44		0.44	2.62
DWR UCIP Field Study												0.00
LMA Totals:	0.28	0.00	0.28	1.67	0.75	0.00	0.75	4.47	0.47	0.00	0.47	2.80

MA 1

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Sacramento River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
SYC_9-3_L		0.44	0.49	eroding	M
SAC_151-0_R	151.00	4.86	5.26	eroding	M
SAC_164-3_R	164.30	16.35	16.58	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River west bank	119.72	Active	03/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Sacramento River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
380-25	Serious	Other	8.82	8.84	Right	39.309699	-122.030893
286-35	Serious	Seepage	15.22	15.74	Right	39.391890	-122.012370
USACE_CESPK_MA1C_2010_p_0554	Serious	Erosion	16.65		Right	39.411920	-122.010340
USACE_CESPK_MA1C_2010_p_0542	Serious	Erosion	16.66		Right	39.412140	-122.010010

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include encroachment control, inspections, minor structure maintenance, office overhead, restoration/habitat enhancements, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$239,500.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment control, engineering and environmental support, maintenance overhead, minor structure maintenance, mobile equipment, restoration/habitat enhancements, patrolling, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total estimated cost for the current fiscal year is \$519,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Sutter Maintenance Yard**

## **Maintenance Area 0003**

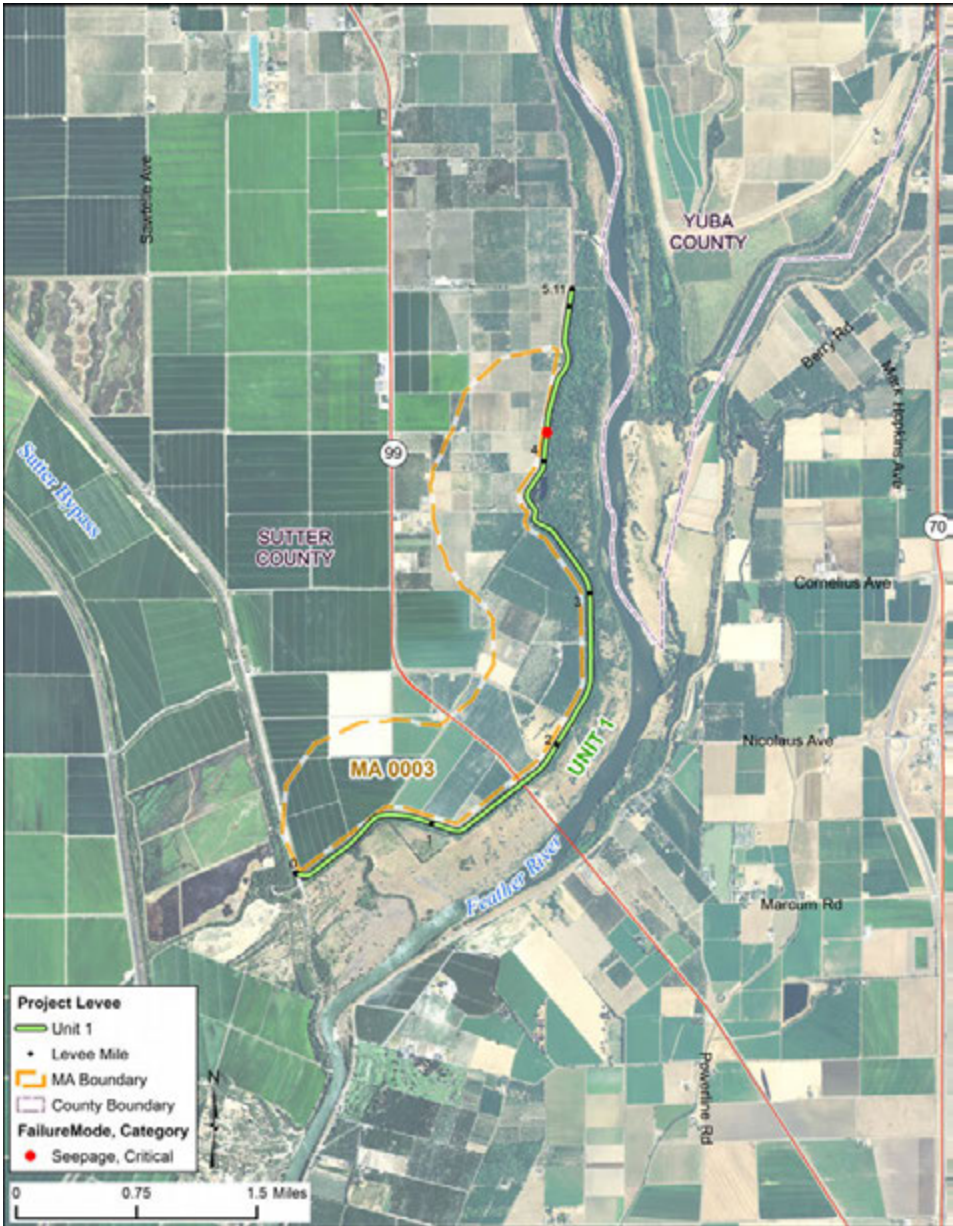
MA 3

### **Sutter County**

#### **Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071

MA 3



LMA Short Name : MA0003		Bank	Unit Length (Miles)
Unit No. 01	Feather River	RB	5.11

Threat Assessment & Recommendations

- The LMA should enhance its rodent control program.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.

**DWR Levee Inspection Summary**

MA0003	Total LMA Miles		5.11									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.20	0.01		0.01	0.20				0.00
Trim / Thin Trees					0.01		0.01	0.20	0.01		0.01	0.20
Animal Control					0.02		0.02	0.39	0.02		0.02	0.39
Slope Stability					0.01		0.01	0.20	0.01		0.01	0.20
Crown Surface / Depressions / Rutting		0.01	0.04	0.78	0.02		0.02	0.39	0.02	-0.01	-0.02	-0.39
Interior Drainage & Piping Systems												
Sluice / Slide Gates	0.01		0.01	0.20	0.01		0.01	0.20				0.00
Supplemental												
USACE Erosion Survey	0.02		0.02	0.39	0.09		0.09	1.76	0.07		0.07	1.37
DWR UCIP Field Study												0.00
LMA Totals:	0.04	0.01	0.08	1.57 *	0.17	0.00	0.17	3.33	0.13	-0.01	0.09	1.76

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

MA 3

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Feather River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
FHR_12-3_R	12.30	4.15	4.18	eroding	M
FHR_12-8_R	12.80	4.71	4.76	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River right bank - Sutter Bypass east bank	66.72	Active	02/24/2014	U

**DWR Flood System Repair Project Summary****Unit No. 01 Feather River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
101-1	Critical	Seepage	4.18		Right	38.937929	-121.588740

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include encroachment control, inspections, minor structure maintenance, patrolling, restoration, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$70,930.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment control, inspections, maintenance overhead, minor structure maintenance, mobile equipment, patrolling, restoration, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total estimated cost for the current fiscal year is \$73,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no information to report on Part 5.



# **Sutter Maintenance Yard**

## **Maintenance Area 0005**

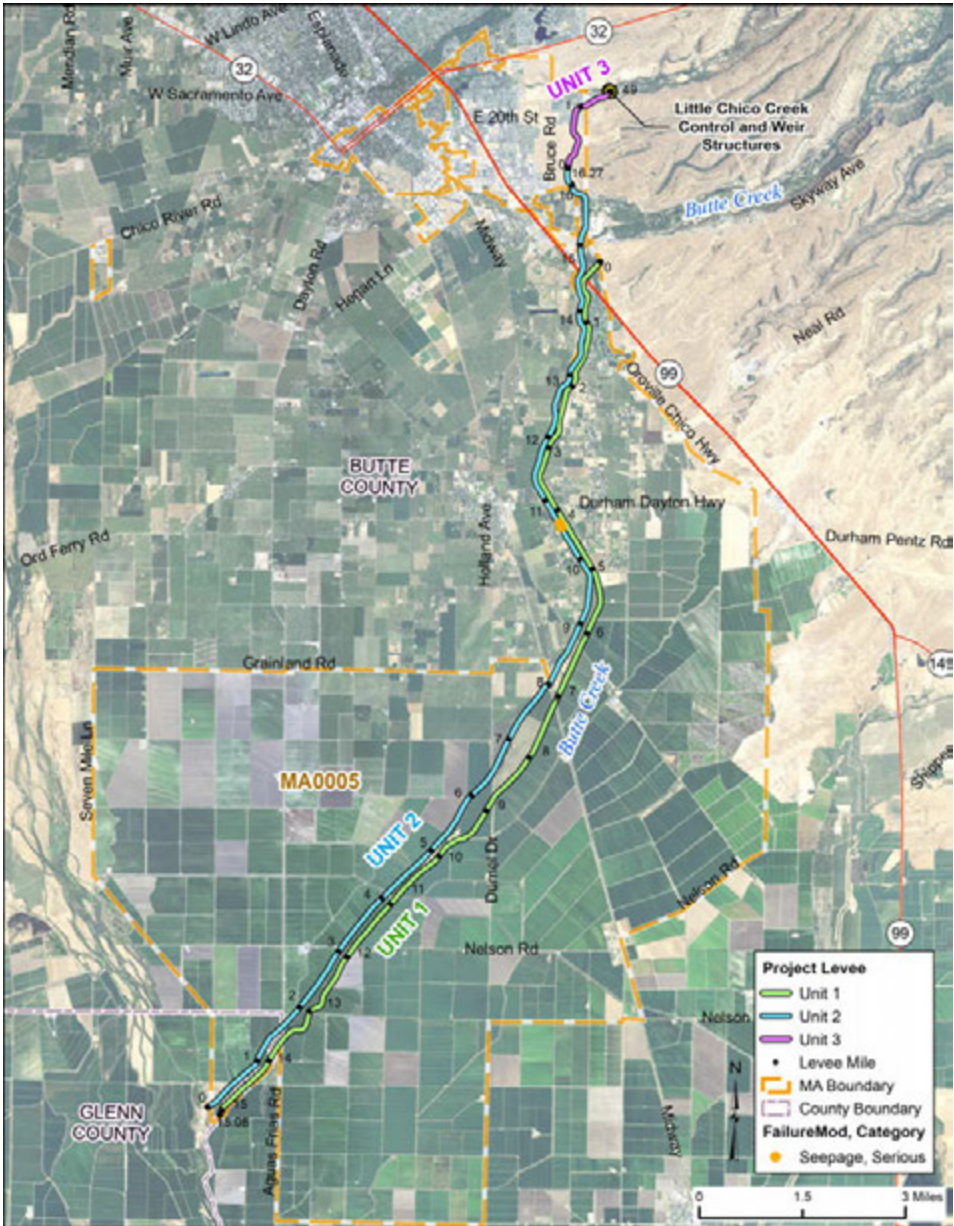
MA 5

**Butte County**  
**Glenn County**

**Contact**

Joel Farias  
Utility Craftsworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071

MA 5



LMA Short Name : MA0005		Bank	Unit Length (Miles)
Unit No. 01	Butte Creek	LB	15.08
Unit No. 02	Butte Creek	RB	16.27
Unit No. 03	Little Chico Creek Diversion	LB	1.49

Threat Assessment & Recommendations

- There are one or more locations of unstable slopes and/or cracking in this Area.
- The LMA should work with landowners and the CVFPB to control unauthorized encroachments.

**DWR Levee Inspection Summary**

MA0005	Total LMA Miles		32.84									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.02		0.02	0.06	0.02		0.02	0.06				0.00
Trim / Thin Trees	0.01		0.01	0.03	0.01		0.01	0.03				0.00
Encroachments	0.03		0.03	0.09	0.04		0.04	0.12	0.01		0.01	0.03
Slope Stability	0.05	0.01	0.09	0.27	0.05	0.01	0.09	0.27				0.00
Repair Gates	0.01		0.01	0.03	0.01		0.01	0.03				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.12	0.01	0.16	0.49 *	0.13	0.01	0.17	0.52 *	0.01	0.00	0.01	0.03

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

MA 5

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
MA 05 Unit 1 - Butte Creek left bank	15.08	Inactive	03/26/2013	U
MA 05 Unit 2 - Butte Creek right bank	16.71	Inactive	03/27/2013	U

**DWR Flood System Repair Project Summary****Unit No. 02 Butte Creek**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
263-6	Serious	Seepage	10.54		Right	39.641017	-121.783046
263-7	Serious	Seepage	10.60		Right	39.641757	-121.783607

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include encroachment control, inspections, Little Chico diversion structure maintenance, minor structure maintenance, patrolling, restoration, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$285,770.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment control, inspections, Little Chico diversion structure maintenance, maintenance overhead, minor structure maintenance, mobile equipment, patrolling, restoration, roadway maintenance, rodent control, slope dragging, telemetry maintenance, and vegetation control. The reported total estimated cost for the current fiscal year is \$417,400.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no information to report on Part 5.

MA 5

# **Sutter Maintenance Yard**

## **Maintenance Area 0007**

MA 7

### **Butte County**

#### **Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



MA 7



LMA Short Name : MA0007		Bank	Unit Length (Miles)
Unit No. 01	Feather River	RB	11.90

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should focus on repairing erosion sites.



**DWR Levee Inspection Summary**

MA0007	Total LMA Miles		11.90									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.08					-0.01		-0.01	-0.08
Trim / Thin Trees	0.01		0.01	0.08					-0.01		-0.01	-0.08
Animal Control	0.01		0.01	0.08					-0.01		-0.01	-0.08
Erosion / Bank Caving					1.70		1.70	14.29	1.70		1.70	14.29
Supplemental												
USACE Erosion Survey	0.02		0.02	0.17	0.23		0.23	1.93	0.21		0.21	1.77
DWR UCIP Field Study												0.00
LMA Totals:	0.05	0.00	0.05	0.42	1.93	0.00	1.93	16.23	1.88	0.00	1.88	15.81

MA 7

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Feather River, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
FHR_47-5_R	47.50	1.55	1.71	eroding	M
FHR_50-9_R	50.90	4.39	4.46	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River right bank - Sutter Bypass east bank	66.72	Active	02/24/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include inspections, minor structure maintenance, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$26,700.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment removal, engineering and environmental support, minor structure maintenance, mobile equipment, patrolling, restoration/habitat enhancements, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total estimated cost for the current fiscal year is \$128,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Sutter Maintenance Yard**

## **Maintenance Area 0012**

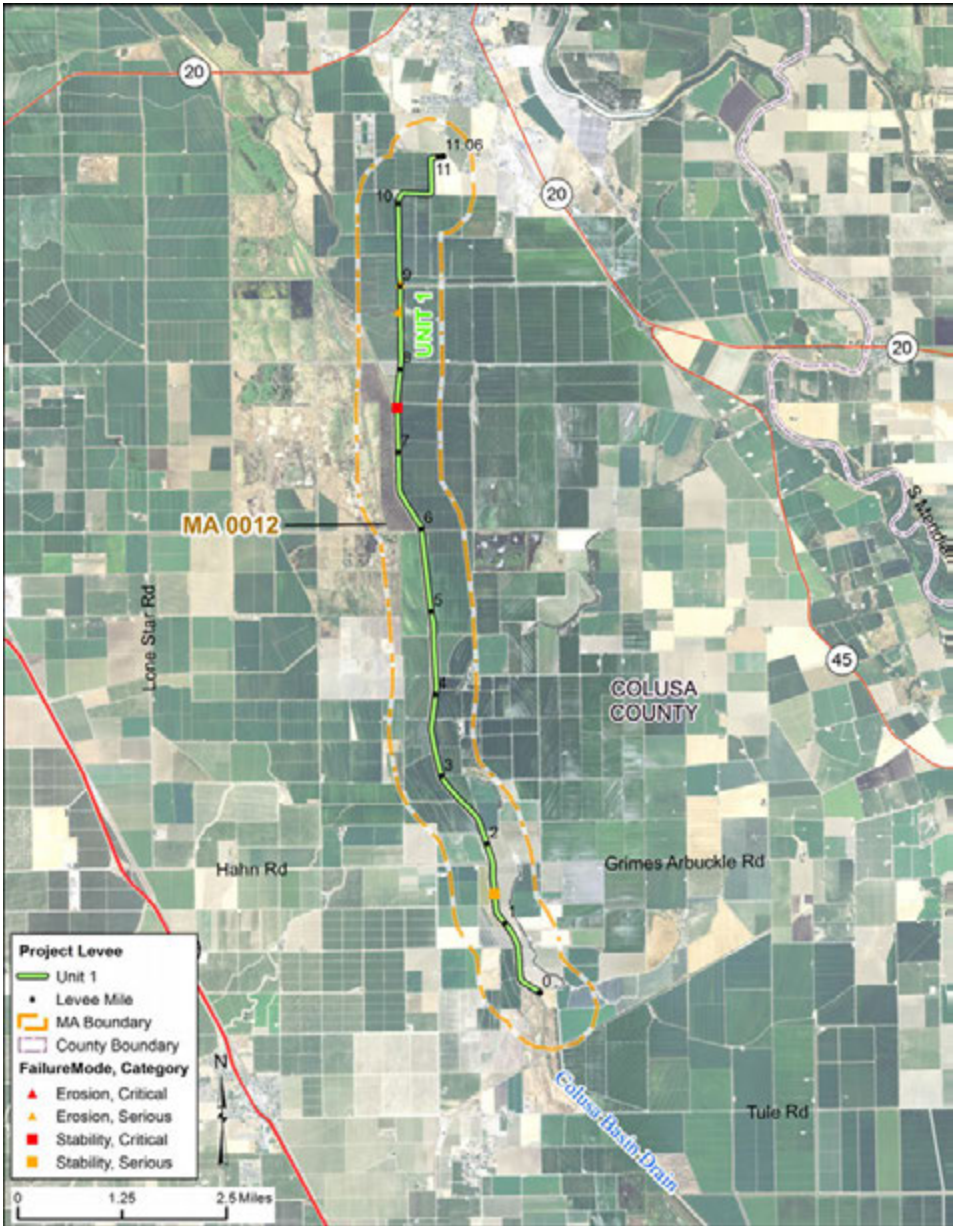
MA 12

**Colusa County**

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071

MA 12



LMA Short Name : MA0012		Bank	Unit Length (Miles)
Unit No. 01	Colusa Drain	LB	11.06

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should enhance its rodent control program.

**DWR Levee Inspection Summary**

MA0012	Total LMA Miles		11.06									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control					0.01		0.01	0.09	0.01		0.01	0.09
Slope Stability	0.01		0.01	0.09					-0.01		-0.01	-0.09
Repair Gates	0.01		0.01	0.09					-0.01		-0.01	-0.09
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.02	0.00	0.02	0.18	0.01	0.00	0.01	0.09	-0.01	0.00	-0.01	-0.09

**DWR Structure Inspection Summary**

MA 12

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Sacramento River west bank	119.72	Active	03/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Colusa Drain**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-13-4	Serious	Stability	1.39		Left Bank	39.051320	-122.003040
DWR_MA0012_01_R_2012_02	Critical	Stability	7.51	7.48	Left	39.136150	-122.022675
DWR_MA0012_01_R_2012_01	Serious	Erosion	8.76	8.65	Left	39.154220	-122.021720
DWR_MA0012_01_s_2012_7	Serious	Erosion	9.03		Left	39.158120	-122.021680

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include costs of encroachment control, inspections, minor structure maintenance, restoration/habitat enhancements, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$97,200.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of administrative overhead, encroachment control, engineering and environmental support, minor structure maintenance, mobile equipment, patrolling, restoration/habitat enhancements, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total estimated cost for the current fiscal year is \$103,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



# **Sutter Maintenance Yard**

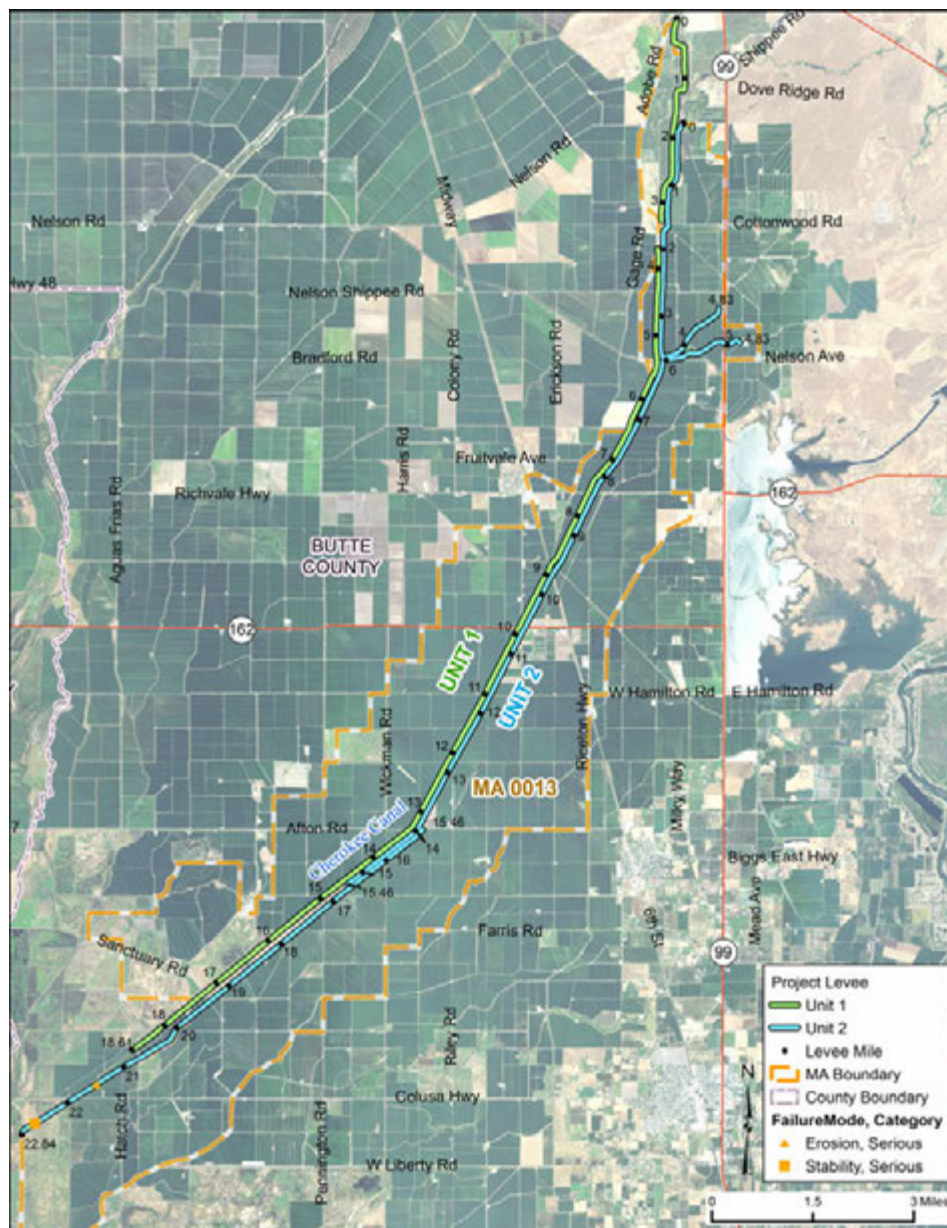
## **Maintenance Area 0013**

MA 13

**Butte County**

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



LMA Short Name : MA0013

Bank Unit Length (Miles)

Unit No. 01	Cherokee Canal	RB	18.19
Unit No. 02	Cherokee Canal	LB	22.84

### Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.

**DWR Levee Inspection Summary**

MA0013	Total LMA Miles		41.03									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation												0.00
Trim / Thin Trees	0.30		0.30	0.73	0.29		0.29	0.71	-0.01		-0.01	-0.02
Encroachments	0.15		0.15	0.37	0.06		0.06	0.15	-0.09		-0.09	-0.22
Animal Control					0.01		0.01	0.02	0.01		0.01	0.02
Slope Stability	0.01		0.01	0.02					-0.01		-0.01	-0.02
Erosion / Bank Caving	0.02		0.02	0.05	0.02		0.02	0.05				0.00
Crown Surface / Depressions / Rutting					1.64		1.64	4.00	1.64		1.64	4.00
Supplemental												
USACE Erosion Survey	0.01		0.01	0.02	0.01		0.01	0.02				0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.49	0.00	0.49	1.19	2.03	0.00	2.03	4.95	1.54	0.00	1.54	3.75

MA 13

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

**Unit No. 01 Cherokee Canal, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
CHK_11-7_R		11.58	11.59	eroding	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
MA 13 Unit 1 - Cherokee Canal right bank	18.18	Inactive	05/08/2013	U
MA 13 Unit 2 north - Cherokee Canal left bank	4.78	Inactive	05/08/2013	U
MA 13 Unit 2 south - Cherokee Canal left bank	18.08	Inactive	05/08/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Cherokee Canal**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
108-5	Critical	Other	3.69		Right	39.547020	-121.707622

**Unit No. 02 Cherokee Canal**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
USACE_CESPK_M13E_2011_p_0239	Serious	Erosion	21.48	21.53	Left	39.365140	-121.861930
USACE_CESPK_M13E_2011_p_0317	Serious	Stability	22.58		Left	39.356440	-121.879120

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include encroachment control, inspections, minor structure maintenance, patrolling, restoration, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$246,530.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment control, inspections, minor structure maintenance, mobile equipment, patrolling, restoration, roadway maintenance, rodent control, slope dragging, telemetry maintenance, and vegetation control. The reported total estimated cost for the current fiscal year is \$261,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no information to report on Part 5.

# **Sutter Maintenance Yard**

## **Maintenance Area 0016**

**Sutter County**

MA 16

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071





MA 16

LMA Short Name : MA0016		Bank	Unit Length (Miles)
Unit No. 01	Feather River	RB	4.06

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.



**DWR Levee Inspection Summary**

MA0016	Total LMA Miles		4.06									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation												0.00
Animal Control	0.01		0.01	0.25					-0.01		-0.01	-0.25
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.01	0.00	0.01	0.25	0.00	0.00	0.00	0.00	-0.01	0.00	-0.01	-0.25

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

MA 16

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River right bank - Sutter Bypass east bank	66.72	Active	02/24/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include encroachment control, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$7,600.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of administrative overhead, encroachment control, minor structure maintenance, mobile equipment, restoration/habitat enhancements, patrolling, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total estimated cost for the current fiscal year is \$307,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Sutter Maintenance Yard** **Maintenance Area 0017**

**Lake County**

MA 17

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



MA 17

LMA Short Name : MA0017		Bank	Unit Length (Miles)
Unit No. 01	Lake County Sutter Maintenance Yard - Middle Creek	LB	3.87

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on controlling woody vegetation.

**DWR Levee Inspection Summary**

MA0017	Total LMA Miles		3.87									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation		3.13	12.52	323.13						-3.13	-12.52	-323.13
Trim / Thin Trees		3.12	12.48	322.10		3.14	12.56	324.16		0.02	0.08	2.06
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	6.25	25.00	645.23	0.00	3.14	12.56	324.16	0.00	-3.11	-12.44	-321.07

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

MA 17

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Middle Creek left bank - Unit 1 at Clear Lake	1.33	Inactive	01/20/2015	U
Middle Creek left bank - Unit 1 south	3.51	Inactive	01/20/2015	U

**DWR Flood System Repair Project Summary****Unit No. 01 Lake County Sutter Maintenance Yard - Middle Creek**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
81-10	Critical	Seepage	4.77		Left	39.134166	-122.898473
81-8	Critical	Seepage	5.43	5.33	Left	39.127431	-122.891920

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include encroachment control, inspections, minor structure maintenance, patrolling, restoration, roadway maintenance, rodent control, telemetry maintenance, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$76,980.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of encroachment control, inspections, maintenance overhead, minor structure maintenance, mobile equipment, patrolling, plant operations and maintenance, restoration, roadway maintenance, rodent control, telemetry maintenance, and vegetation control. The reported total estimated cost for the current fiscal year is \$104,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no information to report on Part 5.



# **Sutter Maintenance Yard**

## **Murphy Slough at M&T Ranch**

M&T Ranch

### **Contact**

Joel Farias  
Utility Craftsworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



M&T Ranch

LMA Short Name : ST0014		Bank	Unit Length (Miles)
Unit No. 01	Murphy Slough at M&T Ranch	LB	0.83

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

### DWR Levee Inspection Summary

ST0014	Total LMA Miles		0.83									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.38		0.38	45.67	0.18		0.18	21.63	-0.20		-0.20	-24.04
LMA Totals:	0.38	0.00	0.38	45.67	0.18	0.00	0.18	21.63	-0.20	0.00	-0.20	-24.04

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

No Supplemental Erosion Sites.

M&T Ranch

### USACE Inspection Ratings Summary

No USACE Ratings available.

### DWR Flood System Repair Project Summary

No POI Repair Sites.

### DWR Summary of Local Maintaining Agency Report

**Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency mentioned no maintenance was performed during the previous fiscal year.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency reported the total estimated cost for the current fiscal year as \$10,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

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# **Sutter Maintenance Yard**

## **Nelson Bend**

**Sutter County**

Nelson  
Bend

**Contact**

Joel Farias  
Utility Craftsworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071



Nelson Bend

LMA Short Name : ST0006		Bank	Unit Length (Miles)
Unit No. 01	Feather River West Levee - Nelson Bend		0.50

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.



**DWR Levee Inspection Summary**

ST0006	Total LMA Miles		0.50									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.55		0.55	110.64	0.06	0.84	3.42	687.99	-0.49	0.84	2.87	577.35
Trim / Thin Trees	0.44		0.44	88.51					-0.44		-0.44	-88.51
LMA Totals:	0.99	0.00	0.99	199.15	0.06	0.84	3.42	687.99	-0.93	0.84	2.43	488.83

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

Nelson  
Bend**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River - Nelsen Bend West Levee	0.55	Inactive	07/22/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no information for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include minor structure repair and maintenance. The reported total maintenance cost for the previous fiscal year was \$37,580.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of vegetation control. The reported total estimated cost for the current fiscal year is \$33,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no information for Part 5.

# **Sutter Maintenance Yard**

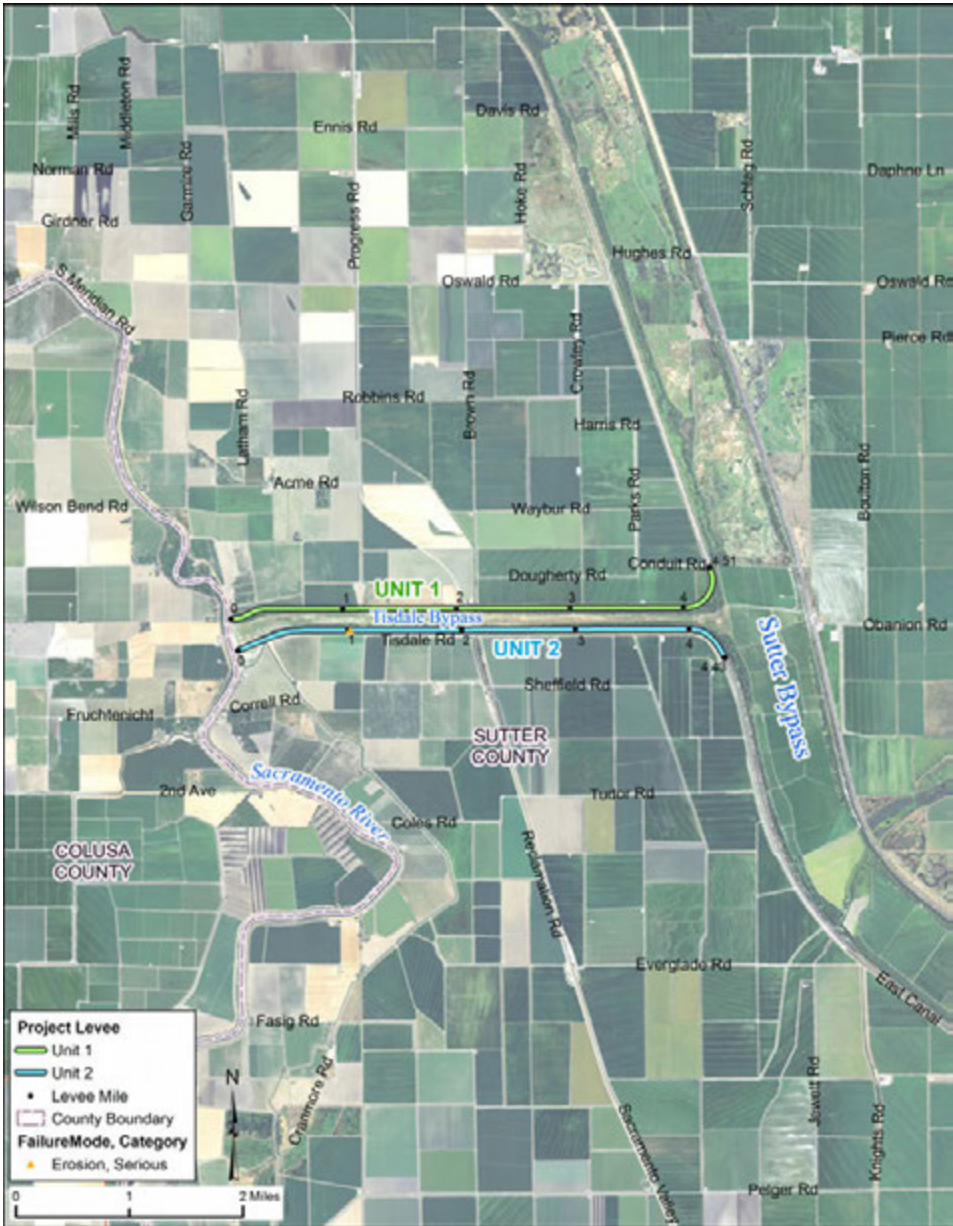
## **Tisdale Bypass**

**Sutter County**

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071

Tisdale  
Bypass



LMA Short Name : ST0009		Bank	Unit Length (Miles)
Unit No. 01	Tisdale Bypass	LB	4.51
Unit No. 02	Tisdale Bypass	RB	4.43

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.

**DWR Levee Inspection Summary**

ST0009	Total LMA Miles		8.94									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Erosion / Bank Caving	0.03		0.03	0.34	0.04		0.04	0.45	0.01		0.01	0.11
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.03	0.00	0.03	0.34	0.04	0.00	0.04	0.45	0.01	0.00	0.01	0.11

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**USACE 2015 Sacramento River Erosion Summary**

&gt;&gt;&gt; DRAFT DATA &lt;&lt;&lt;

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0070 and RD 1660 - Sutter Basin North	39.90	Inactive	10/18/2013	U
RD 1500 and Tisdale Bypass - Sutter Basin South	59.22	Inactive	09/08/2014	M

**DWR Flood System Repair Project Summary****Unit No. 02 Tisdale Bypass**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_ST0009_02_s_2012_3	Serious	Erosion	1.01		Right	39.025542	-121.802468

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include channel maintenance, inspections, minor structure maintenance, patrolling, restoration/habitat enhancements, roadway maintenance, rodent control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$284,000.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of channel maintenance, encroachment control, levee restoration/habitat enhancements, minor structure maintenance, patrolling, roadways maintenance, rodent control, slope dragging, and vegetation control. The reported total estimated cost for the current fiscal year is \$186,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



# **Sutter Maintenance Yard**

## **Wadsworth Canal**

**Sutter County**

**Contact**

Joel Farias  
Utility Craftworker Superintendent  
P.O Box 40  
Sutter CA 95982  
Phone: (530) 755-0071

Wadsworth  
Canal



LMA Short Name : ST0010		Bank	Unit Length (Miles)
Unit No. 01	Wadsworth Canal	LB	4.63
Unit No. 02	Wadsworth Canal	RB	4.60

Threat Assessment & Recommendations

- There is a significant erosion site in this Area that should be monitored.
- The LMA should focus on repairing erosion sites.

### DWR Levee Inspection Summary

ST0010	Total LMA Miles		9.22									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control	0.02		0.02	0.22	0.01		0.01	0.11	-0.01		-0.01	-0.11
Slope Stability	0.01		0.01	0.11	0.01		0.01	0.11				0.00
Erosion / Bank Caving	0.53		0.53	5.75	0.48	0.01	0.52	5.64	-0.05	0.01	-0.01	-0.11
Supplemental												
USACE Erosion Survey	0.05		0.05	0.54	3.04		3.04	32.96	2.99		2.99	32.42
DWR UCIP Field Study												0.00
LMA Totals:	0.61	0.00	0.61	6.61	3.54	0.01	3.58	38.81	2.93	0.01	2.97	32.20

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### USACE 2015 Sacramento River Erosion Summary

>>> DRAFT DATA <<<

#### Unit No. 01 Wadsworth Canal, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
WAD_2-1_L		1.75	2.39	eroding	M
WAD_2-4_L		2.43	3.30	eroding	M

#### Unit No. 02 Wadsworth Canal, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Status	Rating
WAD_2-1_R		1.74	2.37	eroding	M
WAD_2-4_R		2.41	3.28	eroding	M
WAD_4-3_R		4.41	4.43	eroding	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Feather River right bank - Sutter Bypass east bank	66.72	Active	02/24/2014	U
Wadsworth Canal right bank - Sutter Bypass East	8.84	Inactive	10/18/2013	U

**DWR Flood System Repair Project Summary****Unit No. 01 Wadsworth Canal**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_ST0010_01_s_2012_13	Serious	Erosion	3.29		Right	39.152875	-121.734320

**Unit No. 02 Wadsworth Canal**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_ST0010_02_s_2012_14	Serious	Erosion	3.26		Right	39.152903	-121.734906
DWR_ST0010_02_s_2012_4	Serious	Erosion	3.42		Right	39.155057	-121.733985
DWR_ST0010_02_s_2012_5	Serious	Erosion	3.54	3.93	Right	39.156753	-121.733267
DWR_ST0010_02_s_2012_13	Serious	Erosion	4.41	4.43	Right	39.168659	-121.728016

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no information for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of expenses and accomplished maintenance activities. Activities include burning, crown roadway maintenance, encroachment control, erosion repair, inspections, levee restoration, minor structure maintenance, mowing, patrolling, rodent control, seepage control, slope dragging, and vegetation control. The reported total maintenance cost for the previous fiscal year was \$97,070.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no information for Part 5.

## Appendix **B**

# San Joaquin River Individual Agency Summary Reports

San Joaquin River Basin include 29 local maintaining Areas that maintain Project Levees, Structures, and Channels. Out of 29 Areas, there are 24 RDs and 5 NAs. Appendix B includes an index to the San Joaquin River Basin Areas, a system map to show the locations of each reporting Area, and individual Area summary profiles.

Appendix B includes:

- San Joaquin River Basin Area Index
- San Joaquin River System Map
- Individual local Area Summary Profiles, San Joaquin River Basin

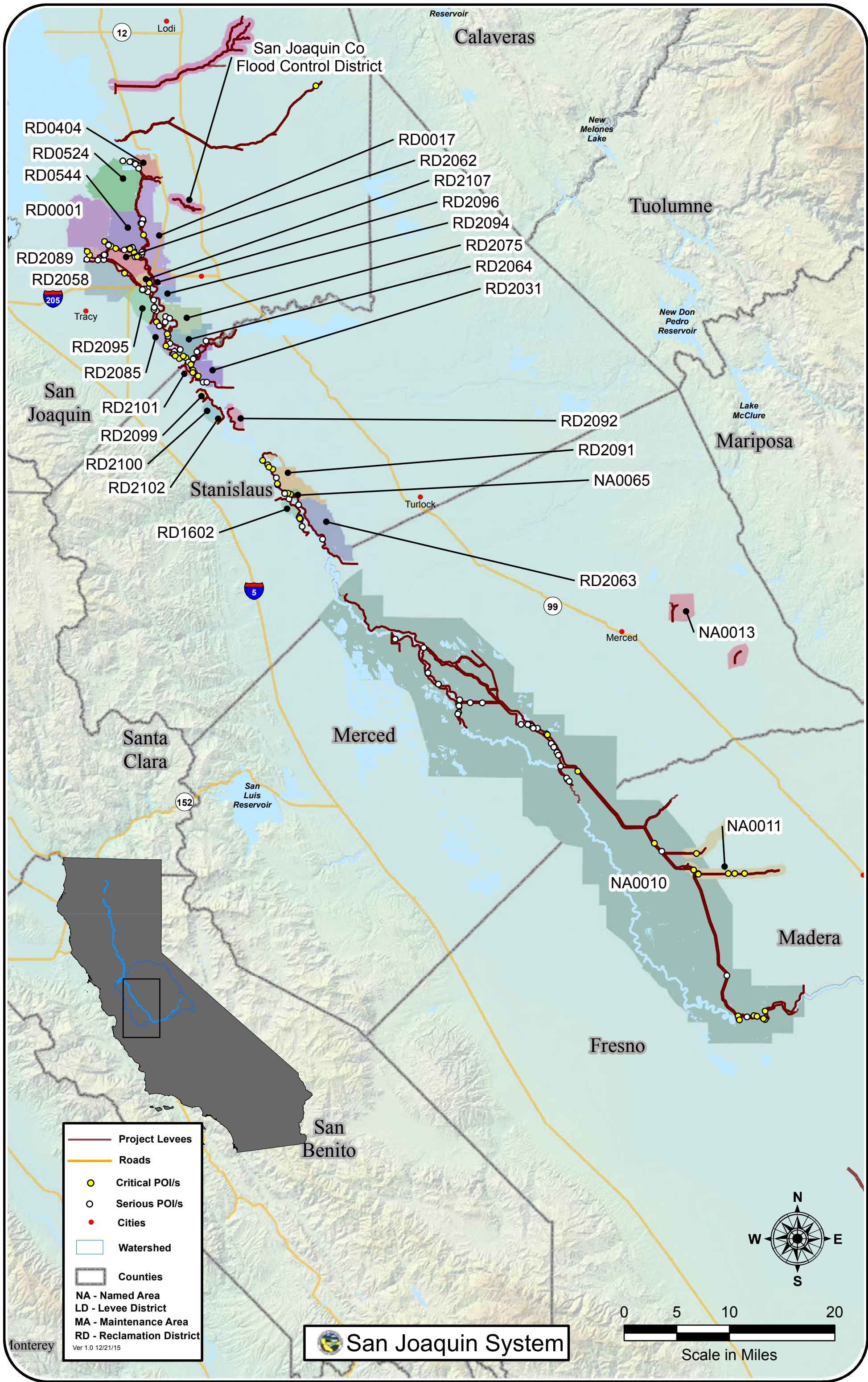
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Local Agencies & Areas	County	Tab Name	Short Name	Page
<b>Reclamation Districts</b>				
Reclamation District No. 0001 Union Island	San Joaquin	RD 1	RD0001	B - 5
Reclamation District No. 0017 Mossdale	San Joaquin	RD 17	RD0017	B - 9
Reclamation District No. 0404 Boggs	San Joaquin	RD 404	RD0404	B - 13
Reclamation District No. 0524 Middle Roberts Island	San Joaquin	RD 524	RD0524	B - 17
Reclamation District No. 0544 Upper Roberts Island	San Joaquin	RD 544	RD0544	B - 23
Reclamation District No. 1602 Del Puerto	San Joaquin	RD 1602	RD1602	B - 29
Reclamation District No. 2031 Elliot	Stanislaus	RD 2031	RD2031	B - 33
Reclamation District No. 2058 Pescadero	San Joaquin	RD 2058	RD2058	B - 37
Reclamation District No. 2062 Stewart	San Joaquin	RD 2062	RD2062	B - 41
Reclamation District No. 2063 Crows Landing	Merced	RD 2063	RD2063	B - 45
Reclamation District No. 2064 River Junction	San Joaquin	RD 2064	RD2064	B - 49
Reclamation District No. 2075 McMullin	San Joaquin	RD 2075	RD2075	B - 53
Reclamation District No. 2085 Kasson	San Joaquin	RD 2085	RD2085	B - 57
Reclamation District No. 2089 Stark	San Joaquin	RD 2089	RD2089	B - 61
Reclamation District No. 2091 Chase	Stanislaus	RD 2091	RD2091	B - 65
Reclamation District No. 2092 Dos Rios	Stanislaus	RD 2092	RD2092	B - 69
Reclamation District No. 2094 Wathal	San Joaquin	RD 2094	RD2094	B - 73
Reclamation District No. 2095 Paradise Cut	San Joaquin	RD 2095	RD2095	B - 77
Reclamation District No. 2096 Wetherbee Lake	San Joaquin	RD 2096	RD2096	B - 81
Reclamation District No. 2099 El Solyo Ranch	Stanislaus	RD 2099	RD2099	B - 85
Reclamation District No. 2100 White Lake Ranch	Stanislaus	RD 2100	RD2100	B - 89
Reclamation District No. 2101 Blewett	Stanislaus	RD 2101	RD2101	B - 93
Reclamation District No. 2102 Lara Ranch	Stanislaus	RD 2102	RD2102	B - 97
Reclamation District No. 2107 Mossdale Island	San Joaquin	RD 2107	RD2107	B - 101
<b>Named Areas</b>				
Lower San Joaquin Levee District	Fresno	LSJLD	NA0010	B - 105
Madera County FCWCA	Madera	Madera County	NA0011	B - 113
Merced Streams Group	Merced	Merced County	NA0013	B - 117
San Joaquin County Flood Control and Water Conservation District	San Joaquin	San Joaquin County	NA0017	B - 121
Turlock Irrigation District Gomes Lake	Stanislaus	TID	NA0065	B - 129

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# **Reclamation District No. 0001**

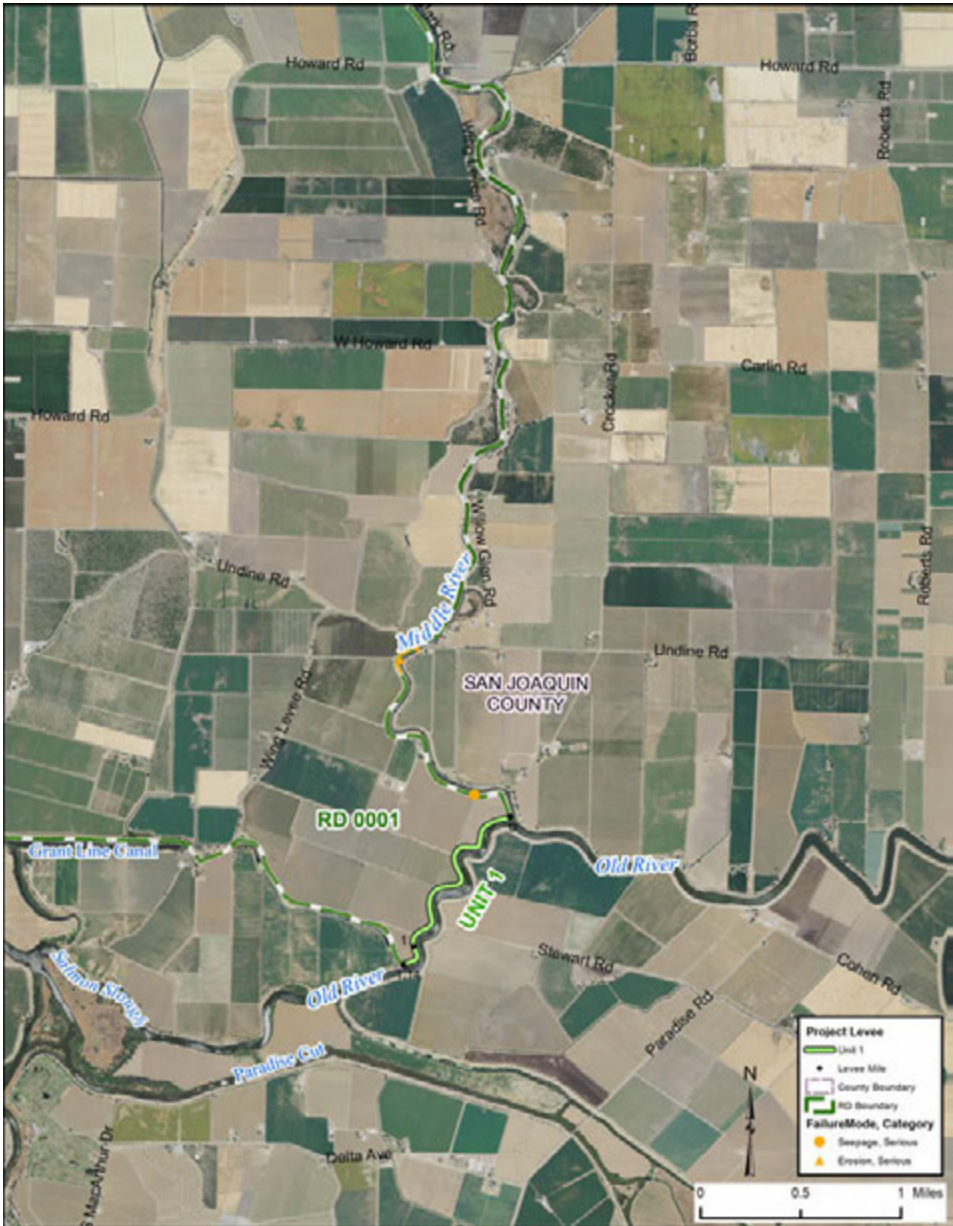
## **Union Island**

**San Joaquin County**

**Contact**

Bruno Marchini  
Chairman  
343 East Main Street  
Suite 815  
Stockton CA 95202  
Phone: (209) 943-5551

RD 1



LMA Short Name : RD0001		Bank	Unit Length (Miles)
Unit No. 01	Old River	RB	1.14

Threat Assessment & Recommendations

- There is significant rodent activity in this Area.
- The LMA should enhance its rodent control program.

### DWR Levee Inspection Summary

RD0001	Total LMA Miles		1.14									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.21		0.21	18.45					-0.21		-0.21	-18.45
Encroachments	0.02		0.02	1.76					-0.02		-0.02	-1.76
Animal Control	0.04		0.04	3.52		0.01	0.04	3.51	-0.04	0.01		0.00
Slope Stability	0.01		0.01	0.88	0.01		0.01	0.88				0.00
Erosion / Bank Caving	0.01		0.01	0.88					-0.01		-0.01	-0.88
Supplemental												
DWR Erosion Survey	0.01		0.01	0.88	0.01		0.01	0.88				0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.30	0.00	0.30	26.36	0.02	0.01	0.06	5.27 *	-0.28	0.01	-0.24	-21.09

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

#### Unit No. 01 Old River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD0001U01RM31.4	31.4	0.00	0.00	Maintenance Erosion	Existing Site	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0001 and RD 2089 - Union Island	3.92	Inactive	09/09/2015	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 Old River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
5010-3	Serious	Seepage	0.11		Left	37.824060	-121.378780



**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported routine maintenance is ongoing and noted encroachment enforcement remains an ongoing process that is leading to varied success.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include erosion repair, inspections, rodent baiting and grouting, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided an estimated budget for the routine maintenance based on prior year's expenditure. The reported total estimated budget for the fiscal year is \$161,200.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Reclamation District No. 0017**

## **Mossdale**

**San Joaquin County**

**Contact**

Henry Long  
President  
P.O Box 844  
Stockton CA 95201-0844  
Phone: (209) 946-0268

RD 17



LMA Short Name : RD0017		Bank	Unit Length (Miles)
Unit No. 01	French Camp Slough	LB	1.76
Unit No. 02	San Joaquin River	RB	14.27

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should focus on repairing erosion sites.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

### DWR Levee Inspection Summary

RD0017	Total LMA Miles		16.03									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.03		0.03	0.19	0.03	0.01	0.07	0.44		0.01	0.04	0.25
Trim / Thin Trees	0.02		0.02	0.13	0.01		0.01	0.06	-0.01		-0.01	-0.06
Supplemental												
DWR Erosion Survey	0.06	0.01	0.10	0.62	0.04	0.01	0.08	0.50	-0.02		-0.02	-0.12
DWR UCIP Field Study												0.00
LMA Totals:	0.11	0.01	0.15	0.94 *	0.08	0.02	0.16	1.00 *	-0.03	0.01	0.01	0.06

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

#### Unit No. 02 San Joaquin River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD0017U02RM44.32	44.32	1.08	1.08	River Erosion	Existing Site	U
RD0017U02RM44.52	44.52	1.29	1.29	River Erosion	Repaired Site	C
RD0017U02RM45.94	45.94	2.66	2.66	River Erosion	Repaired Site	C
RD0017U02RM45.95	45.95	2.67	2.69	River Erosion	Existing Site	M
RD0017U02RM46.03	46.03	2.78	2.79	River Erosion	Repaired Site	C
RD0017U02RM46.1	46.1	2.82	2.82	Maintenance Erosion	Existing Site	M
RD0017U02RM46.89	46.89	3.63	3.63	Maintenance Erosion	Existing Site	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0017, 2094, 2096, 2075, 2064 - SJ River East	38.45	Active	12/17/2010	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency stated that the annual operating budget for the current fiscal year is between \$500,000 and \$600,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# Reclamation District No. 0404

## Boggs

**San Joaquin County**

**Contact**

Jason P. Cashman  
President  
P.O. Box 1461  
District Office  
Stockton CA 95201  
Phone: (209) 465-5883



RD 404



LMA Short Name : RD0404

Bank Unit Length (Miles)

Unit No. 01	San Joaquin River	RB	2.35
Unit No. 02	French Camp Slough	RB	1.75

### Threat Assessment & Recommendations

- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling woody vegetation.
- There is a significant erosion site in this Area that should be monitored.



### DWR Levee Inspection Summary

RD0404	Total LMA Miles		4.10									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.04		0.04	0.98	0.05		0.05	1.22	0.01		0.01	0.24
Trim / Thin Trees	0.05		0.05	1.22	0.11	0.02	0.19	4.63	0.06	0.02	0.14	3.41
Encroachments	0.01		0.01	0.24	0.01		0.01	0.24				0.00
Animal Control	0.02		0.02	0.49	0.02		0.02	0.49				0.00
Slope Stability	0.01		0.01	0.24	0.01		0.01	0.24				0.00
Erosion / Bank Caving	0.01		0.01	0.24	0.01		0.01	0.24				0.00
Riprap Revetments	0.02		0.02	0.49	0.03		0.03	0.73	0.01		0.01	0.24
Supplemental												
DWR Erosion Survey	0.02	0.10	0.42	10.24	0.02	0.01	0.06	1.46		-0.09	-0.36	-8.77
DWR UCIP Field Study												0.00
LMA Totals:	0.18	0.10	0.58	14.14	0.26	0.03	0.38	9.26 *	0.08	-0.07	-0.20	-4.87

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

#### Unit No. 01 San Joaquin River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD0404U01RM40.86	40.86	0.21	0.26	River Erosion	Repaired Site	C
RD0404U01RM40.98	40.98	0.34	0.34	River Erosion	Repaired Site	C
RD0404U01RM41.11	41.11	0.34	0.34	River Erosion	Existing Site	U
RD0404U01RM41.22	41.22	0.59	0.61	River Erosion	Repaired Site	C
RD0404U01RM42.02	42.02	1.44	1.46	River Erosion	Existing Site	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0404 and Duck Creek right bank - Boggs Tract	4.35	Inactive	08/21/2012	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management. The Agency also concurred with the information contained in the Spring 2015 Inspection Report. The Spring 2015 Levee Inspection Report provided unacceptable rating for waterside erosion at Levee Unit 1, LM 0.34 and LM 0.48 and for pipe flap gates on Levee Unit 1, LM 0.49. The Spring 2015 Levee Inspections Report also provided unacceptable rating for tree removal at Levee Unit 1, LM 1.04, and at Levee Unit 2, LM 1.14.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency stated that the annual operating budget for the current fiscal year is between \$200,000 and \$300,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# **Reclamation District No. 0524**

## **Middle Roberts Island**

**San Joaquin County**

**Contact**

Mario Jaques  
President  
7540 Shoreline Drive  
Stockton CA 95219  
Phone: (209) 478-2000

RD 524



LMA Short Name : RD0524		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	LB	6.20

Threat Assessment & Recommendations

- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling woody vegetation.
- The LMA should focus on repairing erosion sites.

### DWR Levee Inspection Summary

RD0524	Total LMA Miles		6.20									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.19	0.10	0.59	9.52	0.18	0.20	0.98	15.81	-0.01	0.10	0.39	6.29
Trim / Thin Trees	0.79	0.19	1.55	25.01	0.19	0.72	3.07	49.53	-0.60	0.53	1.52	24.53
Encroachments	0.14	0.03	0.26	4.20	0.16	0.10	0.56	9.04	0.02	0.07	0.30	4.84
Animal Control	0.34		0.34	5.49	0.52	0.01	0.56	9.04	0.18	0.01	0.22	3.55
Slope Stability	0.22	0.01	0.26	4.20	0.22	0.03	0.34	5.49	0.00	0.02	0.08	1.29
Erosion / Bank Caving	0.11	0.01	0.15	2.42	0.10	0.02	0.18	2.90	-0.01	0.01	0.03	0.48
Crown Surface / Depressions / Rutting	0.05		0.05	0.81	0.05	0.04	0.21	3.39		0.04	0.16	2.58
Operations & Maintenance Manuals		0.25	0.99	15.97		0.25	0.99	15.97				0.00
Emergency Supplies & Equipment	0.06		0.06	0.97	0.06		0.06	0.97				0.00
Flood Preparedness & Training	0.06		0.06	0.97	0.06		0.06	0.97				0.00
Interior Drainage & Piping Systems												
Erosion Areas						0.01	0.04	0.65		0.01	0.04	0.65
Supplemental												
DWR Erosion Survey	0.03	0.41	1.67	26.95	0.03	0.38	1.55	25.01		-0.03	-0.12	-1.94
DWR UCIP Field Study												0.00
LMA Totals:	1.99	1.00	5.99	96.65	1.57	1.76	8.61	138.92	-0.42	0.76	2.62	42.27

RD 524

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary****Unit No. 01 San Joaquin River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD0524U01RM40.85	40.85	0.19	0.19	River Erosion	Existing Site	U
RD0524U01RM40.99	40.99	0.40	0.40	River Erosion	Existing Site	U
RD0524U01RM41.36	41.36	0.71	0.73	River Erosion	New Site	M
RD0524U01RM41.39	41.39	0.76	0.77	River Erosion	Existing Site	U
RD0524U01RM41.44	41.44	0.83	0.84	River Erosion	Existing Site	U
RD0524U01RM41.5	41.5	0.91	0.91	River Erosion	Existing Site	U
RD0524U01RM41.58	41.58	1.00	1.00	River Erosion	Existing Site	U
RD0524U01RM41.59	41.59	1.00	1.00	River Erosion	Existing Site	U
RD0524U01RM41.79	41.79	1.15	1.23	River Erosion	Existing Site	U
RD0524U01RM41.92	41.92	1.29	1.32	River Erosion	Existing Site	U
RD0524U01RM42.03	42.03	1.39	1.39	River Erosion	Existing Site	U
RD0524U01RM42.09	42.09	1.45	1.47	River Erosion	Existing Site	U
RD0524U01RM42.2	42.2	1.56	1.62	River Erosion	Existing Site	U
RD0524U01RM42.79	42.79	2.19	2.19	River Erosion	Existing Site	U
RD0524U01RM42.84	42.84	2.24	2.27	River Erosion	Existing Site	U
RD0524U01RM42.93	42.93	2.31	2.33	River Erosion	Repaired Site	C
RD0524U01RM43.23	43.23	2.65	2.65	River Erosion	Repaired Site	C
RD0524U01RM43.52	43.52	2.96	2.96	Maintenance Erosion	Existing Site	U
RD0524U01RM43.83	43.83	3.23	3.31	River Erosion	Repaired Site	C
RD0524U01RM43.86	43.86	3.30	3.32	River Erosion	Existing Site	U
RD0524U01RM44.13	44.13	3.56	3.58	River Erosion	Repaired Site	C
RD0524U01RM45.07	45.07	4.53	4.54	River Erosion	Existing Site	U
RD0524U01RM45.27	45.27	4.71	4.71	Maintenance Erosion	Repaired Site	C
RD0524U01RM45.97	45.97	5.43	5.43	Maintenance Erosion	Existing Site	U
RD0524U01RM46.06	46.06	5.53	5.53	River Erosion	Existing Site	M
RD0524U01RM46.12	46.12	5.60	5.61	Maintenance Erosion	Repaired Site	C
RD0524U01RM46.39	46.39	5.86	5.86	River Erosion	Existing Site	U

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0524 and RD 0544 - Roberts Island	16.37	Inactive	09/09/2015	U

### DWR Flood System Repair Project Summary

N/A

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-13-37	Serious	Erosion			Right	37.940130	-121.356210

### Unit No. 01 San Joaquin River

RD 524

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
FSRP-14-20	Serious	Erosion	0.19		LB	37.939085	-121.343917
FSRP-13-38	Serious	Erosion	0.40		Left	37.938870	-121.340460
FSRP-13-40	Serious	Erosion	0.76		Left	37.936821	-121.334582
FSRP-14-22	Serious	Erosion	0.83		LB	37.935930	-121.334133
DWR_RD0524_01_s_2012_99	Critical	Erosion	0.91		Left	37.935580	-121.333200
FSRP-13-41	Serious	Erosion	1.00	1.02	Left	37.935410	-121.331560
188-47	Critical	Seepage	1.02		Left	37.934840	-121.331190
FSRP-13-42	Critical	Erosion	1.19		Left	37.933347	-121.329110
DWR_RD0524_01_s_2012_21	Critical	Erosion	1.30	1.31	Left	37.931860	-121.328310
FSRP-14-23	Serious	Erosion	1.43	1.46	LB	37.930050	-121.328340

### DWR Summary of Local Maintaining Agency Report

**Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management. The Agency also concurred with the information contained in the Spring 2015 Inspection Report. The Spring 2015 Levee Inspection Report provided unacceptable rating for animal control, bank caving, crown surface depression, erosion, encroachment, slope stability, tree trimming and thinning, utility crossings, and vegetation control at various locations.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency stated that the annual routine maintenance cost for the current fiscal year is \$78,500, as reported to DWR's Delta Levees Maintenance Subventions Program.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.



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# **Reclamation District No. 0544**

## **Upper Roberts Island**

**San Joaquin County**

**Contact**

Jerry Robinson  
Chairman  
343 East Main Street Suite 815  
Stockton CA 95202  
Phone: (209) 943-5551



**DWR Levee Inspection Summary**

RD0544	Total LMA Miles		10.20									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	13.18	0.58	15.50	151.94	7.79	1.52	13.87	135.96	-5.39	0.94	-1.63	-15.98
Trim / Thin Trees	0.25	0.01	0.29	2.84	0.43	0.20	1.23	12.06	0.18	0.19	0.94	9.21
Encroachments	0.07		0.07	0.69	0.17	0.01	0.21	2.06	0.10	0.01	0.14	1.37
Animal Control	0.30		0.30	2.94	0.57	0.08	0.89	8.72	0.27	0.08	0.59	5.78
Slope Stability	0.07		0.07	0.69	0.07	0.01	0.11	1.08		0.01	0.04	0.39
Erosion / Bank Caving	0.01	0.01	0.05	0.49	0.02	0.06	0.26	2.55	0.01	0.05	0.21	2.06
Flood Preparedness & Training	0.10		0.10	0.98	0.10		0.10	0.98				0.00
Interior Drainage & Piping Systems												
Erosion Areas		0.01	0.04	0.39		0.01	0.04	0.39				0.00
Rivers, Channels & Designated Floodways												
Erosion / Bank Caving		0.01	0.04	0.39						-0.01	-0.04	-0.39
Encroachments												0.00
Supplemental												
DWR Erosion Survey	0.05	0.02	0.13	1.27	0.04	0.02	0.12	1.18	-0.01		-0.01	-0.10
DWR UCIP Field Study												0.00
LMA Totals:	14.03	0.64	16.59	162.62	9.19	1.91	16.83	164.98	-4.84	1.27	0.24	2.35

RD 544

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary**

**Unit No. 01 San Joaquin River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD0544U01RM47.12	47.12	0.41	0.45	River Erosion	Repaired Site	C
RD0544U01RM48.81	48.81	2.02	2.02	River Erosion	Repaired Site	C
RD0544U01RM49.67	49.67	2.95	2.95	River Erosion	Existing Site	U
RD0544U01RM51.04	51.04	4.23	4.24	Maintenance Erosion	Existing Site	M
RD0544U01RM51.09	51.09	4.34	4.34	River Erosion	Repaired Site	C

**Unit No. 02 Old River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD0544U02RM33.21	33.21	2.31	2.31	River Erosion	Existing Site	M
RD0544U02RM33	33	2.61	2.61	Maintenance Erosion	New Site	U
RD0544U02RM32.91	32.91	2.67	2.69	River Erosion	Existing Site	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0524 and RD 0544 - Roberts Island	16.37	Inactive	09/09/2015	U

**DWR Flood System Repair Project Summary**

N/A

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
5008-107	Critical	Seepage			Right	37.829030	-121.385810
5008-108	Critical	Seepage			Right	37.824940	-121.378980

**Unit No. 01 San Joaquin River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
189-FOC-1	Serious	Seepage	1.02		Left	37.860070	-121.319870
189-29	Serious	Seepage	1.24		Left	37.857970	-121.319470
189-FOC-2	Serious	Seepage	1.57		Left	37.854110	-121.321470
189-109	Critical	Seepage	1.67	1.70	Left	37.854920	-121.323040
189-16	Critical	Seepage	3.07		Left	37.838880	-121.318210
189-FOC-8	Serious	Seepage	5.22		Left	37.815250	-121.320540
189-4	Critical	Seepage	5.56		Left	37.811830	-121.320980
189-FOC-10	Serious	Seepage	5.90		Left	37.810230	-121.326340

**Unit No. 02 Old River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
334-102	Critical	Seepage	0.04	0.25	Right	37.808820	-121.328850
334-100	Critical	Seepage	0.26	0.42	Right	37.808720	-121.332660
334-106	Critical	Seepage	0.72	0.76	Right	37.814200	-121.334270
334-FOC-11	Serious	Seepage	1.35		Right	37.821150	-121.337330
334-23	Critical	Seepage	1.39	1.41	Right	37.821440	-121.337950
334-FOC-14	Critical	Seepage	1.72		Right	37.820010	-121.341520
334-FOC-15	Critical	Seepage	1.77	1.90	Right	37.819290	-121.341460
334-19	Critical	Seepage	1.85		Right	37.818240	-121.341930
FSRP-13-59	Serious	Erosion	2.70	2.68	Right	37.817870	-121.351420
334-111	Critical	Seepage	3.61	3.60	Right	37.819600	-121.366390
334-103	Critical	Seepage	4.14	4.15	Right	37.822400	-121.374410

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported routine maintenance is ongoing and noted encroachment enforcement remains an ongoing process that is leading to varied success.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include encroachment control, visual inspections, erosion repairs, rodent baiting and hole grouting, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency mentioned active ongoing program in place and provided estimated budget for the routine maintenance based on prior year's expenditure. The reported total estimated budget for the current fiscal year is \$77,700.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

RD 544

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# Reclamation District No. 1602 Del Puerto

**San Joaquin County**

**Contact**

Dan Roberts  
Manager  
20451 Laurel Road  
Tracy CA 95304  
Phone: (209) 605-7117



- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus more on backfilling rodent holes.

### DWR Levee Inspection Summary

RD1602	Total LMA Miles		6.24									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.06		1.06	16.99	5.63		5.63	90.25	4.57		4.57	73.26
Encroachments	0.01		0.01	0.16					-0.01		-0.01	-0.16
Animal Control	0.28		0.28	4.49	0.18	0.09	0.54	8.66	-0.10	0.09	0.26	4.17
Slope Stability	0.04		0.04	0.64	0.03		0.03	0.48	-0.01		-0.01	-0.16
Erosion / Bank Caving	0.01		0.01	0.16					-0.01		-0.01	-0.16
Interior Drainage & Piping Systems												
Concrete Tilting / Settlement	0.01		0.01	0.16		0.01	0.04	0.64	-0.01	0.01	0.03	0.48
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	1.41	0.00	1.41	22.60	5.84	0.10	6.24	100.03	4.43	0.10	4.83	77.43

RD 1602

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 1602 - Del Puerto	6.26	Inactive	08/20/2015	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
190-108	Serious	Seepage	1.50	1.99	Left	37.478610	-121.060280
190-FOC-1	Critical	Seepage	3.90		Left	37.453620	-121.042410
190-FOC-2	Critical	Seepage	4.03		Left	37.451990	-121.041240
190-101	Critical	Seepage	4.13	4.45	Left	37.450930	-121.039990
190-103	Serious	Seepage	4.88	5.19	Left	37.441000	-121.036930

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported burrow holes and unauthorized vehicle traffic along Levee Unit 1 and erosion issues at the Ramona Lake Outlet.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that it is not within sufficient level of expertise to determine what might compromise flood protection and mentioned DWR's inspectors do this twice a year.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include rodent baiting, spraying, and vegetation removal.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities. Expenses include costs of rodent control and vegetation control. The reported total estimated cost for the current fiscal year is \$17,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is nothing to report on Part 5 at this time.

RD 1602

# Reclamation District No. 2031 Elliot

RD 2031

## Stanislaus County

### Contact

William Lyons JR  
President  
10555 Maze Blvd.  
Modesto CA 95358  
Phone: (209) 522-1762

RD 2031



LMA Short Name : RD2031		Bank	Unit Length (Miles)
Unit No. 01	Stanislaus River	LB	7.07
Unit No. 02	San Joaquin River	RB	5.98

Threat Assessment & Recommendations

- There is woody vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling woody vegetation.
- The LMA should focus on repairing erosion sites.



### DWR Levee Inspection Summary

RD2031	Total LMA Miles		13.05									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.27		0.27	2.07	0.04	0.02	0.12	0.92	-0.23	0.02	-0.15	-1.15
Trim / Thin Trees	0.62		0.62	4.75	0.62		0.62	4.75				0.00
Encroachments	0.01		0.01	0.08					-0.01		-0.01	-0.08
Animal Control	0.03	0.01	0.07	0.54	0.04	0.01	0.08	0.61	0.01		0.01	0.08
Erosion / Bank Caving	0.03		0.03	0.23	0.03	0.03	0.15	1.15		0.03	0.12	0.92
Crown Surface / Depressions / Rutting	0.07		0.07	0.54	0.07		0.07	0.54				0.00
Seepage / Sandboils												0.00
Flood Preparedness & Training					0.13		0.13	1.00	0.13		0.13	1.00
Interior Drainage & Piping Systems												
Flap Gates												0.00
Supplemental												
DWR Erosion Survey	0.04		0.04	0.31	0.04		0.04	0.31				0.00
DWR UCIP Field Study												0.00
LMA Totals:	1.07	0.01	1.11	8.50 *	0.97	0.06	1.21	9.27 *	-0.10	0.05	0.10	0.77

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

RD 2031

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

#### Unit No. 01 Stanislaus River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2031U01RM0.48	0.48	0.45	0.48	Maintenance Erosion	Existing Site	M

#### Unit No. 02 San Joaquin River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2031U02RM78.7	78.7	4.29	4.33	River Erosion	Not Rated	A/W

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2031 - Elliot	13.03	Inactive	08/28/2015	U

**DWR Flood System Repair Project Summary****Unit No. 02 San Joaquin River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
341-100	Critical	Seepage	0.01	0.20	Right	37.661740	-121.233050
DWR_RD2031_01_R_2012_01	Critical	Seepage	0.78	1.00	Right	37.653770	-121.229140
341-101	Critical	Seepage	1.56	1.65	Right	37.645950	-121.220260
341-FOC-6	Serious	Seepage	2.75		Right	37.637660	-121.211340
FSRP-15-20	Serious	Erosion	3.08		Right	37.637600	-121.205180

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported areas of sand under Levee Unit 2 and seepage and sand boils during high river flows.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported areas of sand under Levee Unit 2 and seepage and sand boils during high river flows.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on both levee units. Activities include debris removal, inspections, mowing, road grading, spraying, tree removal, and tree trimming and thinning.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of equipment for mowing and tree trimming, labor, and spraying. The reported total estimated cost for the current fiscal year is \$9,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency did not report anything on Part 5.

RD 2031

# Reclamation District No. 2058 Pescadaro

RD 2058

**San Joaquin County**

**Contact**

Nat Bacchetti  
President  
3650 West Canal Boulevard  
Tracy CA 95304  
Phone: (209) 835-2293

Bank	Unit Length (Miles)
1	1.0
2	1.0
3	1.0
4	1.0
5	1.0
6	1.0
7	1.0
8	1.0
9	1.0
10	1.0
11	1.0
12	1.0
13	1.0
14	1.0
15	1.0
16	1.0
17	1.0
18	1.0
19	1.0
20	1.0
21	1.0
22	1.0
23	1.0
24	1.0
25	1.0
26	1.0
27	1.0
28	1.0
29	1.0
30	1.0
31	1.0
32	1.0
33	1.0
34	1.0
35	1.0
36	1.0
37	1.0
38	1.0
39	1.0
40	1.0
41	1.0
42	1.0
43	1.0
44	1.0
45	1.0
46	1.0
47	1.0
48	1.0
49	1.0
50	1.0
51	1.0
52	1.0
53	1.0
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56	1.0
57	1.0
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60	1.0
61	1.0
62	1.0
63	1.0
64	1.0
65	1.0
66	1.0
67	1.0
68	1.0
69	1.0
70	1.0
71	1.0
72	1.0
73	1.0
74	1.0
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76	1.0
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83	1.0
84	1.0
85	1.0
86	1.0
87	1.0
88	1.0
89	1.0
90	1.0
91	1.0
92	1.0
93	1.0
94	1.0
95	1.0
96	1.0
97	1.0
98	1.0
99	1.0
100	1.0

Unit No. 01	Paradise Cut	LB	6.58
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## Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.

### DWR Levee Inspection Summary

RD2058	Total LMA Miles		6.58									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.09		0.09	1.37	0.02		0.02	0.30	-0.07		-0.07	-1.06
Trim / Thin Trees	0.01		0.01	0.15					-0.01		-0.01	-0.15
Erosion / Bank Caving		0.01	0.04	0.61		0.01	0.04	0.61				0.00
Supplemental												
DWR Erosion Survey	0.05		0.05	0.76	0.04		0.04	0.61	-0.01		-0.01	-0.15
DWR UCIP Field Study												0.00
LMA Totals:	0.15	0.01	0.19	2.89 *	0.06	0.01	0.10	1.52 *	-0.09	0.00	-0.09	-1.37

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

RD 2058

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

#### Unit No. 01 Paradise Cut, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2058U01RM3.97	3.97	4.43	4.47	River Erosion	Existing Site	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2058 and RD 2095 - Paradise Cut	11.45	Inactive	09/25/2014	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 Paradise Cut

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
192-3	Serious	Seepage	0.39	0.52	Left	37.804070	-121.416020
192-107	Serious	Seepage	1.51	1.94	Left	37.803480	-121.397030
192-100	Serious	Seepage	2.09	2.54	Left	37.804000	-121.386780
FSRP-14-25	Critical	Erosion	4.77		LB	37.785862	-121.350303

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported the removal and repair of a syphon breaker and pump on Levee Unit 1, LM 1.23 to LM 2.90.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency did not report anything on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency stated that goats were grazing on Levee Unit 1 and also were feeding on low hanging tree limbs and leaves to keep the levee maintained to passing standards. The Agency is working with CA Dept. of Fish and Wildlife on renewing a Streambed Alteration Agreement. The Agency also reported rodent control activities and actions taken on inspection items listed by DWR in the inspection report. The actions taken include clear response, corrected, and pending issues for erosion, tree trimming and thinning, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities. Expenses include costs of goat grazing, rodent control, and tree trimming. The reported total estimated cost for the current fiscal year is \$42,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency did not report anything on Part 5.



# Reclamation District No. 2062 Stewart

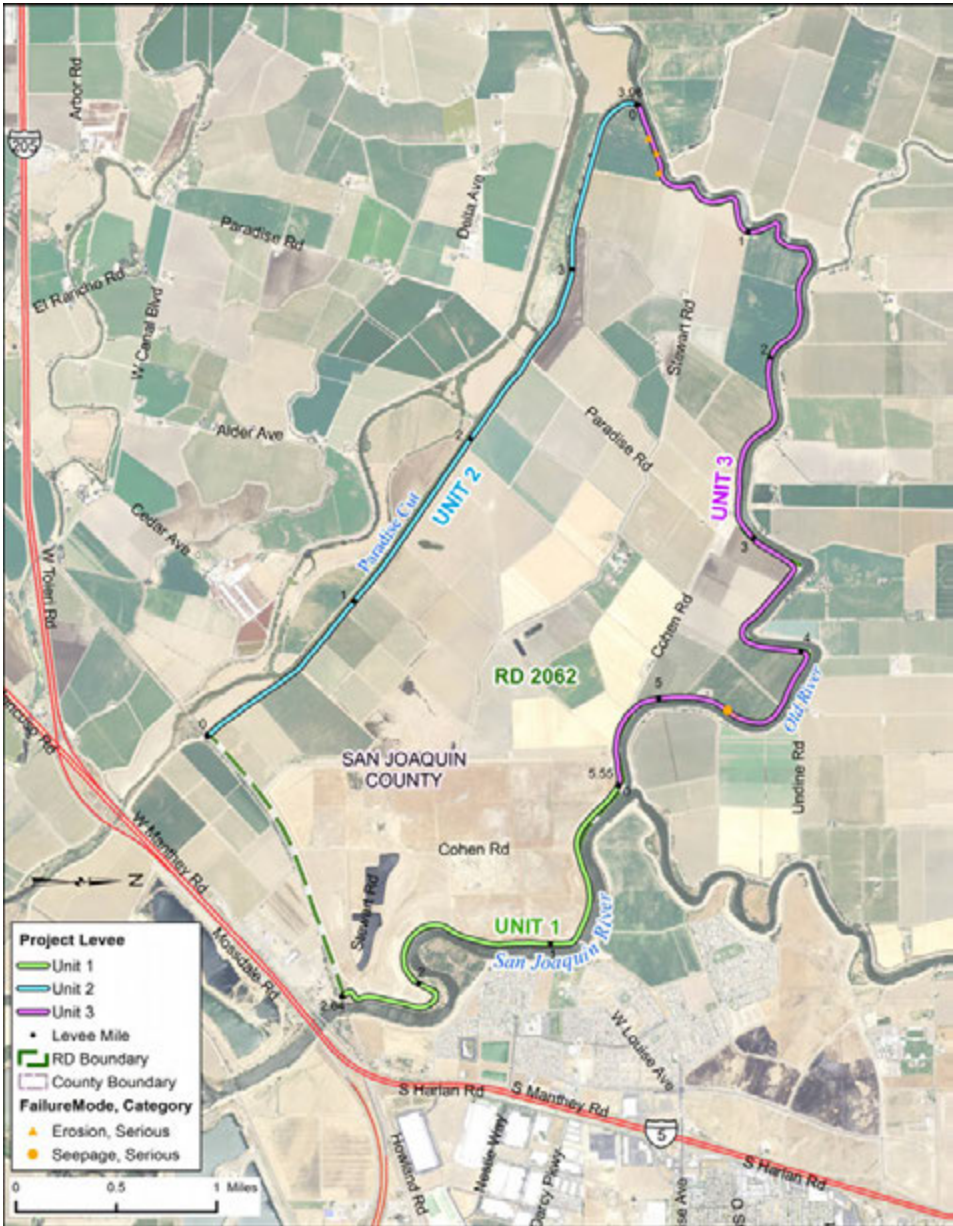
RD 2062

**San Joaquin County**

**Contact**

Susan Dell'Osso  
President  
73 West Stewart Road  
Lathrop CA 95330  
Phone: (209) 879-7900

RD 2062



LMA Short Name : RD2062		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	LB	2.64
Unit No. 02	Paradise Cut	RB	3.96
Unit No. 03	Old River	LB	5.55

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should focus on repairing erosion sites.

### DWR Levee Inspection Summary

RD2062	Total LMA Miles		12.14									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control	0.01		0.01	0.08	0.02		0.02	0.17	0.01		0.01	0.08
Erosion / Bank Caving	0.02		0.02	0.17	0.09		0.09	0.74	0.07		0.07	0.58
Supplemental												
DWR Erosion Survey	0.03	0.20	0.83	6.84	0.03	0.20	0.83	6.84		0.00		0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.06	0.20	0.86	7.08 *	0.14	0.20	0.94	7.74 *	0.08	0.00	0.08	0.66

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

RD 2062

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

#### Unit No. 01 San Joaquin River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2062U01RM54.14	54.14	0.87	0.87	Maintenance Erosion	Repaired Site	C

#### Unit No. 03 Old River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2062U03RM29.93	29.93	0.00	0.09	River Erosion	Existing Site	U
RD2062U03RM30.02	30.02	0.10	0.11	River Erosion	Existing Site	U
RD2062U03RM30.1	30.1	0.18	0.18	River Erosion	Existing Site	M
RD2062U03RM30.19	30.19	0.22	0.31	River Erosion	Existing Site	U
RD2062U03RM30.27	30.27	0.35	0.35	River Erosion	Existing Site	M
RD2062U03RM30.43	30.43	0.55	0.56	River Erosion	Existing Site	M
RD2062U03RM31.12	31.12	1.18	1.19	River Erosion	Existing Site	U
RD2062U03RM31.28	31.28	1.39	1.40	Maintenance Erosion	Existing Site	U

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2062 and RD 2107 - Stewart Tract	16.26	Inactive	09/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 03 Old River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD2062_03_s_2012_4	Serious	Erosion	0.17	0.18	Left	37.810190	-121.387480
FSRP-13-53	Serious	Erosion	0.26		Left	37.810609	-121.385879
DWR_RD2062_03_s_2012_24	Serious	Erosion	0.35	0.37	Left	37.810960	-121.384400
256-101	Serious	Seepage	4.58	4.65	Left	37.816150	-121.334180

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new information on the condition or performance of all Project and non-Project levee units.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new information on conditions that might impair or compromise the level of flood protection of all Project and non-Project levee units.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all Project and non-Project levee units. Activities include patrolling, roadway maintenance, rodent baiting, and vegetation control. The Agency also reported corrected action taken on an item listed by DWR in the inspection report for animal control on Levee Unit 1.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all Project and non-Project levee units. Expenses include costs of engineering services, erosion repair, grading, inspections, roadway maintenance, rodent baiting, rodent hole grouting, spraying, and tree trimming and pruning. The reported total estimated cost for the current fiscal year is \$137,000 for Project levee units and \$18,000 for non-Project levee units.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.

# Reclamation District No. 2063

## Crows Landing

RD 2063

**Merced County**  
**Stanislaus County**

**Contact**

Joe Sallaberry  
President  
5780 South Central  
Turlock CA 95380  
Phone: (209) 587-2305





LMA Short Name : RD2063		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	RB	10.44

Threat Assessment & Recommendations

- The LMA should focus on repairing erosion sites.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.



### DWR Levee Inspection Summary

RD2063	Total LMA Miles		10.44									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Trim / Thin Trees	0.02		0.02	0.19					-0.02		-0.02	-0.19
Encroachments	0.01		0.01	0.10					-0.01		-0.01	-0.10
Animal Control	0.01		0.01	0.10	0.01		0.01	0.10				0.00
Erosion / Bank Caving	0.05		0.05	0.48	0.05		0.05	0.48				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.09	0.00	0.09	0.86	0.06	0.00	0.06	0.58	-0.03	0.00	-0.03	-0.29

RD 2063

### DWR Structure Inspection Summary

Structure Name	Overall Rating
Lateral No. 6 Pumping Plant	A

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2091 and RD 2063 - Chase and Crows Landing	18.19	Inactive	08/06/2015	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
194-7	Serious	Seepage	0.57		Right	37.470810	-121.043510
194-105	Serious	Seepage	5.32	5.53	Right	37.423810	-121.001490

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported a bypass ditch that was constructed years ago is undermining the performance of the levee. The agency also reported the levee crown roadway requires more gravel, and burrow holes are being controlled by slope dragging and baiting.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported sand boils along Levee Unit 1.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include encroachment control, slope dragging, rodent control, roadway maintenance, tree thinning and trimming, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of erosion repair, encroachment control, minor structure repair, and vegetation control. The reported total estimated cost for the current fiscal year is \$110,900.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# **Reclamation District No. 2064**

## **River Junction**

RD 2064

**San Joaquin County**

**Contact**

Gordon Armstrong  
Manager /President  
P.O. Box 690695  
Stockton CA 95269  
Phone: (209) 239-6325



RD 2064

LMA Short Name : RD2064		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	RB	5.56
Unit No. 02	Stanislaus River	RB	6.08

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

**DWR Levee Inspection Summary**

RD2064	Total LMA Miles		11.65									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	6.86		6.86	58.91	5.14		5.14	44.14	-1.72		-1.72	-14.77
Animal Control					0.01		0.01	0.09	0.01		0.01	0.09
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	6.86	0.00	6.86	58.91	5.15	0.00	5.15	44.22	-1.71	0.00	-1.71	-14.68

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

RD 2064

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary**

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0017, 2094, 2096, 2075, 2064 - SJ River East	38.45	Active	12/17/2010	U

**DWR Flood System Repair Project Summary****Unit No. 01 San Joaquin River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD2064_01_R_2012_01	Serious	Seepage		2.93	Right	37.682020	-121.252030
195-128	Serious	Seepage		2.93	Right	37.682020	-121.252030
195-129	Serious	Seepage	0.86		Right	37.699980	-121.273280
195-9	Serious	Seepage	1.65	1.94	Right	37.690050	-121.269810
195-125	Serious	Seepage	3.23	3.49	Right	37.679320	-121.262160
DWR_RD2064_01_R_2012_02	Serious	Seepage	3.59	4.63	Right	37.675280	-121.262880
DWR_RD2064_01_R_2012_03	Critical	Seepage	3.78		Right	37.673300	-121.260560
195-122	Critical	Stability	4.27	4.25	Right	37.669610	-121.253490
DWR_RD2064_01_R_2012_04	Critical	Seepage	4.93	4.98	Right	37.673180	-121.246330
195-8	Critical	Seepage	5.31		Right	37.670690	-121.241600

**Unit No. 02 Stanislaus River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
257-3	Serious	Seepage	0.28	1.05	Right	37.664860	-121.237270
257-FOC-9	Serious	Seepage	1.10	1.11	Right	37.669380	-121.229250
257-FOC-10	Serious	Seepage	1.23	1.28	Right	37.670550	-121.227680
257-FOC-12	Serious	Seepage	2.16	2.95	Right	37.679200	-121.223010
257-FOC-14	Serious	Seepage	4.11		Right	37.694330	-121.207270

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of actions taken on inspection items listed by DWR in the inspection report. The actions include clear response, corrected, and pending issues for encroachment, tree trimming and thinning, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.



# Reclamation District No. 2075 McMullin

**San Joaquin County**

RD 2075

**Contact**

Eddy Cardoza  
President  
343 East Main Street  
Suite 815  
Stockton CA 95202  
Phone: (209) 943-5551

RD 2075



LMA Short Name : RD2075		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	RB	7.45

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

### DWR Levee Inspection Summary

RD2075	Total LMA Miles		7.45									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.92		0.92	12.35	0.94	0.65	3.54	47.53	0.02	0.65	2.62	35.18
Supplemental												
DWR Erosion Survey	0.01		0.01	0.13	0.01		0.01	0.13				0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.93	0.00	0.93	12.49	0.95	0.65	3.55	47.66	0.02	0.65	2.62	35.18

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

RD 2075

### DWR San Joaquin River Erosion Summary

#### Unit No. 01 San Joaquin River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2075U01RM64.34	64.34	5.28	5.29	River Erosion	Existing Site	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0017, 2094, 2096, 2075, 2064 - SJ River East	38.45	Active	12/17/2010	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
196-FOC-2	Serious	Seepage	2.09	3.31	Right	37.734560	-121.294190
196-FOC-4	Serious	Seepage	4.37	4.75	Right	37.719340	-121.278590
196-112	Serious	Seepage	4.94	5.13	Right	37.727060	-121.277840
DWR_RD2075_01_R_2012_01	Serious	Seepage	5.57	5.91	Right	37.724820	-121.270990

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

# Reclamation District No. 2085 Kasson

San Joaquin County

RD 2085

**Contact**

Ralph Timan  
President  
451 Critchett Avenue  
Tracy CA 95376  
Phone: (209) 241-6793



RD 2085

LMA Short Name : RD2085			Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River		LB	5.29
Unit No. 02	San Joaquin River			0.70
Unit No. 03	San Joaquin River			0.29

Threat Assessment & Recommendations

- There is erosion occurring in this Area that should be monitored.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.



**DWR Levee Inspection Summary**

RD2085	Total LMA Miles		6.28									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.28		0.28	4.46	0.01		0.01	0.16	-0.27		-0.27	-4.30
Animal Control					0.01		0.01	0.16	0.01		0.01	0.16
Slope Stability					0.02		0.02	0.32	0.02		0.02	0.32
Erosion / Bank Caving		0.02	0.08	1.27		0.02	0.08	1.27				0.00
Crown Surface / Depressions / Rutting					0.01		0.01	0.16	0.01		0.01	0.16
Supplemental												
DWR Erosion Survey	0.02		0.02	0.32	0.02		0.02	0.32				0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.30	0.02	0.38	6.05 *	0.07	0.02	0.15	2.39 *	-0.23	0.00	-0.23	-3.66

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

RD 2085

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary**
**Unit No. 01 San Joaquin River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2085U01RM66.5	66.5	2.56	2.58	River Erosion	Existing Site	M
RD2085U01RM67.7	67.7	3.62	3.75	River Erosion	Not Rated	A/W

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2085 - Kasson District	6.27	Inactive	06/24/2015	U

**DWR Flood System Repair Project Summary**
**Unit No. 01 San Joaquin River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
197-123	Critical	Seepage	0.92	0.86	Left	37.719390	-121.293680
197-113	Critical	Seepage	0.93	1.35	Left	37.719380	-121.293530
197-2	Serious	Seepage	1.41		Left	37.713990	-121.288520
197-104	Serious	Seepage	1.42	1.77	Left	37.713730	-121.288420
FSRP-13-55	Critical	Erosion	2.57		Left	37.703094	-121.274894
DWR_RD2085_01_R_2012_01	Critical	Erosion	3.82	3.68	Left	37.686620	-121.276790

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion at Levee Unit 1, LM 2.24 to 2.26, and at Levee Unit 3, LM 0.21 to 0.23, and noted the district is working with DWR to address these erosion sites. The Agency also reported a concrete-lined ditch near the toe of the levee along Levee Unit 1, LM 2.05 to 2.51.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion at Levee Unit 1, LM 2.24 to 2.26, 3.58 to 3.71, and at Levee Unit 3, LM 0.21 to 0.23, and noted the district is working with DWR to address these erosion sites. The Agency also reported depression on Levee Unit 2, LM 0.46.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided action taken on inspection items listed by DWR in the inspection report. The actions taken include corrected and work in progress for encroachments, erosion, and vegetation issues.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of encroachment control, erosion control, roadway maintenance, rodent control, and vegetation control. The reported total estimated cost for the current fiscal year is \$1,120,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported two cost-share projects into which it entered with DWR. One is for the placement of gravel on the levee crown and the other is for erosion repair. The Agency mentioned that the gravel project is expected to be completed by October 2015, and that the erosion repair project will need an extension due to lengthy environmental review.

# Reclamation District No. 2089 Stark

**San Joaquin County**

RD 2089

**Contact**

Mario Jaques  
Chairman  
13285 Willow Glen Road  
Stockton CA 95206  
Phone: (209) 941-4431



RD 2089

LMA Short Name : RD2089			Bank	Unit Length (Miles)
Unit No. 01	Old River		RB	1.51
Unit No. 02	Salmon Slough		RB	1.35

Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should enhance its rodent control program.

### DWR Levee Inspection Summary

RD2089	Total LMA Miles		2.86									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.60	0.24	2.56	89.58	0.31	1.02	4.39	153.61	-1.29	0.78	1.83	64.03
Trim / Thin Trees		0.01	0.04	1.40		0.01	0.04	1.40				0.00
Encroachments	0.04		0.04	1.40	0.04		0.04	1.40				0.00
Animal Control	0.11	0.12	0.59	20.65	0.11	0.15	0.71	24.84		0.03	0.12	4.20
Slope Stability	0.14		0.14	4.90	0.13		0.13	4.55	-0.01		-0.01	-0.35
Erosion / Bank Caving					0.01		0.01	0.35	0.01		0.01	0.35
Crown Surface / Depressions / Rutting	0.05		0.05	1.75	0.06		0.06	2.10	0.01		0.01	0.35
Supplemental												
DWR Erosion Survey	0.03	0.01	0.07	2.45	0.04	0.01	0.08	2.80	0.01		0.01	0.35
DWR UCIP Field Study												0.00
LMA Totals:	1.97	0.38	3.49	122.12	0.70	1.19	5.46	191.05	-1.27	0.81	1.97	68.93

### DWR Structure Inspection Summary

No Structures Inspected in this District.

RD 2089

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

#### Unit No. 01 Old River, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2089U01RM29.94	29.94	0.32	0.33	River Erosion	New Site	M
RD2089U01RM29.8	29.8	0.46	0.46	Maintenance Erosion	Existing Site	M
RD2089U01RM29.61	29.61	0.67	0.67	River Erosion	Existing Site	U
RD2089U01RM29.04	29.04	1.23	1.24	River Erosion	Existing Site	M

#### Unit No. 02 Salmon Slough, RB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2089U02RM28.35	28.35	0.40	0.41	River Erosion	Existing Site	M

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0001 and RD 2089 - Union Island	3.92	Inactive	09/09/2015	U

**DWR Flood System Repair Project Summary****Unit No. 02 Salmon Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
335-103	Critical	Erosion	0.32	0.57	Right	37.810020	-121.411550
335-3	Critical	Seepage	0.91	0.93	Right	37.814890	-121.415880

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management. The Agency also concurred with the information contained in the Spring 2014, Fall 2014, and Spring 2015 Inspection Reports. The Spring 2015 Levee Inspection Report provided unacceptable rating for animal control at various locations on Levee Unit 2, waterside erosion on Levee Unit 1, LM 0.67, a pipe crossing at Levee Unit 1, LM 1.54, and encroachments on Levee Unit 2, LM 1.29 and LM 1.25 to LM 1.31. The Spring 2015 Levee Inspections Report also provided unacceptable rating for tree trimming and thinning on Levee Unit 1, LM 0.37, and other vegetation control at various locations on both levee units.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance items listed in the DWR inspection reports that are continually being addressed. The items include, but are not limited to, encroachment control, erosion repairs, inspections, rodent baiting, rodent hole grouting, and vegetation management.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency stated that the annual routine maintenance cost for Fiscal Year 2014-15 is \$17,341, as reported to DWR's Delta Levees Maintenance Subventions Program.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no new information to report on Part 5.



# Reclamation District No. 2091 Chase

**Stanislaus County**

**Contact**

Wendel Trinkler, Jr  
President  
7007 Jennings Road  
Modesto CA 95358  
Phone: (209) 537-9883

RD 2091



RD 2091

LMA Short Name : RD2091		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	RB	7.46
Unit No. 02	San Joaquin River	NA	0.05

Threat Assessment & Recommendations

- The LMA should focus more on controlling woody vegetation.
- The LMA should continue to maintain the area at the high level seen during the last inspection.

### DWR Levee Inspection Summary

RD2091	Total LMA Miles		7.51									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.04		0.04	0.51					-0.04		-0.04	-0.51
Trim / Thin Trees	0.09		0.09	1.16	0.02		0.02	0.27	-0.07		-0.07	-0.89
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.13	0.00	0.13	1.67	0.02	0.00	0.02	0.27	-0.11	0.00	-0.11	-1.41

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

No Supplemental Erosion Sites.

RD 2091

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2091 and RD 2063 - Chase and Crows Landing	18.19	Inactive	08/06/2015	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD2091_01_R_2012_01	Critical	Erosion	1.41	1.44	Right	37.531170	-121.106750
199-1	Critical	Seepage	2.15		Right	37.525220	-121.097700
DWR_RD2091_01_R_2012_05	Critical	Seepage	2.41	2.49	Right	37.522090	-121.095580
199-105	Critical	Seepage	2.84	3.46	Right	37.519210	-121.089010
199-103	Serious	Seepage	3.86	3.87	Right	37.507470	-121.082610
DWR_RD2091_01_R_2012_02	Critical	Seepage	4.44	4.54	Right	37.499440	-121.080720
199-100	Critical	Seepage	4.57	5.00	Right	37.497780	-121.080340
199-101	Critical	Seepage	5.60	5.65	Right	37.486820	-121.068100
FSRP-15-19	Serious	Erosion	5.65		Right	37.486020	-121.067850
199-4	Critical	Seepage	5.99		Right	37.486490	-121.062270
199-106	Critical	Seepage	6.29	6.75	Right	37.485040	-121.057680

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported a 100-ft long and 5 to 7-ft wide erosion site at Levee Unit 1, LM 1.50.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities accomplished for all levee units. Activities include inspection, roadway maintenance, rodent control, tree trimming, and vegetation control. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected and active ongoing program in place for animal control and encroachment control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of legal and administrative services, inspections, roadway maintenance, rodent control, tree trimming, and vegetation control. The reported total estimated cost for the current fiscal year is \$41,600.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

# Reclamation District No. 2092 Dos Rios

## Stanislaus County

### **Contact**

John Carlon  
President  
580 Vallombrosa Ave  
Chico CA 95926  
Phone: (530) 894-5401



LMA Short Name : RD2092		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	RB	3.71

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should focus more on backfilling rodent holes.



**DWR Levee Inspection Summary**

RD2092	Total LMA Miles		3.71									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control					0.03		0.03	0.81	0.03		0.03	0.81
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.81	0.03	0.00	0.03	0.81

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary**

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2092 - Dos Rios Ranch	3.63	Inactive	06/24/2015	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency stated that there is no new information to report on Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include mowing, rodent hole backfilling and compacting, and tree trimming. The Agency also reported corrected action taken on an item listed by DWR in the inspection report for animal control on Levee Unit 1.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of mowing, rodent hole backfilling and compacting, and tree trimming. The reported total estimated cost for the current fiscal year is \$9,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no information to report on Part 5.

# Reclamation District No. 2094 Wathal

**San Joaquin County**

**Contact**

Brian Mizuno  
President  
29050 Ahern Rd  
Tracy CA 95304  
Phone: (209) 239-4014

RD 2094



LMA Short Name : RD2094		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	RB	2.78
Unit No. 02	San Joaquin River		0.45

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.

**DWR Levee Inspection Summary**

RD2094	Total LMA Miles		3.23									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary**

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0017, 2094, 2096, 2075, 2064 - SJ River East	38.45	Active	12/17/2010	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported burrow issues and unauthorized vehicle traffic on Levee Unit 1. The Agency also reported sediment and in-channel vegetation, decreasing the capacity of the channel.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that seepage on Levee Unit 1 occurs during high water years. The Agency also reported erosion on Levee Unit 2 and noted a steep slope.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include rodent control, slope dragging, and vegetation spraying.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of labor, rodent control, slope dragging, and vegetation spraying. The reported total estimated cost for the current fiscal year is \$5,200.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.



# **Reclamation District No. 2095**

## **Paradise Cut**

**San Joaquin County**

**Contact**

Bob Pombo  
President  
3100 W Mancuso Road  
Tracy CA 95304  
Phone: (209) 321-2272

RD 2095



LMA Short Name : RD2095		Bank	Unit Length (Miles)
Unit No. 01	Paradise Cut	LB	1.45
Unit No. 02	San Joaquin River	LB	3.41

Threat Assessment & Recommendations

- The LMA should focus on repairing erosion sites.
- The LMA should focus more on controlling vegetation to maintain visibility and access.

**DWR Levee Inspection Summary**

RD2095	Total LMA Miles		4.86									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01	0.01	0.05	1.03	0.01		0.01	0.21		-0.01	-0.04	-0.82
Supplemental												
DWR Erosion Survey	0.10		0.10	2.06	0.07		0.07	1.44	-0.03		-0.03	-0.62
DWR UCIP Field Study												0.00
LMA Totals:	0.11	0.01	0.15	3.09 *	0.08	0.00	0.08	1.65	-0.03	-0.01	-0.07	-1.44

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary****Unit No. 01 Paradise Cut, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2095U01RM6.74	6.74	0.72	0.73	River Erosion	Existing Site	M

**Unit No. 02 San Joaquin River, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2095U02RM60.62	60.62	1.74	1.77	River Erosion	Existing Site	M
RD2095U02RM60.69	60.69	1.82	1.86	River Erosion	Existing Site	M

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2058 and RD 2095 - Paradise Cut	11.45	Inactive	09/25/2014	U

**DWR Flood System Repair Project Summary****Unit No. 01 Paradise Cut**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD2095_01_s_2012_1	Serious	Erosion	0.72	0.70	Left	37.763610	-121.318800
202-101	Serious	Seepage	0.74	0.79	Left	37.763350	-121.319080

**Unit No. 02 San Joaquin River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
258-FOC-1	Serious	Seepage	0.97		Left	37.749680	-121.299230
258-106	Serious	Erosion	1.77	1.74	Left	37.739830	-121.297570
258-FOC-2	Serious	Seepage	1.81	1.91	Left	37.739400	-121.298000
258-102	Serious	Seepage	1.99	2.75	Left	37.736650	-121.298400

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported unauthorized vehicle traffic, damaging the slope of Levee Unit 1, LM 0.11 to LM 0.15. The Agency also mentioned privately owned pipelines at Levee Unit 1, LM 0.91 and LM 0.92, that require proper abandonment.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported issues with abandoned pipelines, burrow holes, and waterside erosion.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include access gate maintenance, animal control, erosion repair, goat grazing, inspections, tree trimming, and vegetation control. The Agency also reported corrected action taken on an item listed by DWR in the inspection report for erosion repair on Levee Unit 1.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of administrative services, engineering, flood fight, gate and fence installation and repair, high water patrolling, insurance, levee maintenance and repairs, and office supplies. The reported total estimated cost for the current fiscal year is \$55,950.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency mentioned a Streambed Alteration Agreement with CA Dept. of Fish and Wildlife for routine maintenance.

# **Reclamation District No. 2096**

## **Wetherbee Lake**

**San Joaquin County**

**Contact**

Randy Barker  
President  
P.O Box 909  
Manteca CA 95336  
Phone: (209) 401-6741

RD 2096



LMA Short Name : RD2096		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	RB	0.16

Threat Assessment & Recommendations

- The LMA should repair locations where the levee slope may be unstable.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.



### DWR Levee Inspection Summary

RD2096		Total LMA Miles		0.16									
		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		M		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Animal Control		0.03		0.03	18.21					-0.03		-0.03	-18.21
Slope Stability						0.01		0.01	6.07	0.01		0.01	6.07
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.03	0.00	0.03	18.21	0.01	0.00	0.01	6.07	-0.02	0.00	-0.02	-12.14

RD 2096

### DWR Structure Inspection Summary

Structure Name	Overall Rating
Wetherbee Lake Pumping Plant & Navigation Gate	M

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 0017, 2094, 2096, 2075, 2064 - SJ River East	38.45	Active	12/17/2010	U

### DWR Flood System Repair Project Summary

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported burrow issues on both sides of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include rodent baiting and grouting, and vegetation control. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include corrected issues for animal control, encroachments, and slope stability.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for Levee Unit 1. Expenses include costs of rodent baiting and hole grouting. The reported total estimated cost for the current fiscal year is \$20,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

RD 2096

# **Reclamation District No. 2099**

## **El Solyo Ranch**

**Stanislaus County**

**Contact**

Kim Forrest  
Mail Recipient  
P.O Box 2176  
Los Banos CA 93635  
Phone: (209) 826-3508

RD 2099



LMA Short Name : RD2099		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	LB	2.33

Threat Assessment & Recommendations

- DWR does not inspect this area and no threat assessment or recommendations were done.

**DWR Levee Inspection Summary**

Levees in this District are not Inspected.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

RD 2099

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary**

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

This Reclamation District was purchased by the U.S. Fish and Wildlife Service and is now part of the San Joaquin River National Wildlife Refuge. The Project levee in this area has been breached and no longer provides flood protection. Please refer to the letter from U.S. Fish and Wildlife Service in Appendix D.

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# **Reclamation District No. 2100**

## **White Lake Ranch**

**Stanislaus County**

**Contact**

Kim Forrest  
General Manager/Secretary  
P.O Box 2176  
Los Banos CA 93635  
Phone: (209) 826-3508

RD 2100



LMA Short Name : RD2100		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	LB	2.63

Threat Assessment & Recommendations

- DWR does not inspect this area and no threat assessment or recommendations were done.

### DWR Levee Inspection Summary

Levees in this District are not Inspected.

### DWR Structure Inspection Summary

No Structures Inspected in this District.

RD 2100

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

No USACE Ratings available.

### DWR Flood System Repair Project Summary

No POI Repair Sites.

### DWR Summary of Local Maintaining Agency Report

**Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

This Reclamation District was purchased by the U.S. Fish and Wildlife Service and is now part of the San Joaquin River National Wildlife Refuge. The Project levee in this area has been breached and no longer provides flood protection. Please refer to the letter from U.S. Fish and Wildlife Service in Appendix D.

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# Reclamation District No. 2101 Blewett

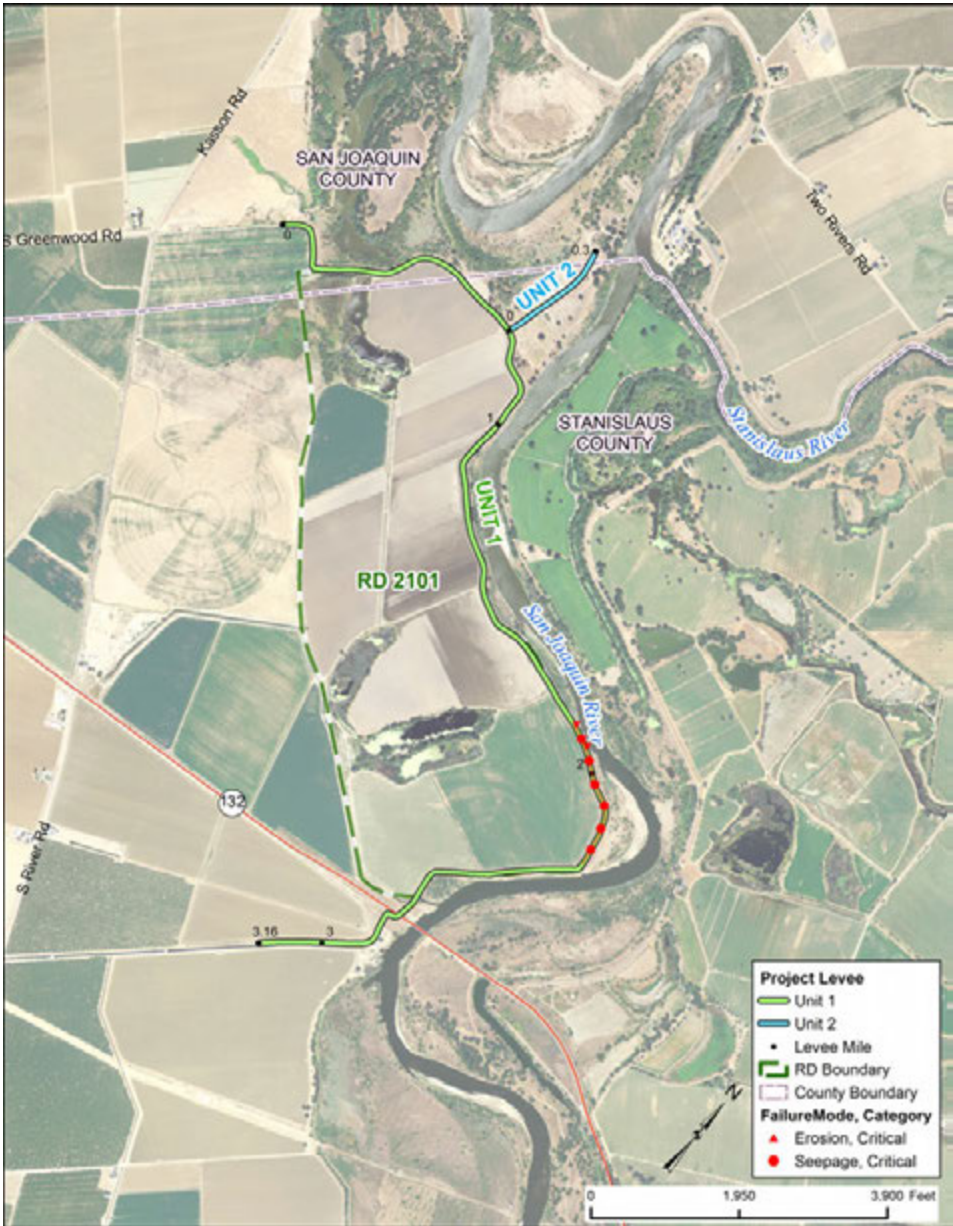
RD 2101

**Stanislaus County**

**Contact**

James Coddington  
President  
6130 Huntingdale Circle  
Stockton CA 95219  
Phone: (209) 477-2156

RD 2101



LMA Short Name : RD2101		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	LB	3.16
Unit No. 02	San Joaquin River (Spur Levee)	RB	0.30

Threat Assessment & Recommendations

- There is significant rodent activity in this Area.
- There is erosion occurring in this Area that should be monitored.
- The LMA should enhance its rodent control program.
- The LMA should focus on repairing erosion sites.

### DWR Levee Inspection Summary

RD2101	Total LMA Miles		3.46									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.29					-0.01		-0.01	-0.29
Trim / Thin Trees	0.01		0.01	0.29	0.01		0.01	0.29				0.00
Animal Control	0.25	0.03	0.37	10.71	0.02	0.02	0.10	2.89	-0.23	-0.01	-0.27	-7.81
Erosion / Bank Caving	0.01		0.01	0.29	0.01		0.01	0.29				0.00
Supplemental												
DWR Erosion Survey		0.10	0.40	11.57		0.08	0.32	9.26		-0.02	-0.08	-2.31
DWR UCIP Field Study												0.00
LMA Totals:	0.28	0.13	0.80	23.15	0.04	0.10	0.44	12.73	-0.24	-0.03	-0.36	-10.42

RD 2101

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

#### Unit No. 01 San Joaquin River, LB

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
RD2101U01RM73.92	73.92	1.86	1.95	River Erosion	Existing Site	U

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2101 - Blewatt District	3.42	Inactive	06/24/2015	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_RD2101_01_s_2012_1	Critical	Erosion	1.87	1.96	Left	37.650550	-121.229570
DWR_RD2101_01_R_2012_01	Critical	Seepage	1.91	2.26	Left	37.650330	-121.228860



**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported accumulation of debris blocking flow of the river on Levee Unit 1 between LM 0.60 and 2.80. The Agency also reported animal burrow is an ongoing issue and the district is continuously baiting and grouting.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported erosion sites between LM 1.80 and 2.10 of Levee Unit 1 and at LM 0.40 of Levee Unit 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include levee patrolling, roadway maintenance, slope dragging, rodent control, and tree thinning and trimming.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance activities for all levee units. Expenses include costs of levee patrolling, rodent control, slope dragging, tree trimming, and vegetation control. The reported total estimated cost for the current fiscal year is \$12,000.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency has copies of construction drawings, as-builts, emergency action plan, plate maps, right-of-way and easements.

RD 2101

# Reclamation District No. 2102

## Lara Ranch

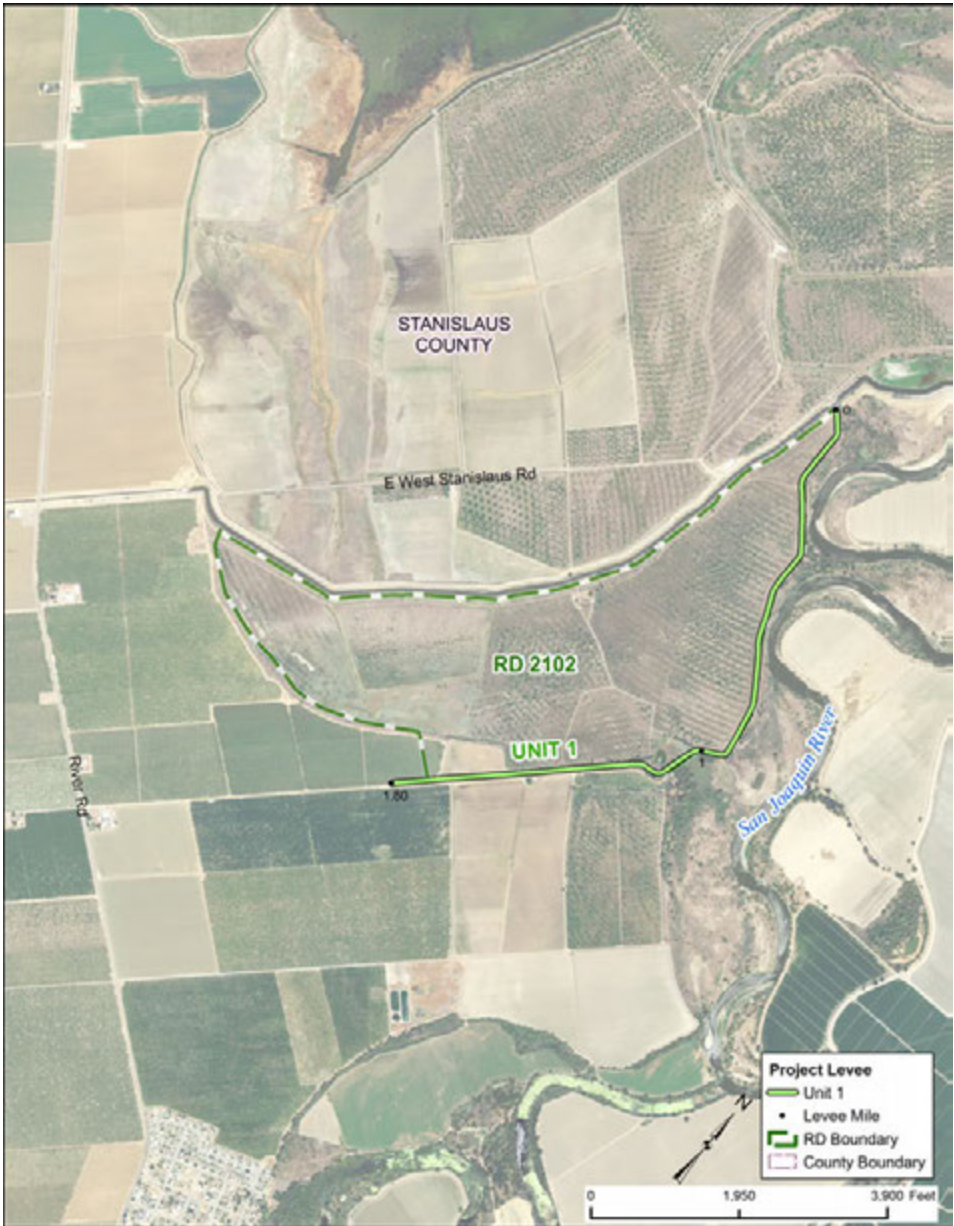
RD 2102

**Stanislaus County**

**Contact**

Kim Forrest  
Manager  
P.O 2176  
Los Banos CA 93635  
Phone: (209) 826-3508

RD 2102



LMA Short Name : RD2102		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	LB	1.80

Threat Assessment & Recommendations

- DWR does not inspect this area and no threat assessment or recommendations were done.

**DWR Levee Inspection Summary**

Levees in this District are not Inspected.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

RD 2102

**DWR San Joaquin River Erosion Summary**

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

This Reclamation District was purchased by the U.S. Fish and Wildlife Service and is now part of the San Joaquin River National Wildlife Refuge. The Project levee in this area has been breached and no longer provides flood protection. Please refer to the letter from U.S. Fish and Wildlife Service in Appendix D.

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# Reclamation District No. 2107

## Mossdale Island

RD 2107

**San Joaquin County**

**Contact**

Robert Brown  
Chairman  
P. O. Box 1429  
Lathrop CA 95330  
Phone: (209) 943-5551

RD 2107



LMA Short Name : RD2107		Bank	Unit Length (Miles)
Unit No. 01	San Joaquin River	LB	2.33
Unit No. 02	Paradise Cut	RB	1.82

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last inspection.
- The LMA should repair locations where the levee slope may be unstable.



### DWR Levee Inspection Summary

RD2107	Total LMA Miles		4.15									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.02		0.02	0.48	0.02		0.02	0.48				0.00
Trim / Thin Trees					0.01		0.01	0.24	0.01		0.01	0.24
Slope Stability					0.02		0.02	0.48	0.02		0.02	0.48
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.02	0.00	0.02	0.48	0.05	0.00	0.05	1.20	0.03	0.00	0.03	0.72

RD 2107

### DWR Structure Inspection Summary

No Structures Inspected in this District.

### DWR Channel Inspection Summary

No Channels Inspected in this District.

### DWR San Joaquin River Erosion Summary

No Supplemental Erosion Sites.

### USACE Inspection Ratings Summary

System Name	Length (Miles)	RIP Status	RIP Date	Rating
RD 2062 and RD 2107 - Stewart Tract	16.26	Inactive	09/09/2015	U

### DWR Flood System Repair Project Summary

#### Unit No. 01 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
208-103	Serious	Seepage		2.33	Left	37.762930	-121.310990
208-4	Critical	Seepage	1.34		Left	37.772610	-121.307050
208-1	Critical	Seepage	1.35	1.45	Left	37.772470	-121.306820
208-2	Critical	Seepage	2.04		Left	37.765040	-121.309750

#### Unit No. 02 Paradise Cut

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
259-102	Serious	Seepage	0.00	0.15	Right	37.760770	-121.309530
259-104	Serious	Seepage	0.45	0.51	Right	37.764470	-121.315870

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on the condition or performance of the levee.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no new relevant information on impairments or compromising conditions.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include erosion repair, levee inspection and patrolling, rodent control, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of erosion repair, levee inspection and patrolling, roadway grading, rodent control, and vegetation control. The reported total estimated cost for the current fiscal year is \$20,500.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency reported that there is no new information relevant to the condition or performance of the levee.

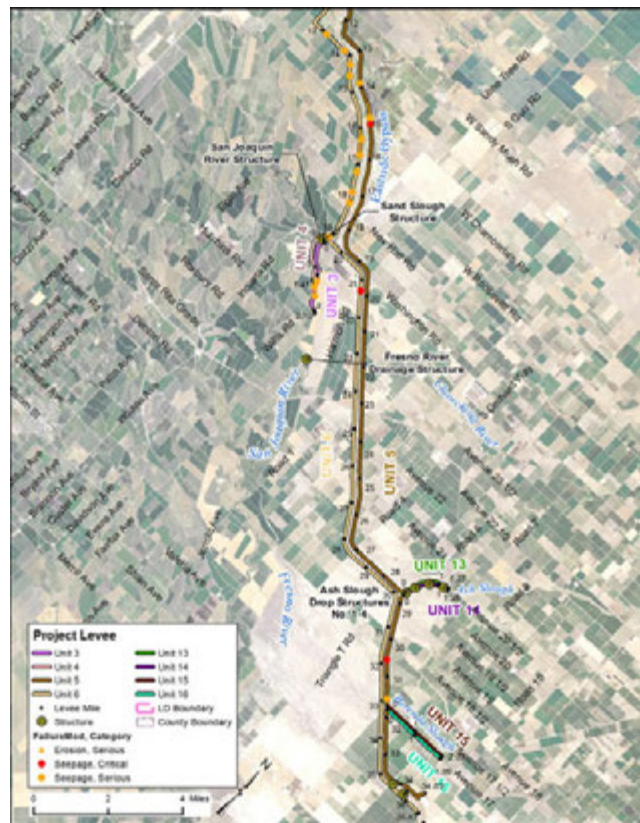
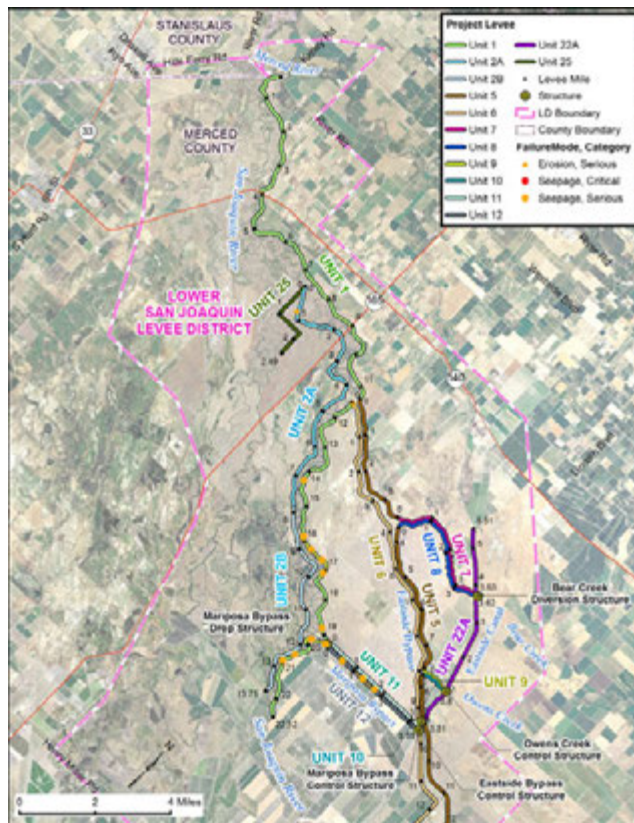
RD 2107

# Lower San Joaquin Levee District

**Fresno County**  
**Madera County**  
**Merced County**  
**Stanislaus County**

**Contact**

Roy Catania  
Board Chairman  
11704 W Henry Miller Avenue  
Dos Palos CA 93620  
Phone: (209) 387-4545



LMA Short Name : NA0010

Bank Unit Length (Miles)

LSJLD

Unit No. 01	San Joaquin River	RB	22.52
Unit No. 02A	San Joaquin River	LB	7.87
Unit No. 02B	San Joaquin River	LB	5.92
Unit No. 03	San Joaquin River	RB	2.10
Unit No. 04	San Joaquin River	LB	1.41
Unit No. 05	East Side Bypass	RB	34.85
Unit No. 06	East Side Bypass	LB	36.47
Unit No. 07	Bear Creek Bypass	RB	3.62
Unit No. 08	Bear Creek Bypass	LB	3.63
Unit No. 09	Owens Creek Bypass	RB	0.87
Unit No. 10	Owens Creek Bypass	LB	0.80
Unit No. 11	Mariposa Bypass	RB	3.31
Unit No. 12	Mariposa Bypass	LB	3.33
Unit No. 13	Ash Slough	RB	1.27
Unit No. 14	Ash Slough	LB	1.28
Unit No. 15	Berenda Slough	RB	2.03
Unit No. 16	Berenda Slough	LB	1.96
Unit No. 17	Chowchilla Canal Bypass	RB	16.09
Unit No. 18	Chowchilla Canal Bypass	LB	15.35
Unit No. 22A	East Side Canal	LB	5.51
Unit No. 23	San Joaquin River	RB	10.24
Unit No. 24	San Joaquin River	LB	8.36
Unit No. 25	Salt Slough	RB	2.49

#### Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should ensure that the levee crown and access roads are able to be driven in all weather conditions.
- The LMA should ensure that the SPFC structure is able to perform as designed and constructed.

# SAN JOAQUIN SYSTEM : Lower San Joaquin Levee District

LSJLD

## DWR Levee Inspection Summary

<b>NA0010</b>	Total LMA Miles		<b>191.27</b>									
	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>			
	Overall LMA Rating		<b>U</b>		Overall LMA Rating		<b>U</b>					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
<i>Earthen Levee</i>												
Vegetation	58.64	1.91	66.28	<b>34.68</b>	34.13	0.30	35.33	<b>18.47</b>	-24.51	-1.61	-30.95	<b>-16.21</b>
Trim / Thin Trees	0.03		0.03	<b>0.02</b>	0.02	0.01	0.06	<b>0.03</b>	-0.01	0.01	0.03	<b>0.02</b>
Encroachments	1.83		1.83	<b>0.96</b>	0.11		0.11	<b>0.06</b>	-1.72		-1.72	<b>-0.90</b>
Animal Control	2.70		2.70	<b>1.41</b>	2.42	0.07	2.70	<b>1.41</b>	-0.28	0.07		<b>0.00</b>
Slope Stability	1.08		1.08	<b>0.57</b>	0.70		0.70	<b>0.37</b>	-0.38		-0.38	<b>-0.20</b>
Erosion / Bank Caving	0.13	0.01	0.17	<b>0.09</b>	0.13	0.36	1.57	<b>0.82</b>		0.35	1.40	<b>0.73</b>
Crown Surface / Depressions / Rutting	10.46		10.46	<b>5.47</b>	3.69	0.01	3.73	<b>1.95</b>	-6.77	0.01	-6.73	<b>-3.52</b>
<i>Interior Drainage &amp; Piping Systems</i>												
Erosion Areas		0.01	0.04	<b>0.02</b>		0.01	0.04	<b>0.02</b>				<b>0.00</b>
Flap Gates					0.01		0.01	<b>0.01</b>	0.01		0.01	<b>0.01</b>
<i>Rivers, Channels &amp; Designated Floodways</i>												
Encroachments												<b>0.00</b>
<i>Supplemental</i>												
DWR UCIP Field Study												<b>0.00</b>
<i>LMA Totals:</i>	74.87	1.93	82.59	<b>43.21</b>	41.21	0.76	44.25	<b>23.13</b>	-33.66	-1.17	-38.34	<b>-20.08</b>

## DWR Structure Inspection Summary

Structure Name	Overall Rating
Ash Slough Drop Structure No. 1	A
Ash Slough Drop Structure No. 2	A
Ash Slough Drop Structure No. 3	A
Ash Slough Drop Structure No. 4	M
Bear Creek Diversion Structure	A
Eastside Bypass Control Structure	A
Eastside Bypass Drop Structure No. 1	A
Eastside Bypass Drop Structure No. 2	A
Fresno River Drainage Structure	A
Mariposa Bypass Control Structure	A
Mariposa Bypass Drop Structure	A
Owens Creek Control Structure	M
Owens Creek Overflow Structure	A
San Joaquin River And Chowchilla Canal Bypass Control Structure	A
San Joaquin River Structure And Sand Slough Structure	M

## DWR Channel Inspection Summary

No Channels Inspected in this District.

## DWR San Joaquin River Erosion Summary

No Supplemental Erosion Sites.



## USACE Inspection Ratings Summary

LSJLD

System Name	Length (Miles)	RIP Status	RIP Date	Rating
LSJLD-Unit 24	8.38	Not Applicable	07/23/2015	M
LSJLD-Units 1, 4, 6, and 12	17.70	Not Applicable	07/23/2015	U
LSJLD-Units 1, 5, 7, and 22	20.31	Not Applicable	07/23/2015	U
LSJLD-Units 1, 6, and 11	20.71	Not Applicable	07/23/2015	M
LSJLD-Units 17, 23 - Fresno R, Chowchilla Bypass	35.35	Not Applicable	07/23/2015	U
LSJLD-Units 2 and 25	16.22	Not Applicable	07/23/2015	U
LSJLD-Units 3, 6, 18 - Eastside-Chowchilla Bypass	34.48	Not Applicable	07/23/2015	U
LSJLD-Units 5 and 13 - Ash Slough right bank	23.53	Inactive	07/16/2015	U
LSJLD-Units 5 and 16 - Berenda Slough and Fresno R	16.35	Inactive	07/16/2015	U
LSJLD-Units 5, 10, and 22	2.98	Not Applicable	07/23/2015	U
LSJLD-Units 5, 14, and 15 - Ash and Berenda Slghs	9.89	Inactive	07/16/2015	U
LSJLD-Units 5, 8, 9, and 22	11.29	Not Applicable	07/23/2015	U



# SAN JOAQUIN SYSTEM : Lower San Joaquin Levee District

LSJLD

## DWR Flood System Repair Project Summary

### Unit No. 01 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
178-101	Serious	Seepage	14.27	14.37	Right	37.241590	-120.817170
178-100	Serious	Seepage	15.82	17.24	Right	37.226090	-120.799100
178-FOC-5	Serious	Seepage	18.80		Right	37.204830	-120.762270
181-FOC-3	Serious	Seepage	19.88	19.23	Right	37.196630	-120.763450
181-FOC-4	Serious	Seepage	20.73	20.53	Right	37.187560	-120.763730
181-FOC-5	Serious	Seepage	20.91		Right	37.185370	-120.765190

### Unit No. 02B San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_NA0010_02_s_2012_5	Serious	Erosion			Left	37.287330	-120.874430

### Unit No. 03 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
183-100	Serious	Seepage	1.17		Right	37.098430	-120.576980
183-1	Serious	Seepage	1.34		Right	37.096210	-120.575730
183-FOC-5	Serious	Seepage	1.57		Right	37.094000	-120.572680

### Unit No. 05 East Side Bypass

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
182-4	Serious	Seepage	13.88		Right	37.166530	-120.627970
182-100	Serious	Seepage	14.89	14.46	Right	37.158940	-120.612490
182-2	Critical	Seepage	15.03		Right	37.157570	-120.610570
DWR_NA0010_05_R_2012_01	Critical	Seepage	30.56		Right	37.009410	-120.425560
DWR_NA0010_05_R_2012_02	Serious	Seepage	31.59		Right	36.998550	-120.412710

### Unit No. 06 East Side Bypass

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_NA0010_06_R_2012_01	Serious	Erosion	0.05		Left	37.275910	-120.824950
252-FOC-1	Serious	Seepage	13.16		Left	37.171670	-120.656190
252-FOC-2	Serious	Seepage	13.80		Left	37.171620	-120.644420
252-1	Serious	Seepage	14.24		Left	37.169180	-120.637780
252-111	Serious	Seepage	14.47	14.57	Left	37.166580	-120.635160
252-106	Serious	Seepage	16.75	16.04	Left	37.145680	-120.603910
252-FOC-3	Serious	Seepage	17.17		Left	37.140730	-120.599520
252-FOC-4	Serious	Seepage	17.76		Left	37.133420	-120.594100
252-FOC-5	Serious	Seepage	18.05		Left	37.129780	-120.591590
252-FOC-6	Serious	Seepage	19.15		Left	37.114550	-120.587600
253-136	Critical	Seepage	21.28		Left	37.107670	-120.557990

### Unit No. 12 Mariposa Bypass

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
354-FOC-1	Serious	Seepage	0.61		Left	37.200920	-120.744130
354-101	Serious	Seepage	1.77	1.07	Left	37.200870	-120.723180

### Unit No. 18 Chowchilla Canal Bypass

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
357-FOC-4	Serious	Seepage	10.96	11.02	Left	36.828060	-120.300110

### Unit No. 23 San Joaquin River

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
219-100	Critical	Seepage	0.21	0.73	Right	36.772690	-120.280550

**DWR Flood System Repair Project Summary**

219-FOC-6	Critical	Seepage	1.93		Right	36.773160	-120.253390
219-FOC-7	Critical	Seepage	3.64		Right	36.779340	-120.234460

**Unit No. 24 San Joaquin River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
220-107	Critical	Seepage	0.85	0.86	Left	36.767150	-120.278440
220-100	Serious	Seepage	1.79	1.71	Left	36.771320	-120.265560
220-1	Critical	Seepage	2.85		Left	36.772060	-120.248370
220-4	Critical	Seepage	3.53		Left	36.768910	-120.237180
220-105	Critical	Seepage	3.70	3.76	Left	36.767840	-120.234340

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported subsidence issues along the Upper Eastside Bypass between RM 0 and 14. The Agency also reported no change in conditions from 2013. The 2013 LMA Report provided information on a variety of issues affecting Levee Units 1, 2A, 2B, 5, and 6. Issues included excessive traffic resulting from personnel using crown roadway to access San Luis Wildlife Refuge, fencing installed by the California State Parks which encroaches on levee slopes, and poor soil along East Side Bypass Levee which cannot sustain proper cover.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported subsidence issues along the Upper Eastside Bypass between RM 0 and 14. The Agency also reported no changes of information after the 2013 Reporting. The 2013 LMA Report provided information on a variety of issues affecting Levee Units 1, 2A, 3, 5, 6, 12, 17A, 18, 22A, 23 and 24. Key issues included seepage in many units resulting from various reasons including native levee soil material type; a levee breach by the landowner at Levee Unit 1, LM 9.91 to 9.94 as landside flood elevations exceeded that of waterside; erosion into the levee crown roadway in Levee Unit 2A, LM 0.73 to 0.75; a flap gate replacement with a free-flowing corrugated metal pipe at Levee Unit 5 LM 0.28; freeboard and channel capacity issues along the entire length of Levee Unit 6; a waterside erosion from livestock grazing on entire Levee Unit 22A; and a river berm erosion caused by the 2006 flood event on Levee Unit 23, LM 5.90.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities. Activities include administrative, management and professional services, channel debris removal, sediment extraction, drainage ditch maintenance, equipment maintenance, minor structure maintenance, roadway graveling, rodent control, personnel training, slope dragging, and vegetation burning, mowing, planting and spraying. The Agency also reported the total maintenance cost for the previous fiscal year as \$901,500.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of administrative, management and professional services, channel debris removal, drainage ditch maintenance, equipment maintenance, minor structure maintenance, personnel training and supervision, roadway graveling, rodent control, sediment extraction, slope dragging, and vegetation burning, mowing, planting and spraying. The reported total estimated cost for all units for the current fiscal year is \$994,300.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency provided a summary of operational concerns about its levees and facilities. The areas of concerns include higher flow releases from the reservoirs, sedimentation in the channels, a narrow bridge crossing, serious channel and structure erosion, subsidence issues, unconfined flood flows, levee height disparity, and seepage issues. The Agency also mentioned the proposal of abandoning Levee Units 2 and 25.

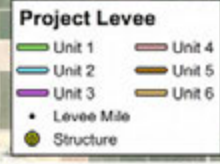
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# Madera County FCWCA

## Madera County

### **Contact**

Ahmad Alkhayyat  
Deputy Director  
200 W 4th Street, 3rd Floor  
Madera CA 93637  
Phone: (559) 675-7811



LMA Short Name : NA0011	Bank	Unit Length (Miles)
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**Threat Assessment & Recommendations**

- There is vegetation that significantly impacts access and visibility in this Area.
- There is significant rodent activity in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should enhance its rodent control program.
- Soil and vegetation exist that may significantly impact the capacity of channels in this Area.
- The LMA should ensure that the capacity of the channel as designed and constructed is maintained.
- The LMA should ensure that the SPFC structure is able to perform as designed and constructed.

**DWR Levee Inspection Summary**

NA0011	Total LMA Miles		26.32									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	32.73	39.75	191.73	728.40	10.51	31.35	135.91	516.34	-22.22	-8.40	-55.82	-212.07
Trim / Thin Trees	0.43	0.05	0.63	2.39	0.35	0.05	0.55	2.09	-0.08		-0.08	-0.30
Encroachments	0.35	0.03	0.47	1.79	0.34	0.03	0.46	1.75	-0.01		-0.01	-0.04
Animal Control	11.40	5.63	33.92	128.87	9.75	6.42	35.43	134.60	-1.65	0.79	1.51	5.74
Slope Stability	1.22	0.67	3.90	14.82	1.19	0.25	2.19	8.32	-0.03	-0.42	-1.71	-6.50
Erosion / Bank Caving	0.01		0.01	0.04					-0.01		-0.01	-0.04
Crown Surface / Depressions / Rutting	1.63		1.63	6.19	1.52		1.52	5.78	-0.11		-0.11	-0.42
Rivers, Channels & Designated Floodways												
Encroachments	0.01		0.01	0.04	0.01		0.01	0.04				0.00
Supplemental												
DWR Erosion Survey	0.02	0.09	0.38	1.44		0.08	0.32	1.22	-0.02	-0.01	-0.06	-0.23
DWR UCIP Field Study												0.00
LMA Totals:	47.80	46.22	232.68	883.98	23.67	38.18	176.39	670.13	-24.13	-8.04	-56.29	-213.85

**DWR Structure Inspection Summary**

Structure Name	Overall Rating
Ash And Berenda Slough Control Structures	A
Fresno River Diversion Weir	M

**DWR Channel Inspection Summary**

Channel Name	Overall Rating
Ash Slough	A
Berenda Slough	M
Chowchilla River	A
Fresno River	M

**DWR San Joaquin River Erosion Summary****Unit No. 02 Ash Slough, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
NA0011U02RM2.57	2.57	1.10	1.19	River Erosion	Existing Site	U

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
LSJLD-Units 17, 23 - Fresno R, Chowchilla Bypass	35.35	Not Applicable	07/23/2015	U
LSJLD-Units 5 and 13 - Ash Slough right bank	23.53	Inactive	07/16/2015	U
LSJLD-Units 5 and 16 - Berenda Slough and Fresno R	16.35	Inactive	07/16/2015	U
LSJLD-Units 5, 14, and 15 - Ash and Berenda Slghs	9.89	Inactive	07/16/2015	U

**DWR Flood System Repair Project Summary****Unit No. 04 Berenda Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
12-2	Critical	Seepage	1.13		Left	36.995580	-120.353080

**Unit No. 05 Fresno River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
27-4	Critical	Seepage	1.34		Right	36.967860	-120.350030
27-102	Critical	Seepage	4.20	4.17	Right	36.968260	-120.298310
27-100	Critical	Seepage	4.81	4.76	Right	36.968310	-120.287260
27-106	Critical	Seepage	5.75	5.73	Right	36.968270	-120.270320

**Unit No. 06 Fresno River**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
28-4	Critical	Seepage	0.64	0.71	Left	36.972950	-120.357890
28-2	Critical	Seepage	1.16		Left	36.967290	-120.352020
DWR_NA0011_06_R_2012_01	Critical	Seepage	1.29		Left	36.967150	-120.349800

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

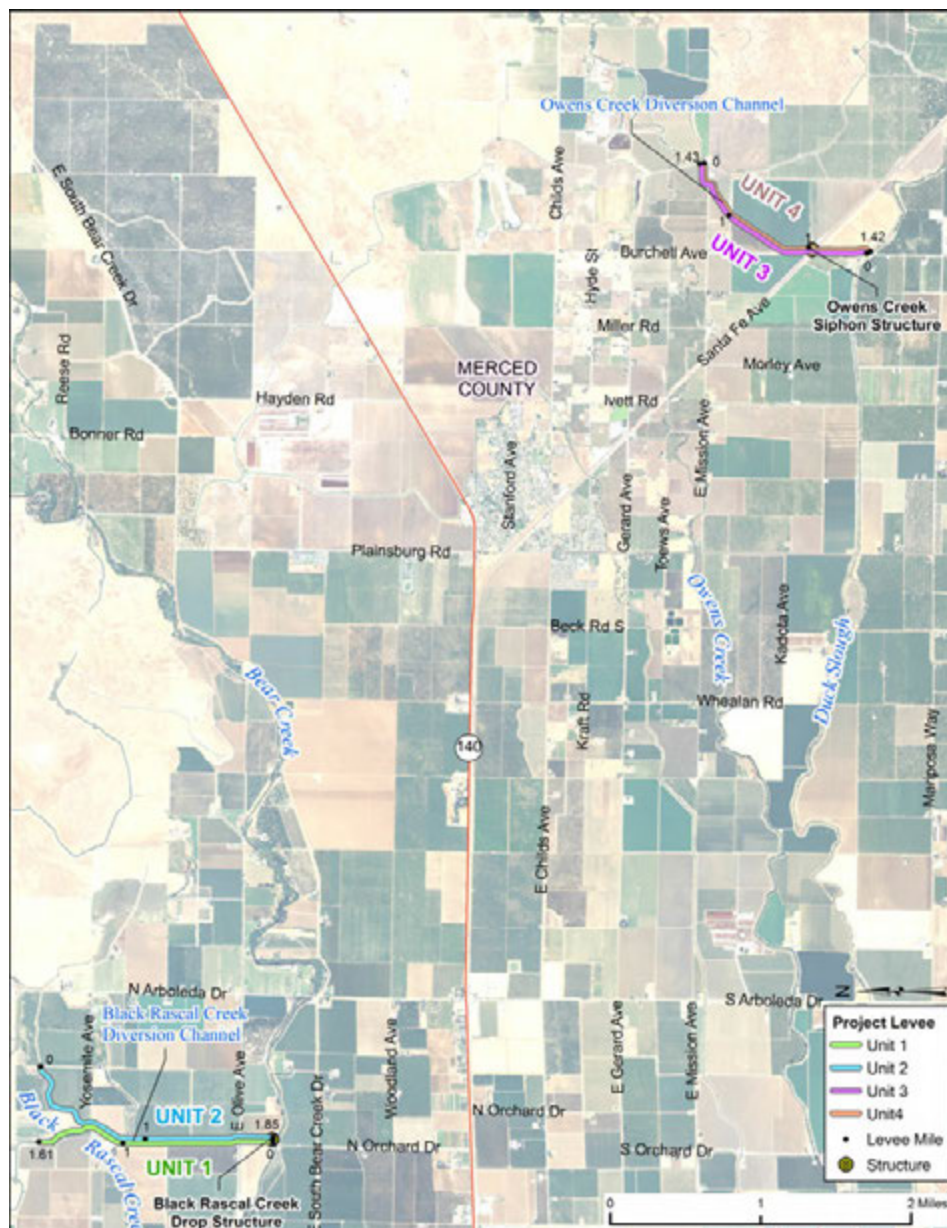


# Merced Streams Group

## Merced County

### **Contact**

Dana Hertfelder  
Director  
715 Martin Luther King Jr. Way  
Merced CA 95341  
Phone: (209) 385-7602



LMA Short Name : NA0013

Bank Unit Length (Miles)

Unit No. 01	Black Rascal Diversion	RB	1.61
Unit No. 02	Black Rascal Diversion	LB	1.85
Unit No. 03	Owens Creek Diversion	RB	1.43
Unit No. 04	Owens Creek Diversion	LB	1.42

### Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should ensure that the capacity of the channel as designed and constructed is maintained.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.

**DWR Levee Inspection Summary**

NA0013	Total LMA Miles		6.31									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	3.21	1.32	8.49	134.61	3.39		3.39	53.75	0.18	-1.32	-5.10	-80.86
Trim / Thin Trees	0.03		0.03	0.48					-0.03		-0.03	-0.48
Animal Control	3.48	0.26	4.52	71.66					-3.48	-0.26	-4.52	-71.66
Slope Stability	0.07		0.07	1.11					-0.07		-0.07	-1.11
Erosion / Bank Caving	0.17		0.17	2.70					-0.17		-0.17	-2.70
Crown Surface / Depressions / Rutting	0.61		0.61	9.67					-0.61		-0.61	-9.67
Repair Gates	0.01		0.01	0.16	0.01		0.01	0.16				0.00
Rivers, Channels & Designated Floodways												
Encroachments		0.01	0.04	0.63						-0.01	-0.04	-0.63
Supplemental												
DWR Erosion Survey	0.01		0.01	0.16					-0.01		-0.01	-0.16
DWR UCIP Field Study												0.00
LMA Totals:	7.59	1.59	13.95	221.18	3.40	0.00	3.40	53.91	-4.19	-1.59	-10.55	-167.27

**DWR Structure Inspection Summary**

Structure Name	Overall Rating
Black Rascal Creek Drop Structure	A
Owens Creek Siphon Structure	A

**DWR Channel Inspection Summary**

Channel Name	Overall Rating
Bear Creek	M
Black Rascal Creek	M
Burns Creek	A
Mariposa Creek & Duck Slough	M
Miles Creek	M *
Owens Creek	A

\* Overall channel rating average is less than 0.2; however, U Rated Miles are present, so the overall rating is M instead of A.

**DWR San Joaquin River Erosion Summary****Unit No. 02 Black Rascal Diversion, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
NA0013U02RM1.31	1.31	1.29	1.29	Maintenance Erosion	Repaired Site	C

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Merced Stream Group - Black Rascal - Unit 1	1.61	Inactive	07/31/2014	U
Merced Stream Group - Black Rascal - Unit 2	1.83	Inactive	07/31/2014	U
Merced Stream Group - Owens Creek - Unit 1	1.36	Inactive	07/31/2014	U
Merced Stream Group - Owens Creek - Unit 2	1.39	Inactive	07/31/2014	U

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report****Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported rodent issues in Levee Unit 2, LM 0.36 to 0.50 and LM 0.70 to 1.00; Levee Unit 3, LM 1.20 to 1.25; and in Levee Unit 4, LM 0.17 to 0.25. The Agency also reported an unauthorized temporary dam in Owens Creek Diversion Channel at Levee Unit 3, LM 0.97, and vegetation issues at Levee Unit 1, 2, 3, and 4 at various locations. The Agency also reported unauthorized traffic at Levee Unit 1, LM 1.24.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that Levee Units 1 and 2 have only 1 foot of freeboard for a 100-year flood. The Agency also reported rodent burrows in Levee Unit 2, LM 0.70 to 1.00 and at Levee Unit 4.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of accomplished maintenance activities for all levee units. Activities include encroachment control, rodent control, hole grouting, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and maintenance planned activities for all levee units. Expenses include costs of encroachment control, rodent control, hole grouting, and vegetation control. The reported total estimated cost for the current fiscal year is \$4,600.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that the current MOU with the California Department of Fish and Wildlife allows routine channel maintenance only during the non-nesting periods. The Agency mentioned that this restriction is affecting the DWR inspection ratings for the maintained channels.

# San Joaquin County Flood Control and Water Conservation District

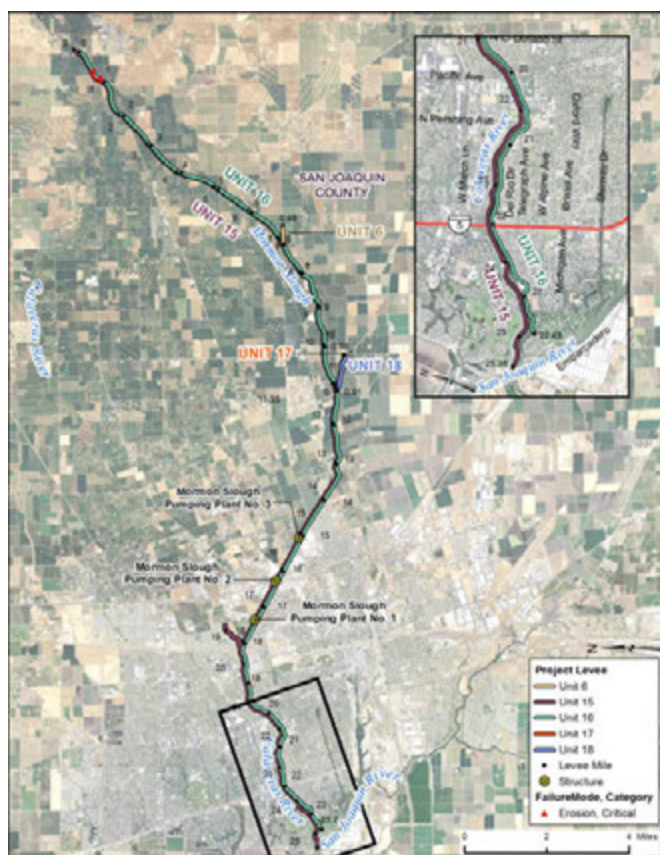
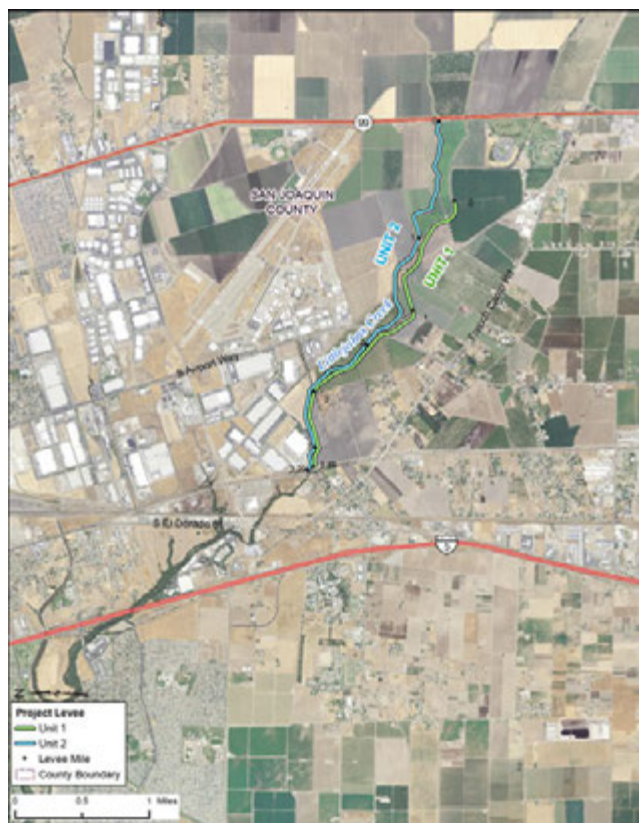
## San Joaquin County

### **Contact**

Tom Gau  
Public Works Director  
1810 East Hazelton Ave  
Stockton CA 95205  
Phone: (209) 953-7617



San Joaquin  
County



# SAN JOAQUIN SYSTEM : San Joaquin County Flood Control and Water Conservation District

LMA Short Name : NA0017

Bank Unit Length (Miles)

Unit No. 01	Littlejohn Creek	LB	2.59
Unit No. 02	Littlejohn Creek	RB	3.20
Unit No. 06	SPRR Drain	LB	0.46
Unit No. 07	Bear Creek	RB	16.11
Unit No. 08	Bear Creek	LB	15.32
Unit No. 09	Paddy Creek	LB	1.53
Unit No. 10	Paddy Creek	RB	1.41
Unit No. 11	North Paddy Creek	RB	3.53
Unit No. 12	North Paddy Creek	LB	3.51
Unit No. 13	Middle Paddy Creek	LB	1.38
Unit No. 14	Middle Paddy Creek	RB	1.38
Unit No. 15	Mormon Slough	RB	25.38
Unit No. 16	Mormon Slough	LB	23.48
Unit No. 17	Potter Creek	RB	0.86
Unit No. 18	Potter Creek	LB	0.91

San Joaquin  
County

## Threat Assessment & Recommendations

- There is vegetation that significantly impacts access and visibility in this Area.
- The LMA should focus more on controlling vegetation to maintain visibility and access.
- The LMA should focus on repairing erosion sites.
- The LMA should work with landowners and the CVFPB to control unauthorized encroachments.
- The LMA should ensure that the capacity of the channel as designed and constructed is maintained.
- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.

## DWR Levee Inspection Summary

NA0017	Total LMA Miles		101.04									
	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.64		1.64	1.63	4.85	0.01	4.89	4.84	3.21	0.01	3.25	3.21
Trim / Thin Trees	0.28		0.28	0.28	0.24		0.24	0.24	-0.04		-0.04	-0.04
Encroachments	0.81		0.81	0.80	0.66		0.66	0.65	-0.15		-0.15	-0.15
Animal Control	0.62	0.04	0.78	0.77	0.39	0.05	0.59	0.58	-0.23	0.01	-0.19	-0.19
Slope Stability	0.38		0.38	0.38	0.34		0.34	0.34	-0.04		-0.04	-0.04
Erosion / Bank Caving	0.38		0.38	0.38	0.42	0.02	0.50	0.49	0.04	0.02	0.12	0.12
Crown Surface / Depressions / Rutting	0.06		0.06	0.06	0.05		0.05	0.05	-0.01		-0.01	-0.01
Interior Drainage & Piping Systems												
Vegetation & Obstructions		0.01	0.04	0.04		0.01	0.04	0.04				0.00
Concrete Floodwalls												
Monolith Joints	0.17		0.17	0.17	0.13		0.13	0.13	-0.04		-0.04	-0.04
Structures & Concrete Lined Channels												
Security Fencing	0.01		0.01	0.01	0.01		0.01	0.01				0.00
Rivers, Channels & Designated Floodways												
Vegetation & Obstructions	0.01		0.01	0.01	0.01		0.01	0.01				0.00
Supplemental												
DWR Erosion Survey	1.24	0.77	4.32	4.28	1.25	0.79	4.41	4.36	0.01	0.02	0.09	0.09
DWR UCIP Field Study												0.00
LMA Totals:	5.60	0.82	8.88	8.80 *	8.35	0.88	11.87	11.75	2.75	0.06	2.99	2.95

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.



**DWR Structure Inspection Summary**

Structure Name	Overall Rating
Duck Creek Diversion Weir And Control Structure	A
Mormon Slough Pumping Plant No. 1	A
Mormon Slough Pumping Plant No. 2	A
Mormon Slough Pumping Plant No. 3	A

**DWR Channel Inspection Summary**

Channel Name	Overall Rating
Duck Creek Diversion Channel	A
North Littlejohn Creek	M
South Littlejohn Creek	M
South Littlejohn Creek North Branch	A

**DWR San Joaquin River Erosion Summary**

**Unit No. 15 Mormon Slough, RB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
NA0017U15RM22.91	22.91	0.39	1.30	River Erosion	Existing Site	M
NA0017U15RM14.49	14.49	8.43	8.43	River Erosion	Existing Site	M
NA0017U15RM13.87	13.87	8.81	8.83	River Erosion	Existing Site	M

**Unit No. 16 Mormon Slough, LB**

Site ID	River Mile	Levee Mile Start	Levee Mile End	Issue Type	Status	Rating
NA0017U16RM23.35	23.35	0.11	0.47	River Erosion	Existing Site	U
NA0017U16RM22.74	22.74	1.05	1.07	River Erosion	Existing Site	U
NA0017U16RM22.58	22.58	1.21	1.21	River Erosion	Existing Site	U
NA0017U16RM22.15	22.15	1.64	1.64	River Erosion	Existing Site	M
NA0017U16RM21.95	21.95	1.75	1.76	River Erosion	Existing Site	M
NA0017U16RM21.94	21.94	1.77	1.78	River Erosion	Existing Site	M
NA0017U16RM22.01	22.01	1.78	1.79	River Erosion	Existing Site	U
NA0017U16RM21.05	21.05	1.98	2.00	River Erosion	Existing Site	M
NA0017U16RM20.62	20.62	2.30	2.31	River Erosion	Existing Site	U
NA0017U16RM20.71	20.71	2.36	2.37	River Erosion	Existing Site	M
NA0017U16RM20	20	2.85	2.91	River Erosion	Existing Site	U
NA0017U16RM19.29	19.29	3.61	3.61	River Erosion	Existing Site	M
NA0017U16RM19.28	19.28	3.77	3.77	River Erosion	Repaired Site	C
NA0017U16RM19.23	19.23	3.82	3.83	River Erosion	Repaired Site	C
NA0017U16RM19.18	19.18	3.87	3.89	River Erosion	Existing Site	M
NA0017U16RM18.69	18.69	4.16	4.18	River Erosion	Existing Site	U
NA0017U16RM17.99	17.99	4.98	4.98	River Erosion	Existing Site	U
NA0017U16RM17.81	17.81	5.33	5.38	River Erosion	Existing Site	M
NA0017U16RM17.27	17.27	5.56	5.58	River Erosion	Existing Site	U
NA0017U16RM17.11	17.11	5.71	5.72	River Erosion	Existing Site	M
NA0017U16RM16.27	16.27	6.49	6.68	River Erosion	Existing Site	U
NA0017U16RM15.57	15.57	7.27	7.33	River Erosion	Existing Site	U
NA0017U16RM14.48	14.48	8.34	8.38	River Erosion	Existing Site	M
NA0017U16RM13.86	13.86	9.00	9.00	River Erosion	Existing Site	M
NA0017U16RM13.85	13.85	9.07	9.07	River Erosion	Existing Site	U
NA0017U16RM13.72	13.72	9.11	9.13	River Erosion	Existing Site	M
NA0017U16RM13.53	13.53	9.37	9.39	River Erosion	Existing Site	M
NA0017U16RM12.95	12.95	9.86	9.88	River Erosion	Existing Site	M

San Joaquin  
County

**USACE Inspection Ratings Summary**

System Name	Length (Miles)	RIP Status	RIP Date	Rating
Bear Creek - Unit 8, west of I-5	0.85	Active	03/23/2015	U
Bear Creek - Units 12 north	0.44	Active	03/23/2015	M
Bear Creek - Units 12 south, 10, and 13	3.67	Active	03/23/2015	M
Bear Creek - Units 7 east	6.54	Active	03/23/2015	M
Bear Creek - Units 7 west and 21	4.19	Active	03/23/2015	U
Bear Creek - Units 7, 22, and 23	9.29	Active	03/23/2015	M
Bear Creek - Units 8, 10, and 11	7.25	Active	03/23/2015	M
Bear Creek - Units 8, 24, 26, and 9	5.57	Active	03/23/2015	M
Bear Creek - Units 8, 25, and 27	11.14	Active	03/23/2015	U
Littlejohn Creek left bank - Unit 1	2.55	Active	01/12/2015	M
Littlejohn Creek right bank - Unit 2	2.14	Active	01/12/2015	M
Mormon Slough - Calaveras R right bank - RD 2074	11.68	Active	03/23/2015	U
Mormon Slough - Calaveras, Divert Canal left bank	12.75	Active	03/23/2015	U
Mormon Slough - Diverting Canal right bank	9.58	Active	03/23/2015	M
Mormon Slough left bank along RR tracks - Unit 16	0.46	Active	03/23/2015	M
Mormon Slough right bank - Unit 15 east	3.64	Active	03/23/2015	M

**DWR Flood System Repair Project Summary****Unit No. 15 Mormon Slough**

POI Number	Category	Failure Mode	Start Levee Mile	End Levee Mile	Bank	Start Latitude	Start Longitude
DWR_NA0017_15_s_2012_10	Critical	Erosion	0.70	1.06	Right	38.046600	-121.021580

**DWR Summary of Local Maintaining Agency Report**

**Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no additional information relevant to levee condition or performance that is beyond issues denoted by DWR, USACE, or the Agency's inspections. The Agency also mentioned that any new issues outside these inspections were reported in the "new issue" of the summer/winter reporting. The Spring 2015 Levee Inspection Report provided unacceptable rating at various levee units for encroachments, slope stability, utility crossings, and vegetation.

San Joaquin  
County

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

The Agency reported that there is no additional information that would impair or compromise levee stability or integrity that is beyond issues denoted by DWR and USACE. The Spring 2015 Levee Inspection Report provided unacceptable rating at various levee units for encroachments, slope stability, utility crossings, and vegetation.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

The Agency provided a summary of maintenance activities performed on all levee units. Activities include cleaning and inspection of flap gates and outfall spillways, encroachment control, erosion repair, gravel placement on patrol roads, inspections, mowing, patrolling, road maintenance and repair, roadway grading, rodent control, sediment removal, spraying of levee slopes, easements and right of way, trash and debris removal, and vegetation removal, trimming and clearing. The Agency also provided actions taken on inspection items listed by DWR in the inspection report. The actions taken include active ongoing program in place, corrected, pending, pending enforcement by CVFPB, and work in progress for animal control, crown depression, encroachments, erosion, slope stability, tree trimming and thinning, and vegetation control.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

The Agency provided a summary of expenses and planned maintenance activities for all levee units. Expenses include costs of access gate repair, erosion repair, flap gate inspections, levee inspections, mowing, roadway maintenance and repair, rodent control, sediment removal, trash and debris removal, and vegetation control. The reported total estimated cost for the current fiscal year is \$2,763,710.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

The Agency stated that there is no additional information relevant to the condition or performance of the levees.

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# **Turlock Irrigation District**

## **Gomes Lake**

**Stanislaus County**

**Contact**

Robert Bohrisch  
Manager  
333 East Canal Drive  
Turlock CA 95381  
Phone: (209) 883-8272

TID



LMA Short Name : NA0065

Bank    Unit Length (Miles)

No Units Associated with this District.

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last Structure inspection.
- The LMA should ensure that the SPFC structure is able to perform as designed and constructed.



**DWR Levee Inspection Summary**

Levees in this District are not Inspected.

**DWR Structure Inspection Summary**

Structure Name	Overall Rating
Gomes Lake Pumping Plant	A

TID

**DWR Channel Inspection Summary**

No Channels Inspected in this District.

**DWR San Joaquin River Erosion Summary**

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report**

**Part 1 Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 1.

**Part 2 Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)**

No information provided by the Agency for Part 2.

**Part 3 A summary of maintenance performed by the Local Agency during the previous fiscal year**

No information provided by the Agency for Part 3.

**Part 4 A statement of work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency**

No information provided by the Agency for Part 4.

**Part 5 Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR**

No information provided by the Agency for Part 5.

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# Appendix **C**

## **Miscellaneous Summary Reports**

This Appendix includes two Local Maintaining Agencies that maintain Project Channels and are outside of Sacramento and San Joaquin River basins.

Appendix C includes:

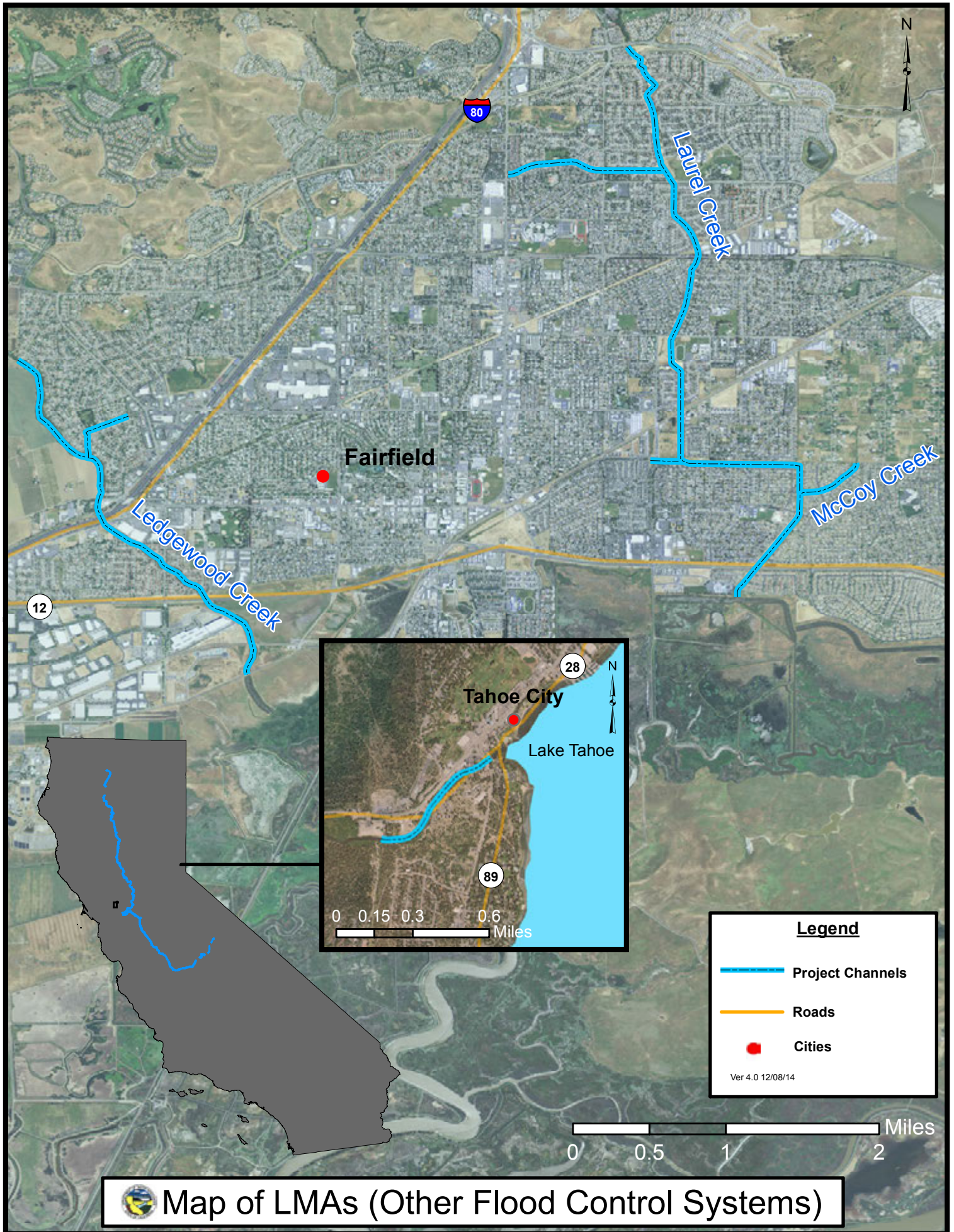
- Miscellaneous Index
- Map
- Individual local Area Summary Profiles

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Local Agencies & Areas	County	Tab Name	Short Name	Page
<b>Named Areas</b>				
Fairfield Suisun Sewer District (Channels)	Solano	FSSD	NA0035	C - 5
Placer County (Channels)	Placer	Truckee River	NA0045	C - 9

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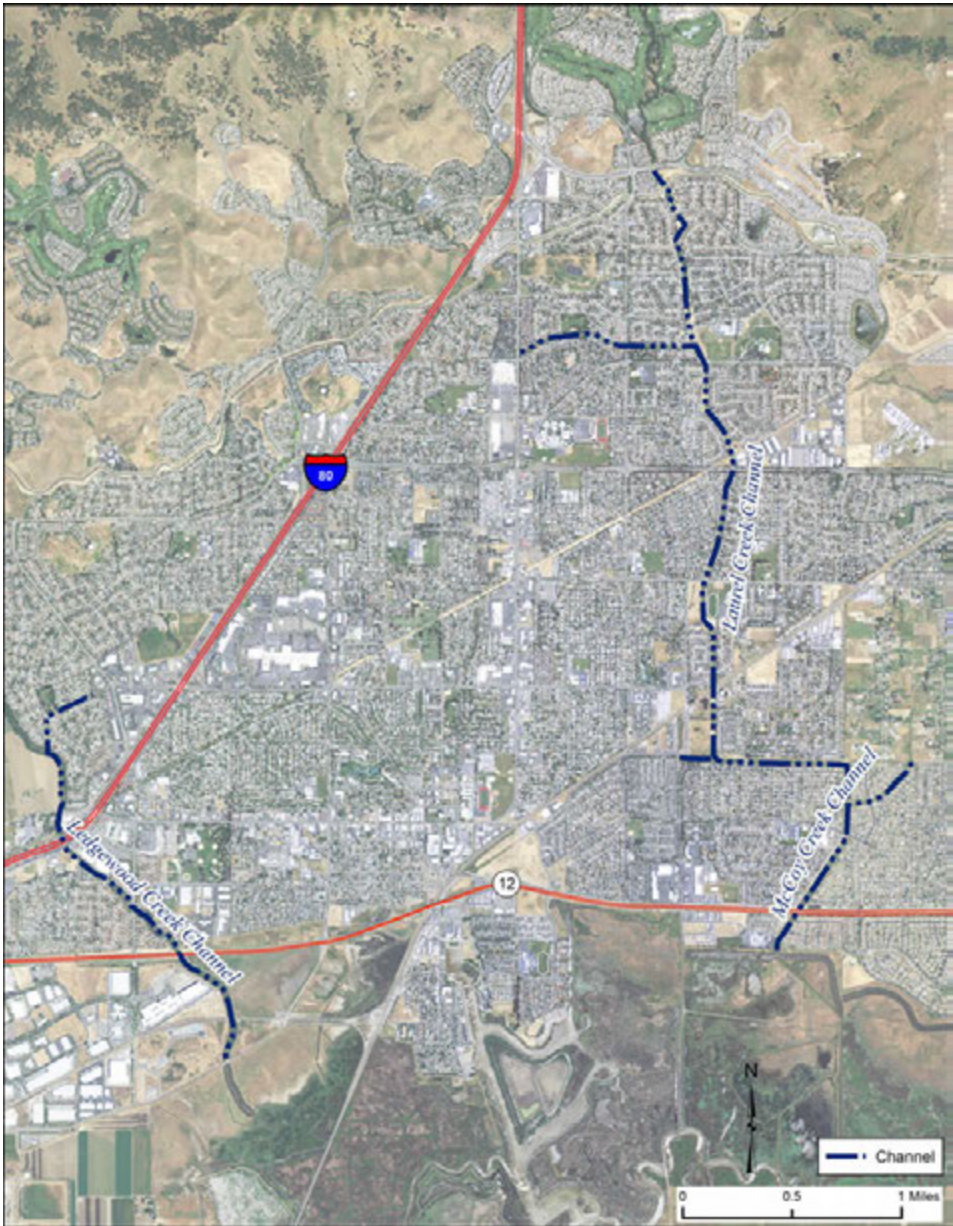


# Fairfield Suisun Sewer District Channels

## Solano County

### **Contact**

Gregory Baatrup  
Manager  
1010 Chadbourne Rd  
Fairfield CA 94534  
Phone: (707) 429-8930



LMA Short Name : NA0035

Bank Unit Length (Miles)

No Units Associated with this District.

Threat Assessment & Recommendations

- The LMA should ensure that the capacity of the channel as designed and constructed is maintained.

**DWR Levee Inspection Summary**

Levees in this District are not Inspected.

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

Channel Name	Overall Rating
Laurel Creek	A
Ledgewood Creek	A
McCoy Creek	A
Union Avenue Diversion	A

**DWR San Joaquin River Erosion Summary**

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report**

No Reporting by this District.

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# Placer County Channels

## Placer County

### **Contact**

Brian Keating  
Manager  
3091 County Center Drive, Suite 220  
Auburn CA 95603  
Phone: (530) 745-7592



Truckee  
River



LMA Short Name : NA0045

Bank Unit Length (Miles)

No Units Associated with this District.

Threat Assessment & Recommendations

- The LMA should continue to maintain the area at the high level seen during the last Channel inspection.



**DWR Levee Inspection Summary**

Levees in this District are not Inspected.

Truckee  
River

**DWR Structure Inspection Summary**

No Structures Inspected in this District.

**DWR Channel Inspection Summary**

Channel Name	Overall Rating
Truckee River	A

**DWR San Joaquin River Erosion Summary**

No Supplemental Erosion Sites.

**USACE Inspection Ratings Summary**

No USACE Ratings available.

**DWR Flood System Repair Project Summary**

No POI Repair Sites.

**DWR Summary of Local Maintaining Agency Report**

No Reporting by this District.

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## Appendix **D**

# Relevant Correspondence for the LMA Reporting Program

2014 Report Announcement Flyer

Report Submission Letter to Libraries, January 26, 2015

Report Submission Letter to Counties, January 26, 2015

Report Submission Letter to Stanford University Libraries, February 2, 2015

Encouragement Letter to LMAs, August 17, 2015

Follow-up Letter to 43 Individual LMAs, September 8, 2015

LMA Example Report

Reporting Requirements Letter to the LMAs, September 11, 2015

Local Maintaining Agency Paper Copy Reporting Guidance

Five Part Reporting Forms

US Fish and Wildlife Letter Regarding Reclamation District Nos. 2099, 2100, and 2102, September 1, 2010

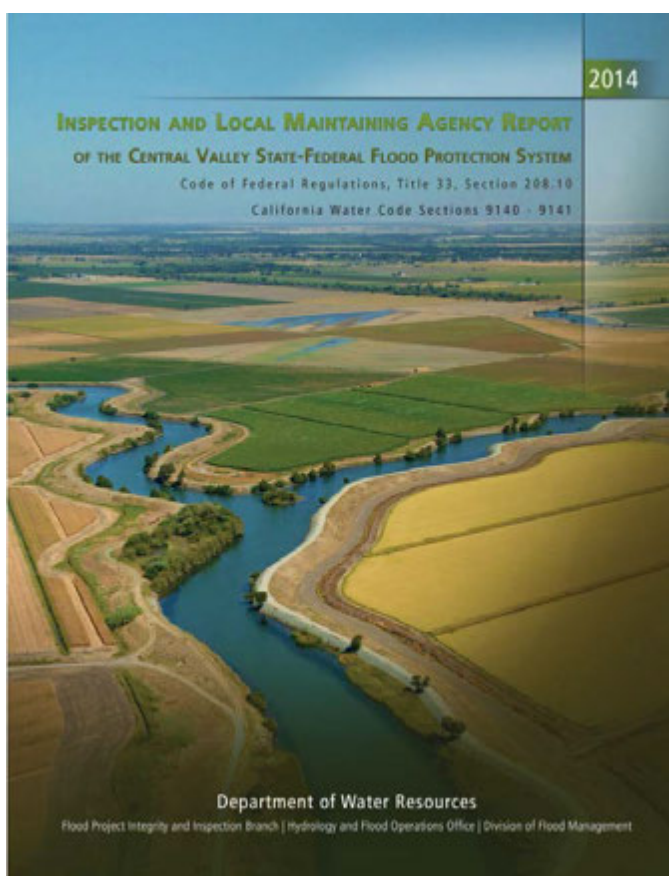
DWR response to US Fish and Wildlife Letter Regarding Reclamation District Nos. 2099, 2100, and 2102, November 4, 2010

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## 2014 Inspection and Local Maintaining Agency Report Now Available

CDs of the 2014 Inspection and Local Maintaining Agency Report (Code of Federal Regulations, Title 33, Section 208.10 and California Water Code Section 9140-9141) are being distributed to the local agencies, counties, and public libraries located within the local agency's jurisdiction.

Bound hardcopy reports are available upon request.



An electronic version of the report is also available on the Web at the following location:  
[http://cdec.water.ca.gov/current\\_reports.html](http://cdec.water.ca.gov/current_reports.html)

Questions or comments regarding the DWR Local Agency Reporting Program may be directed to Nekane Hollister by phone at (916) 574-2762, or via e-mail at [Nekane.Hollister@water.ca.gov](mailto:Nekane.Hollister@water.ca.gov). Similarly, questions or comments regarding the DWR Flood Project Inspection Program may be directed to David Pesavento by phone at (916) 574-1205, or via email at [David.Pesavento@water.ca.gov](mailto:David.Pesavento@water.ca.gov).

**DEPARTMENT OF WATER RESOURCES**

DIVISION OF FLOOD MANAGEMENT

P.O. BOX 219000

SACRAMENTO, CA 95821-9000



January 26, 2015

To: Libraries Designated by California Water Code Sections 9140 and 9141

RE: Issuance of 2014 Inspection and Local Maintaining Agency (LMA) Report

We are hereby providing the 2014 Inspection and Local Maintaining Agency Report to your library. The enclosed CD holds the electronic version of this report. The legislatively mandated (Code of Federal Regulations, Title 33, Section 208.10 and California Water Code Section 9140-9141) report includes information from the following programs: California Department of Water Resources (DWR) Inspections, DWR Local Maintaining Agency Reporting, United States Army Corps of Engineers (USACE) Rehabilitation Inspection Program, DWR Points of Interest, DWR Erosion Survey on the San Joaquin River, and USACE's Erosion Survey on the Sacramento River. DWR is required to send the report to your library pursuant to California Water Code Section 9141, which follows:

"The department shall make the flood management report for each local agency available on the Internet Web site of the board and shall provide the report to all of the following entities:

- (1) The local agency.
- (2) Any city or county within the local agency's jurisdiction.
- (3) Any public library located within the local agency's jurisdiction."

The following websites have links to the report along with other information relating to the Inspection and LMA reporting programs:

<http://cdec.water.ca.gov/lma.html> and <http://cdec.water.ca.gov/fsir.html>

Hard copies of this report may be obtained via mail request to: Department of Water Resources, Publications, P.O. Box 942836, Sacramento, CA 94236, 916-653-1097 or by e-mail request to Publications at: [imr-publications@water.ca.gov](mailto:imr-publications@water.ca.gov).

Thank you for helping to make this report available to the public. If you have any questions or would like additional information, please contact me at [Nekane.Hollister@water.ca.gov](mailto:Nekane.Hollister@water.ca.gov) or (916) 574-2762.

Sincerely,

Nekane Hollister, Chief  
Local Maintaining Agency Program

Enclosure: CD



**DEPARTMENT OF WATER RESOURCES**

DIVISION OF FLOOD MANAGEMENT  
P.O. BOX 219000  
SACRAMENTO, CA 95821-9000



January 26, 2015

To: Counties Designated by California Water Code Sections 9140 and 9141

RE: Issuance of 2014 Inspection and Local Maintaining Agency (LMA) Report

We are hereby providing the 2014 Inspection and Local Maintaining Agency Report to your county public office. The enclosed CD holds the electronic version of this report. The legislatively mandated (Code of Federal Regulations, Title 33, Section 208.10 and California Water Code Section 9140-9141) report includes information from the following programs: California Department of Water Resources (DWR) Inspections, DWR Local Maintaining Agency Reporting, United States Army Corps of Engineers (USACE) Rehabilitation Inspection Program, DWR Points of Interest, DWR Erosion Survey on the San Joaquin River, and USACE's Erosion Survey on the Sacramento River. DWR is required to send the report to your county public office pursuant to California Water Code Section 9141, which follows:

"The department shall make the flood management report for each local agency available on the Internet Web site of the board and shall provide the report to all of the following entities:

- (1) The local agency.
- (2) Any city or county within the local agency's jurisdiction.
- (3) Any public library located within the local agency's jurisdiction."

The following web sites have links to the report along with other information relating to Inspection and LMA reporting programs:

<http://cdec.water.ca.gov/lma.html> and <http://cdec.water.ca.gov/fsir.html>

Hard copies of this report may be obtained via mail request to: Department of Water Resources, Publications, P.O. Box 942836, Sacramento, CA 94236, 916-653-1097 or by e-mail request to Publications at: [imr-publications@water.ca.gov](mailto:imr-publications@water.ca.gov).

Thank you for helping to make this report available to the public. If you have any questions or would like additional information, please contact me at [Nekane.Hollister@water.ca.gov](mailto:Nekane.Hollister@water.ca.gov) or (916) 574-2762.

Sincerely,

Nekane Hollister, Chief  
Local Maintaining Agency Program

Enclosure: CD



STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY

EDMUND G. BROWN JR., Governor

**DEPARTMENT OF WATER RESOURCES**DIVISION OF FLOOD MANAGEMENT  
P.O. BOX 219000  
SACRAMENTO, CA 95821-9000

February 02, 2015

To: Donna Bookbinder  
Serials Access & Maintenance  
Stanford University Libraries, Green Library  
Stanford, CA 94305-6004, USA

RE: Issuance of 2014 Inspection and Local Maintaining Agency Report

This letter is in response to your email dated January 29, 2015 requesting two hard copies of the 2014 Inspection and Local Maintaining Agency Report of the Central Valley State-Federal Flood Protection System.

Enclosed you will find two print copies of the 2014 Inspection and Local Maintaining Agency Report. If appropriate, please let anyone interested in the report know about the following web site: <http://cdec.water.ca.gov/lma.html>. This web site has links to electronic copies of current and past reports as well as other information relating to the Levee Inspection program and the Local Maintaining Agency Reporting program:

If you have any other questions or need additional information, please contact me at [Nekane.Hollister@water.ca.gov](mailto:Nekane.Hollister@water.ca.gov) or (916) 574-2762.

Sincerely,

A handwritten signature in cursive script that reads "Nekane Hollister".

Nekane Hollister, Chief  
Local Maintaining Agency Program

Enclosures: 2 printed copies of 2014 Report

**DEPARTMENT OF WATER RESOURCES**

DIVISION OF FLOOD MANAGEMENT

P.O. BOX 219000

SACRAMENTO, CA 95821-9000



August 17, 2015

[LMA Name]

[LMA Address]

Dear [LMA Representative Name]:

Thank you for submitting your 2014 Local Maintaining Agency (LMA) Annual Report to the Department of Water Resources (DWR). The information we receive from the LMAs is very valuable and we appreciate the time and commitment required of each LMA to participate in the annual reporting program. In general, we are receiving excellent information. However, after reviewing last year's submissions, we've found it necessary to request more comprehensive information from some LMAs so that each October, right before the beginning of flood season, we have the most up to date information in our database to assist you if you need our help flood fighting.

The information you submit is important because it gives us data above and beyond what we collect in our inspections program and we use it to help us assess the condition of the levees. The information on your current levee issues is entered into our database so that our emergency response program can access that information during an emergency. The information on the costs of maintenance is used in conjunction with other financial information to inform DWR's planning process. This financial information is processed, evaluated, and totaled in a way that keeps the sources anonymous, yet informs the Central Valley Flood Protection Planning Office's planning process of the magnitude of any funding shortfalls.

As we work with you to improve the quality of the reports we receive from the LMAs, we will be evaluating the reports that are submitted in 2015 for completeness. The more complete an LMA's report, the more positively it will affect the approval and cost share of certain DWR grant and repair programs.

Soon we will be sending out letters requesting submissions for the annual reporting program. To help clarify the specific information we are looking for, these letters will include an example of an annual report that we consider to fully meet the AB 156 reporting requirements.

If you have any questions or would like further assistance, please call me at (916) 574-2762, or email me at [Nekane.Hollister@water.ca.gov](mailto:Nekane.Hollister@water.ca.gov). I would be more than happy to answer any questions you may have and I look forward to receiving your 2015 Report.

Sincerely,

A handwritten signature in blue ink that reads "Nekane Hollister".

Nekane Hollister, Chief  
Local Maintaining Agency Program

September 8, 2015

Name

Address

Dear

This is a follow-up to the recent letter requesting that more comprehensive information be submitted in the LMA annual report. A copy of your 2014 report with specific comments on how the reporting can be improved is included as an attachment to this letter. We are also including a five page Reporting Guidance document that clarifies what information should be reported in each Part, and an example of an annual report that we consider to fully meet the AB 156 reporting requirements.

Please note that whatever is reported in Part 2 "Levee Conditions that Might Impair or Compromise the level of Flood Protection" is being included in a database available to DWRs emergency responders and will highlight any levee integrity issues that our flood fight responders need to be aware of when assisting in a flood fight on your levee.

If you have any questions or would like further assistance, please call me at (916) 574-2762, or email me at [Nekane.Hollister@water.ca.gov](mailto:Nekane.Hollister@water.ca.gov). I would be more than happy to answer any questions you may have and I look forward to receiving your 2015 Report.

Sincerely,

A handwritten signature in blue ink that reads "Nekane Hollister". The signature is fluid and cursive, with the first name and last name clearly distinguishable.

Nekane Hollister, Chief  
Local Maintaining Agency Program

Department of Water Resources  
Division of Flood Management

Example of a Best Annual Report

Flood Project Integrity and Inspection Branch  
Local Maintaining Agency  
Assessment Section

PART#	UNIT_NAME	CATEGORY	DESCRIPTION	B LM	E LM	LOCATION	COMMENTS	COST EST
1	Unit No. 1 Left Bank	Berm Erosion	Waterside berm erosion	3.75	3.95		Erosion area slated for repair in the Fall	
1	Unit No. 1 Left Bank	Relief Wells/Piezometers	Relief wells installed by ACOE (Army Corps of Engineers). Expect first maintenance by ACOE to transfer to Operations and Maintenance.	5.8	5.8		Relief Wells	
1	Unit No. 1 Left Bank	Encroachment	Cal Trans I-5 R/W Fence.	2.37	3.63		Cal Trans conducts annual maintenance of clearing and hauling.	
1	Unit No. 1 Left Bank	Minor Settlement, Sloughing, or Loss of Grade	Slumping of landside levee slope occurred in March during peak storms	1.4	1.6		Project has an approved construction plan for repair this fall	
1	Unit No. 1 Left Bank	Encroachment	Sacramento River Walk/Promenade	0.77	0.95	Waterside landscaping		
1	Unit No. 1 Left Bank	Relief Wells/Piezometers	No Feature/Description	0.77	0.79		Piezometers. Read and reported per O&M manual. No reading in 2007 and 2008. Readings are conducted at high water levels. Well maintenance conducted quarterly.	
1	Unit No. 1 Left Bank	Berm Erosion	Site reported for consideration for SAC bank project erosion control work by COE.	0.77	0.79		Concrete revetment	
1	Unit No. 1 Left Bank	Sediment Accumulation	Sediment accumulation due to lack of channel maintenance	3.5	8.65			
1	Unit No. 1 Left Bank	Encroachment	Fence at Railroad yard.	0.18	0.38	Sacramento River landside fence running North and South along bike trail.		
1	Unit No. 1 Left Bank	Levee Crown	depression in levee crown	6.4	6.44			
2	Unit No. 1 Left Bank	Pipes/Crossing	16-inch concrete irrigation pipe, 12 ft below the crown is missing gates on both sides	3.55	3.55			
2	Unit No. 1 Left Bank	Pipes/Crossing	24-inch concrete irrigation pipe, 12 ft below the crown, is missing gates on both sides	2.01	2.01			
2	Unit No. 1 Left Bank	Seepage	Under seepage	5.67	5.82		Levee is in need of seepage repair	
2	Unit No. 1 Left Bank	Subsidence		3.5	3.55			
1	Unit No. 1 Left Bank	Levee Erosion	Site reported for consideration for SAC bank project erosion control by work by Corps of Engineers.	5.8	5.8	Erosion near toe of levee.		
2	Unit No. 1 Left Bank	Levee Erosion	Waterside erosion near toe	5.5	5.5			
2	Unit No. 1 Left Bank	Cracks	Cracking on edge of levee road top on landside for 1,100 feet	1.4	1.5		Cracking and slumping of levee is slated to be repaired in the Fall	
2	Unit No. 1 Left Bank	Sand Boils	2-5ft diameter boils and 1-2ft diameter boil	3.7	3.71		Boils starts flowing when the water surface is 5 feet below the levee crown	
2	Unit No. 1 Left Bank	Deficient Freeboard/ Levee Crown Height	Channel has only 1-foot freeboard when carrying 100-year flow.	3.7	3.95			
3	Unit No. 1 Left Bank	Rodent Control/Bait and Traps	LMA currently baits and traps rodents on Sacramento River.	0	9.85			
3	Unit No. 1 Left Bank	Vegetation Control/Burning	Entire unit	0	9.85			
3	Unit No. 1 Left Bank	Vegetation Control/Spraying	Entire unit	0	9.85			
3	Unit No. 1 Left Bank	Vegetation Control/Mowing	Entire unit	0	9.85			
3	Unit No. 1 Left Bank	Vegetation Control/Thin and Trim	Entire unit	0	9.85			
3	Unit No. 1 Left Bank	Slope Dragging	Entire unit	0	9.85			

Department of Water Resources  
Division of Flood Management

**Example of a Best Annual Report**

Flood Project Integrity and Inspection Branch  
Local Maintaining Agency  
Assessment Section

PART#	UNIT NAME	CATEGORY	DESCRIPTION	B LM	E LM	LOCATION	COMMENTS	COST EST
3	Unit No. 1 Left Bank	Rodent Control/Hole Grouting		0	9.85			
3	Unit No. 1 Left Bank	Roadway		2.5	5.3			
3	Unit No. 1 Left Bank	Encroachment Control	removed wood pile from the levee crown	2.7	2.7			
3	Unit No. 1 Left Bank	Erosion Repair	repaired 2 erosion sites			At levee miles 1.77 and 6.45		
3	Unit No. 1 Left Bank	Gates	Installed gate new gate	0	0			
4	Unit No. 1 Left Bank	Legal/Admin/Management Services	Planning budget, project oversight, contract management, surveying, monitoring, etc.	0	9.85			\$62,500
4	Unit No. 1 Left Bank	Vegetation Control/Burning	Entire unit	0	9.85			\$8,000
4	Unit No. 1 Left Bank	Vegetation Control/Spraying	Entire unit	0	9.85			\$15,000
4	Unit No. 1 Left Bank	Vegetation Control/Mowing	Entire unit	0	9.85			\$4,000
4	Unit No. 1 Left Bank	Surveying and Engineering	Engineering	0	9.85			\$7,000
4	Unit No. 1 Left Bank	Rodent Control/Bait and Traps	LMA currently baits and traps rodents on Sacramento River.	0.2	9.85			\$7,000
4	Unit No. 1 Left Bank	Encroachment Control	Planning to remove more encroachments	0	9.85			\$2,000
4	Unit No. 1 Left Bank	Vegetation Control/Thin and Trim	Entire unit	0	9.85			\$10,000
4	Unit No. 1 Left Bank	Slope Dragging	Entire unit	0	9.85			\$3,000
4	Unit No. 1 Left Bank	Rodent Control/Hole Grouting	Entire unit	0	9.85			\$9,000
4	Unit No. 1 Left Bank	Roadway/Grading/Maintenance	Entire unit	0	9.85			\$2,500
4	Unit No. 1 Left Bank	Erosion Repair	Repair erosion site	3.75	3.75			\$75,000
4	Unit No. 1 Left Bank	Gates	Gate maintenance	0	9.85			\$500
4	Unit No. 1 Left Bank	Patrolling	Levee patrolling during high water	0	9.85			\$800
5	Unit No. 1 Left Bank	Construction Drawing/As-Builts	As built drawings for slurry wall, relief wells, piezometers, and floodwalls are available	1.5	7.6			
5	Unit No. 1 Left Bank	Encroachments	LMA currently has finalized Letter of Intent. These letters have been sent out to homeowners and businesses who are in violation.	0	9.85			
5	Unit No. 1 Left Bank	Emergency Action Plan	District is working on creating an Emergency Action Plan (EAP)	0	9.85		EAP is expected to be complete by Spring of next year	
5	Unit No. 1 Left Bank	Permits/MOU's	LMA is in process to finalize permits and ACOE MOU	0	9.85			

**Legend**

B LM - Beginning of Levee Mile
E LM - End of Levee Mile

**DEPARTMENT OF WATER RESOURCES**

DIVISION OF FLOOD MANAGEMENT  
P.O. BOX 219000  
SACRAMENTO, CA 95821-9000



September 11, 2015

To: Local Maintaining Agencies

RE: Local Agency Reporting Requirements

The purpose of this letter is to remind you of the upcoming Local Maintaining Agency Annual Reporting deadline and the tools available for submitting the required information.

The CWC deadline for the LMA to submit the information to DWR is **September 30, 2015**, based on California Water Code (CWC) § 9140.

In turn, DWR is required to consolidate this information and provide a summary report to the CVFPB by **December 31, 2015**.

CWC § 9140 requires Local Maintaining Agencies (LMAs) to provide an annual report to the Department of Water Resources (DWR) which includes the following five categories of information:

1. Information known to the LMA that is relevant to the condition or performance of the project levee (or jurisdictional non-project levee).
2. Information identifying known conditions that might impair or compromise the level of flood protection provided by the project levee (or jurisdictional non-project levee).
3. A summary of maintenance performed by the LMA during the previous fiscal year.
4. A statement of work and estimated cost for operation and maintenance of the project levee (or jurisdictional non-project levee) for the current fiscal year, as approved by the LMA.
5. Any other readily available information contained in the records of the LMA relevant to the condition or performance of the project levee, (or jurisdictional non-project levee), as determined by the Central Valley Flood Protection Board (CVFPB) or DWR.

DWR has developed both electronic and hard copy reporting options to assist the LMA in meeting the annual reporting requirements. The electronic reporting 'Web Application' can be found by clicking on the *Local Maintaining Agency Annual Report (Web Application)* link at the LMA Program site located at:

<http://cdec.water.ca.gov/lma.html>

This site, developed in coordination with the California Data Exchange Center (CDEC), provides additional references (Fact Sheet, Maps, Reporting Examples, Reporting Template forms, Web Application User Guide, etc) and instructions on how to request an online account.

September 02, 2015  
 Local Levee Maintaining Agencies  
 Page 2

For hard copy reporting, or for submitting documents or attachments, we have enclosed the reporting instructions and the template forms. After completing these forms, please send them to the return address provided below:

Department of Water Resources  
 Flood Project Integrity and Inspection Branch  
 P.O. BOX 219000, Room 256  
 Sacramento, CA 95821-9000  
 Attn: Nekane Hollister

**To meet the CVFPB's December 31 deadline, DWR is encouraging LMAs to submit reports by September 30, 2015. Any information submitted after this date may not be included in the 2015 Annual Report.**

If your agency provided **non-Project** levee information to DWR, that information is now available on the web application and you are encouraged to report for non-Project levees using the web application. Directions on how to report for non-Project levee units are provided in the updated User Guide. If your agency maintains non-Project levees but has not yet provided information on them, DWR encourages you to do so with this year's reporting.

DWR is also offering one-on-one training for the web application. Staff from DWR will come to your office and help you with the Five-Part Reporting as well as the non-project levee information submission. Please RSVP as soon as possible to schedule your one-on-one training session.

To qualify for DWR Flood Emergency Response Grants, LMAs must be in compliance with CWC § 9140, which means they must have submitted their Local Maintaining Agency Annual Report. For more information regarding these grants, please visit <http://www.water.ca.gov/floodmgmt/hafoo/fob/floodER/> or contact Pat Clark at (916) 574-1249 ([Patricia.Clark@water.ca.gov](mailto:Patricia.Clark@water.ca.gov)).

If you have any questions or comments regarding the Local Maintaining Agency Annual Reporting Program (CWC § 9140), please contact me at (916) 574-2762 ([Nekane.Hollister@water.ca.gov](mailto:Nekane.Hollister@water.ca.gov)), Tariq Chechi at (916) 574-2354 ([Tariq.Chechi@water.ca.gov](mailto:Tariq.Chechi@water.ca.gov)) or Saskia Donovan at (916) 574-2759 ([saskia.donovan@water.ca.gov](mailto:saskia.donovan@water.ca.gov)).

Sincerely,

Nekane Hollister, Chief  
 Flood Project Engineering Assessment Section

Enclosures:  
 Local Agency Paper Copy Reporting Guidance  
 2015 Reporting Forms



### Local Agency Paper Copy Reporting Guidance

The enclosed forms are provided for your use in reporting Local Agency information required by California Water Code (CWC) § 9140.

As a reminder, information may also be submitted using the electronic reporting web application developed in partnership with the California Data Exchange Center (CDEC). This electronic reporting application can be found at:

<http://cdec.water.ca.gov/lma.html>

For paper copy reporting you may also wish to include, or simply submit reports your Local Agency generates, other attachments, photographs, spreadsheets, etc. An overview of the information required by CWC § 9140 is shown below:

CWC § 9140 'Parts'	Information Requested
Part 1 Reporting	Issues Relevant to Levee Condition or Performance
Part 2 Reporting	Conditions that might Impair or Compromise Level of Flood Protection
Part 3 Reporting	Summary of Levee Maintenance Performed during the Previous Fiscal Year (July 1, 2014 – June 30, 2015)
Part 4 Reporting	Statement of Levee Work and Estimated Cost for Operation & Maintenance for Current Fiscal Year (July 1, 2015 – June 30, 2016)
Part 5 Reporting	Other Readily Available Information Relevant to Levee Condition or Performance

When completed, please return the information using the enclosed pre-addressed envelope. Local Agency reports are due to the Department by **September 30<sup>th</sup> of each year.**

Further guidance on the type of information requested is described below:

<b>Part 1 Reporting:</b> Issues Relevant to Levee Condition or Performance	
<b><i>Type of Information Requested</i></b>	<b><i>Condition/Performance Feature or Category</i></b>
<p>In Part 1, the Department would like to receive information on areas of concern known by the Local Agencies relative to levee operation or maintenance conditions. The <b>Condition/Performance Feature or Category</b> items shown to the right are intended as a guide to the type of information categories the Department would like to see reported for Part 1. The list of items was developed using operation, maintenance, and inspection items which are related to the condition or performance of levees. The items were derived from the Standard Operation and Maintenance (O&amp;M) Manuals published for the Sacramento and San Joaquin River Flood Control Projects, inspection checklists provided in the Supplemental Unit O&amp;M Manuals, and the Superintendent's Guide to Operation and Maintenance of California's Flood Control Projects. These are suggested reporting items and/or categories which are intended to facilitate consistent reporting. The list is not all inclusive, and 'Other' may be used for items that are not identified. Issues identified by the Department in your inspection report do not need to be reported.</p>	Access Gates
	Access Roads and Road Ramps
	Accumulation of Drift, Trash or Debris
	Barren Area/No Cover or Sod
	Berm Erosion
	Bridges and Crossings
	Burrow Holes
	Caving
	Compaction/Loose Fill
	Dredging
	Encroachment
	Flood Walls
	In-Channel Vegetation
	Levee Crown
	Minor Settlement, Sloughing, or Loss of Grade
	Other
	Pipe Flap Gates/Gate Valves
	Pump Stations
	Relief Wells/Piezometers
	Revetment/Rip-Rap
	Sediment Accumulation
	Toe Drainage Systems
	Unauthorized Grazing or Vehicle Traffic
	Vegetation

<b>Part 2 Reporting:</b> Levee Conditions that might Impair or Compromise Level of Flood Protection	
<b><i>Type of Information Requested</i></b>	<b><i>Condition Feature or Category</i></b>
<p>In Part 2, the Department would like to receive information on areas of concern known by the Local Agencies relative to levee integrity/stability conditions. The Levee <b>Condition Feature or Category</b> items shown to the right are intended as a guide to the type of information categories the Department would like to see reported for Part 2. The selectable items list was developed considering items and conditions related to the structural integrity of, or structural changes to, the levee system. There may be many overlapping items that could be entered into either Part 2 or Part 1. The list includes typical geotechnical levee distress issues, and conditions described in the “Suggested Methods of Combating Flood Conditions” sections of the Standard Operation and Maintenance (O&amp;M) Manuals published for the Sacramento and San Joaquin River Flood Control Projects and the associated Supplemental Unit O&amp;M Manuals. These are suggested reporting items and/or categories which are intended to facilitate consistent reporting. The list is not all inclusive, and ‘Other’ may be used for items that are not identified. Issues identified by the Department in your inspection report do not need to be reported.</p>	Burrow Holes
	Channel Migration
	Closure Structures
	Cracks
	Deficient Freeboard/Levee Crown Height
	Flood Walls
	Levee Erosion
	Major Settlement, Sloughing, or Loss of Grade
	Other
	Pipe Crossing
	Problems Identified on Adjacent Levees Protecting Same Area
	Sand Boils
	Seepage
	Sinkhole
	Subsidence

**Part 3 Reporting:** Summary of Levee Maintenance Performed during the Previous Fiscal Year  
(July 1, 2014 – June 30, 2015)

<i>Type of Information Requested</i>	<b>Maintenance Category</b>
<p>Reporting that is due on September 30<sup>th</sup> each year for Part 3 encompasses maintenance activities performed during the <b>previous fiscal year</b> (July 1, 2014 – June 30, 2015). The list of <b>Maintenance Categories</b> shown to the right is intended as a guide. The list was developed considering typical levee maintenance activities reported in previous years as well as activities described in the Standard Operation and Maintenance (O&amp;M) Manuals published for the Sacramento and San Joaquin River Flood Control Projects, the associated Supplemental Unit O&amp;M Manuals, and the Superintendent's Guide to Operation and Maintenance of California's Flood Control Projects. These are suggested reporting items and/or categories which are intended to facilitate consistent reporting. The list is not all inclusive, and 'Other' may be used for items that are not identified.</p>	Active Ongoing Program in Place
	Encroachment Control
	Erosion Repair
	Gates
	Inspections
	Insurance and Dues
	Legal/Administrative/Management Services
	Minor Structure Repair/Maintenance
	Mobile Equipment Costs
	Office Overhead
	Other
	Patrolling
	Permitting
	Restoration
	Roadways
	Rodent Control/Bait and Traps
	Rodent Control/Grouting
	Sediment Removal
	Seepage Control
	Slope Dragging
	Surveying and Engineering
	Telemetry Maintenance
	Vegetation Control/Burn
	Vegetation Control/Channel
	Vegetation Control/Mow
	Vegetation Control/Other
	Vegetation Control/Spray
	Vegetation Control/Thin and Trim
	Vegetation Control/Tree Removal

<b>Part 4 Reporting:</b> Statement of Levee Work and Estimated Cost for Operation & Maintenance for Current Fiscal Year ( <b>July 1, 2015 – June 30, 2016</b> )	
<b>Type of Information Requested</b>	<b>Maintenance Category</b>
<p>Reporting that is due on September 30<sup>th</sup> each year for Part 4 encompasses completed or planned levee operation and maintenance activities or repair or improvement projects and their estimated costs for the <b>current fiscal year</b> (July 1, 2015 – June 30, 2016). The list of <b>Maintenance Categories</b> shown to the right is intended as a guide. The list was developed considering typical levee maintenance activities reported in 2008, as well as activities described in the Standard Operation and Maintenance (O&amp;M) Manuals published for the Sacramento and San Joaquin River Flood Control Projects, the associated Supplemental Unit O&amp;M Manuals, and the Superintendent's Guide to Operation and Maintenance of California's Flood Control Projects. These are suggested reporting items and/or categories which are intended to facilitate consistent reporting. The list is not all inclusive, and 'Other' may be used for items that are not identified.</p>	Active Ongoing Program in Place
	Encroachment Control
	Erosion Repair
	Gates
	Inspections
	Insurance and Dues
	Legal/Administrative/Management Services
	Minor Structure Repair/Maintenance
	Mobile Equipment Costs
	Office Overhead
	Other
	Patrolling
	Permitting
	Restoration
	Roadways
	Rodent Control/Bait and Traps
	Rodent Control/Grouting
	Sediment Removal
	Seepage Control
	Slope Dragging
	Surveying and Engineering
	Telemetry Maintenance
	Vegetation Control/Burn
	Vegetation Control/Channel
	Vegetation Control/Mow
	Vegetation Control/Other
	Vegetation Control/Spray
	Vegetation Control/Thin and Trim
	Vegetation Control/Tree Removal

**Part 5 Reporting:** Readily Available Information Relevant to Levee Condition or Performance

<i><b>Type of Information Requested</b></i>	<b>Other Relevant Information</b>
<p>In Part 5, the Department would like to receive other information known by the Local Agencies relevant to levee condition or performance. The <b>Other Relevant</b> items shown to the right are intended as a guide to the type of information categories the Department would like to see reported for Part 5. The list is intended as a guide to the type of information the Department would like to see reported for Part 5. The list was developed considering more general information items related to the levee system including reports, studies, investigations, site conditions, construction drawings, or upcoming activities which may modify, change, or impact the levee system. These are suggested reporting items and/or categories which are intended to facilitate consistent reporting. The selectable menu list is not all inclusive, and the 'Other' menu item may be selected for items that are not listed.</p>	Construction Drawings/As-Built
	Distress Information
	Dump/Hazardous Waste Sites
	Emergency Action Plan
	Emergency Operations Plan
	Emergency Recovery Plan
	Encroachments
	Geotechnical Investigations
	Historical Construction Issues
	Historical Levee Distress Issues
	New Construction Planned/Approved
	Other
	Permits/MOUs
	Plate Maps
	Reports/Studies
	Right of Way/Easements
	Slurry Walls
	Well Logs

## 2015 Reporting Forms

<b>Agency Name:</b>			<b>Date:</b>	
<b>PART 1 Reporting Form</b>				
<b>Part 1: Information known to the Local Agency that is relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee)</b>				
Levee Unit	Location Lat/Long (Decimal) Levee Mile (LM) River Mile (RM) Stationing Other	Condition/Performance Feature or Category (See Part 1 Reporting Guidance)	Observation/Description	Date Date Identified (DI) Date Occurred (DO) Date Reported (DR)



## 2015 Reporting Forms

PART 2 Reporting Form				
Part 2: Information identifying known conditions that might impair or compromise the level of flood protection provided by the Project Levee (or jurisdictional Non-Project Levee)				
Levee Unit	Location Lat/Long (Decimal) Levee Mile (LM) River Mile (RM) Stationing Other	Condition Feature or Category (See Part 2 Reporting Guidance)	Observation/Description	Date Date Identified (DI) Date Occurred (DO) Date Reported (DR)

## 2015 Reporting Forms

<b>PART 3 Reporting Form</b>				
<b>Part 3: A summary of maintenance performed by the Local Agency during the previous fiscal year (July 1, 2014 – June 30, 2015)</b>				
<b>Levee Unit</b>	<b>Location</b> Lat/Long (Decimal) Levee Mile (LM) River Mile (RM) Stationing Other	<b>Maintenance Category</b> (See Part 3 Reporting Guidance)	<b>Description of Activity</b>	<b>Date</b>

## 2015 Reporting Forms

PART 4 Reporting Form					
<b>Part 4: A statement of levee work and estimated cost for operation and maintenance of the Project Levee (or jurisdictional Non-Project Levee) for the current fiscal year, as approved by the Local Agency (July 1, 2015 – June 30, 2016)</b>					
Levee Unit	Location Lat/Long (Decimal) Levee Mile (LM) River Mile (RM) Stationing Other	Maintenance Category (See Part 4 Reporting Guidance)	Description of Activity & Cost	Date	Estimated Cost

## 2015 Reporting Forms

<b>PART 5 Reporting Form</b>				
<b>Part 5: Any other readily available information contained in the records of the Local Agency relevant to the condition or performance of the Project Levee (or jurisdictional Non-Project Levee), as determined by the CVFPB or DWR</b>				
<b>Levee Unit</b>	<b>Location</b> Lat/Long (Decimal) Levee Mile (LM) River Mile (RM) Stationing Other	<b>Other Relevant Information</b> <b>Category</b> (See Part 5 Reporting Guidance)	<b>Observation/Description</b>	<b>Date</b> Date Identified (DI) Date Occurred (DO) Date Reported (DR)



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

San Luis National Wildlife Refuge Complex  
Post Office Box 2176  
Los Banos, California 93635



01 September 2010

Mr. Tasmin Eusuff, Chief  
Local Maintaining Agency Assessment Section  
California Department of Water Resources  
Flood Project Integrity and Inspection Branch  
P.O. Box 219000  
Sacramento, CA 95821-9000

**Re: Memo "Request for Local Picture for  
California Water Code (CWC) 9141 Local Agency Annual Report (AB 156)"**

Dear Mr. Eusuff:

We received three letters, addressed to Reclamation District Nos. 2099, 2100, and 2102. These three districts were purchased in their entirety by the U. S. Fish and Wildlife Service over ten years ago, and are now a part of the San Joaquin River National Wildlife Refuge. Those Reclamation Districts are now non-functional and no longer exist. The levees are no longer maintained because they only protected lands that are now within the Refuge. We are also working with the Army Corps of Engineers to remove any Corps levee from their Maintenance Manual. In fact, these levees have been breached by floodwaters, and we intend to construct additional breaches to restore the natural floodplain hydrology.

Please remove this Refuge from the mailing list that pertains to reclamation districts. If you have any questions, please don't hesitate to call (209/826-3508).

Sincerely,

Kim Forrest  
Wildlife Refuge Manager

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF WATER RESOURCES  
FLOOD PROJECT INTEGRITY AND INSPECTION BRANCH  
P.O. BOX 219000  
SACRAMENTO, CA 95821-9000



November 4, 2010

To: Kim Forrest, Fish and Wildlife Service

RE: Response to your September 1, 2010 letter and request for reprint

Thank you for clarifying the ownership and maintenance situation regarding the non-functional Reclamation Districts 2099, 2100, and 2102.

We do not expect any reports from this area. However, until we receive a letter from US Corps of Engineers indicating changes in their Operation and Maintenance Manual, we are required according to CWC §9141 to keep these non-functional districts in our list.

We request your permission to use your September 1, 2010 letter in our 2010 Annual Report to explain the situation to the Central Valley Flood Protection Board. If you prefer a different version of the letter, please send it to the address below.

If you have any questions, please call or email me at 916-574-2362 or [teusuff@water.ca.gov](mailto:teusuff@water.ca.gov).

Thank you for good cooperation with us.

Sincerely,

A handwritten signature in cursive script, appearing to read "T. Eusuff".

Tasmin Eusuff, Chief  
Local Maintaining Agency Assessment Section  
CA Department of Water Resources  
P.O. Box 219000  
Sacramento, CA 95821

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## Appendix **E**

# Supplemental Figures and Tables for the Inspection Program

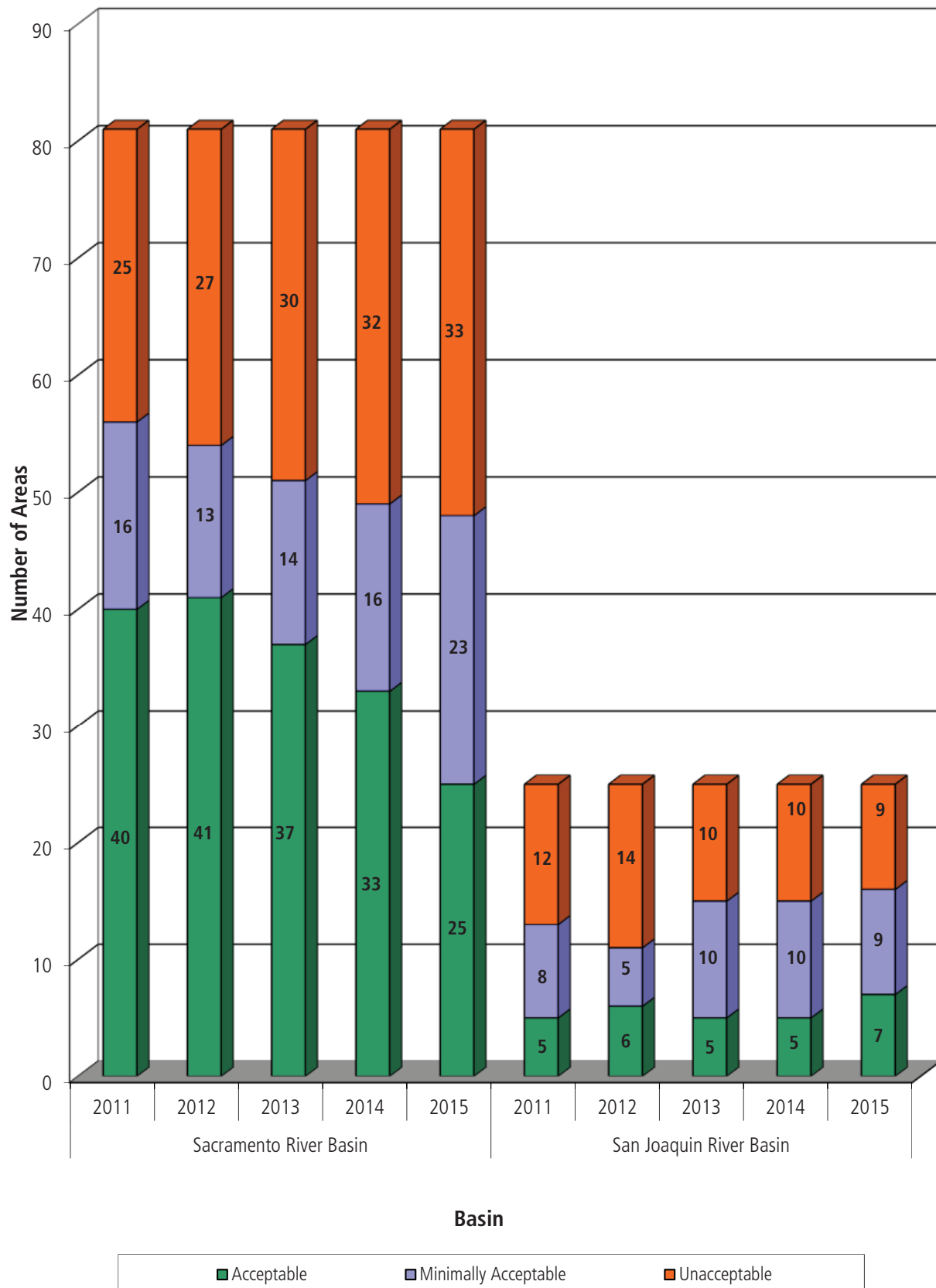
This Appendix contains additional figures and tables for the results of the fall 2015 Levee Inspections.

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The following figures supplement information contained in Sections 2 through 4 of the main report. In general, these figures present different ways of analyzing maintenance results such as plotting information separately for the Sacramento and San Joaquin river basins or plotting results by type of deficiency.

## 2015 Levee Maintenance Inspections

- Figure E-1 shows the levee maintenance inspection ratings grouped by Sacramento River and San Joaquin River basins.
- Figure E-2 shows the changes in ratings grouped by basin.
- Figure E-3 shows the percentage of miles of levees with deficiencies in the total system for each type of rated items. Vegetation deficiencies make up the vast majority of the miles in all years. In 2015 vegetation deficiencies were again significant contributors to the total length of levees with deficiencies.
- Figure E-4 shows the same information as Figure E-3 but is separated by basin. Encroachment issues with an Enforcement Issue type are not included in these figures.
- Table E-1 shows the length, in miles, of Minimally Acceptable (M) and Unacceptable (U) issues for each category in the total system and the percentage of the total project length along which these lengths occur. Also shown in this table is the change in M and U lengths as well as the resultant change in the percent of total project lengths. Tables E-2 and E-3 show similar information to Table E-1 but only contain the lengths for the Sacramento River and San Joaquin River respectively.
- Figures E-5 and E-6 are maps of the Sacramento and San Joaquin systems, showing the location and rating of each LMA. To find the general location of an LMA, refer to Appendices A, B and C.

**Figure E-1: Area Maintenance Rating Comparison for 2011 to 2015 by Basin**

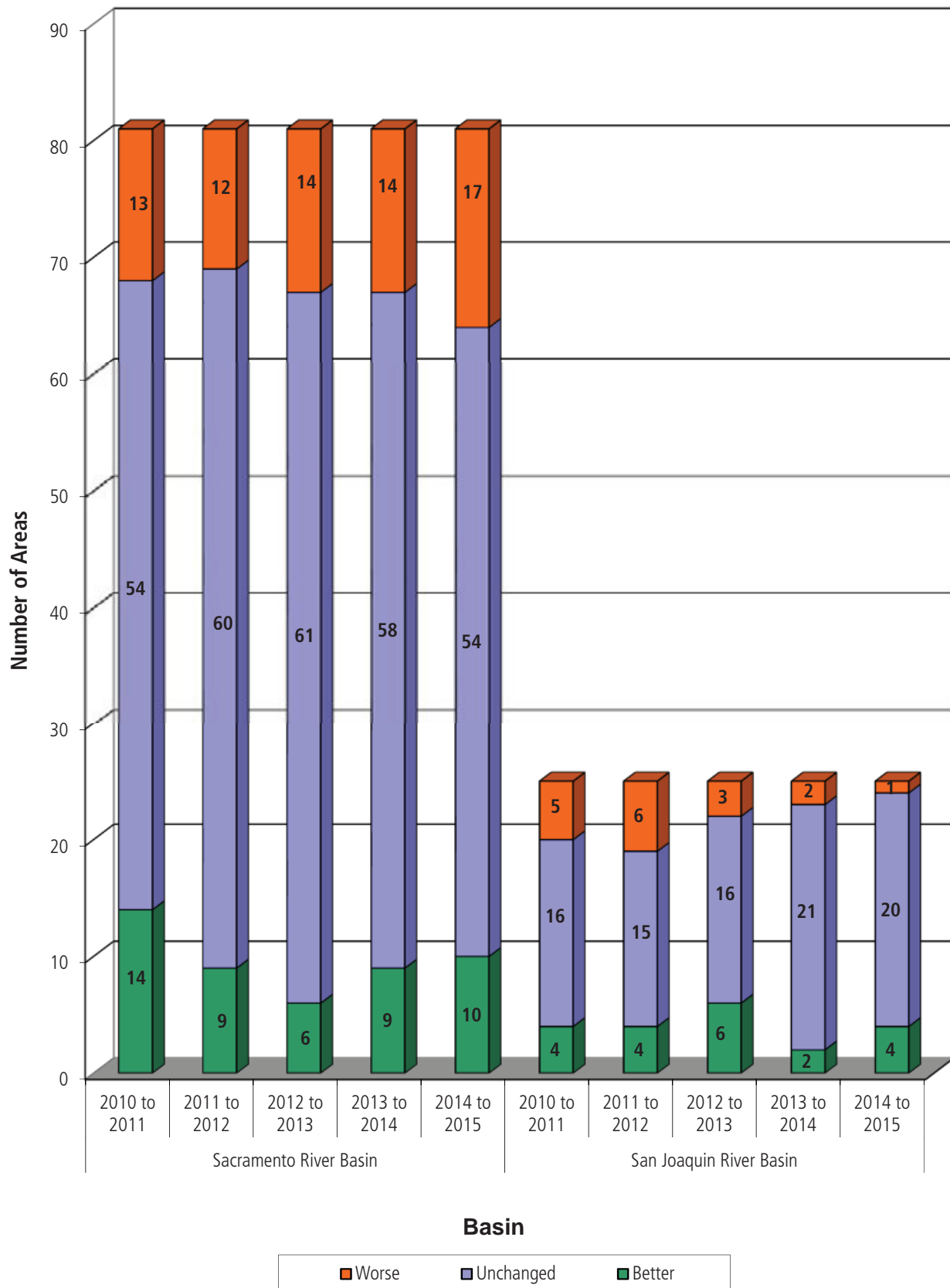
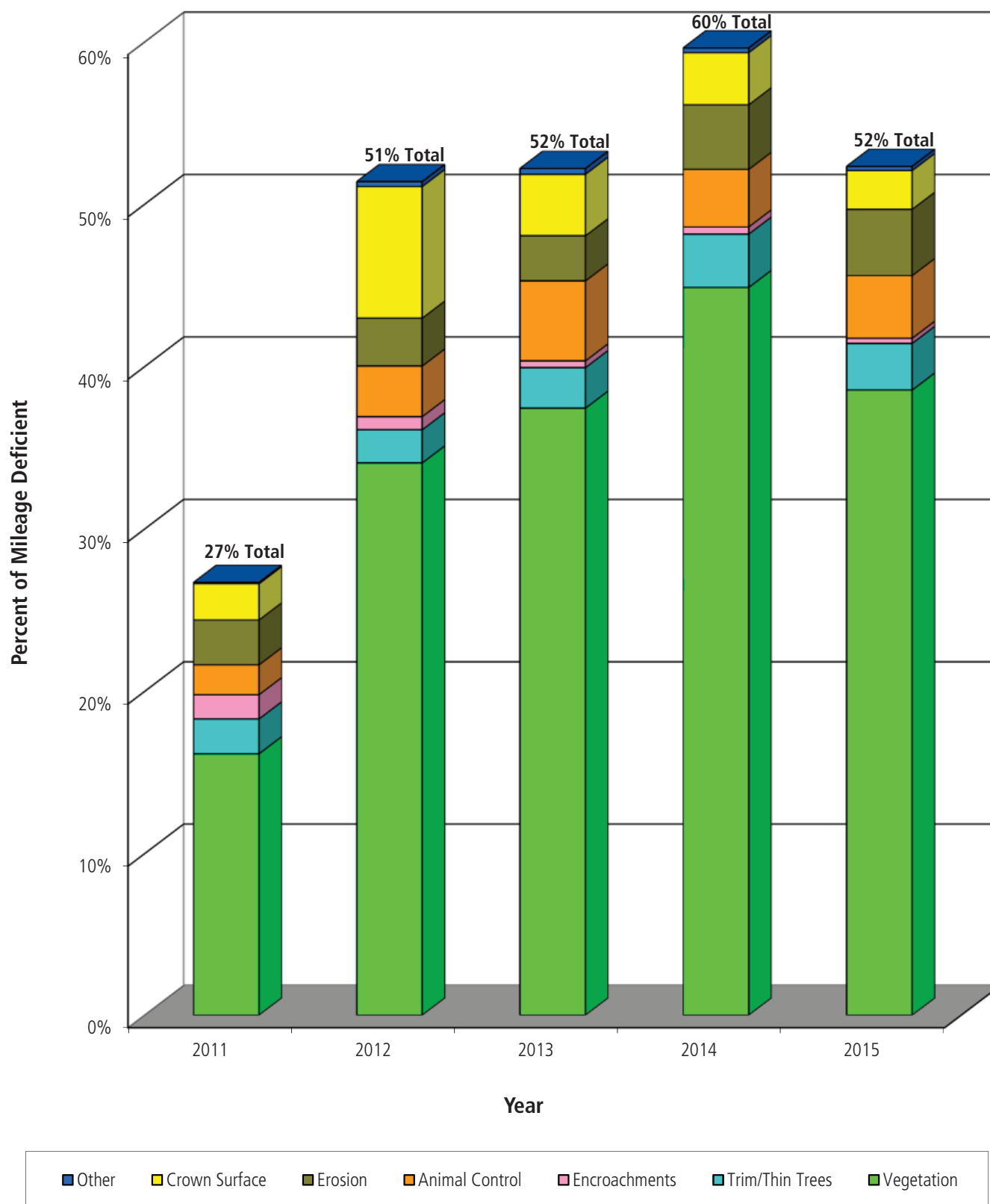
**Figure E-2: Area Maintenance Rating Changes for 2011 to 2015 by Basin**

Figure E-3: Percentage of Total System Levee Miles with Maintenance Deficiencies



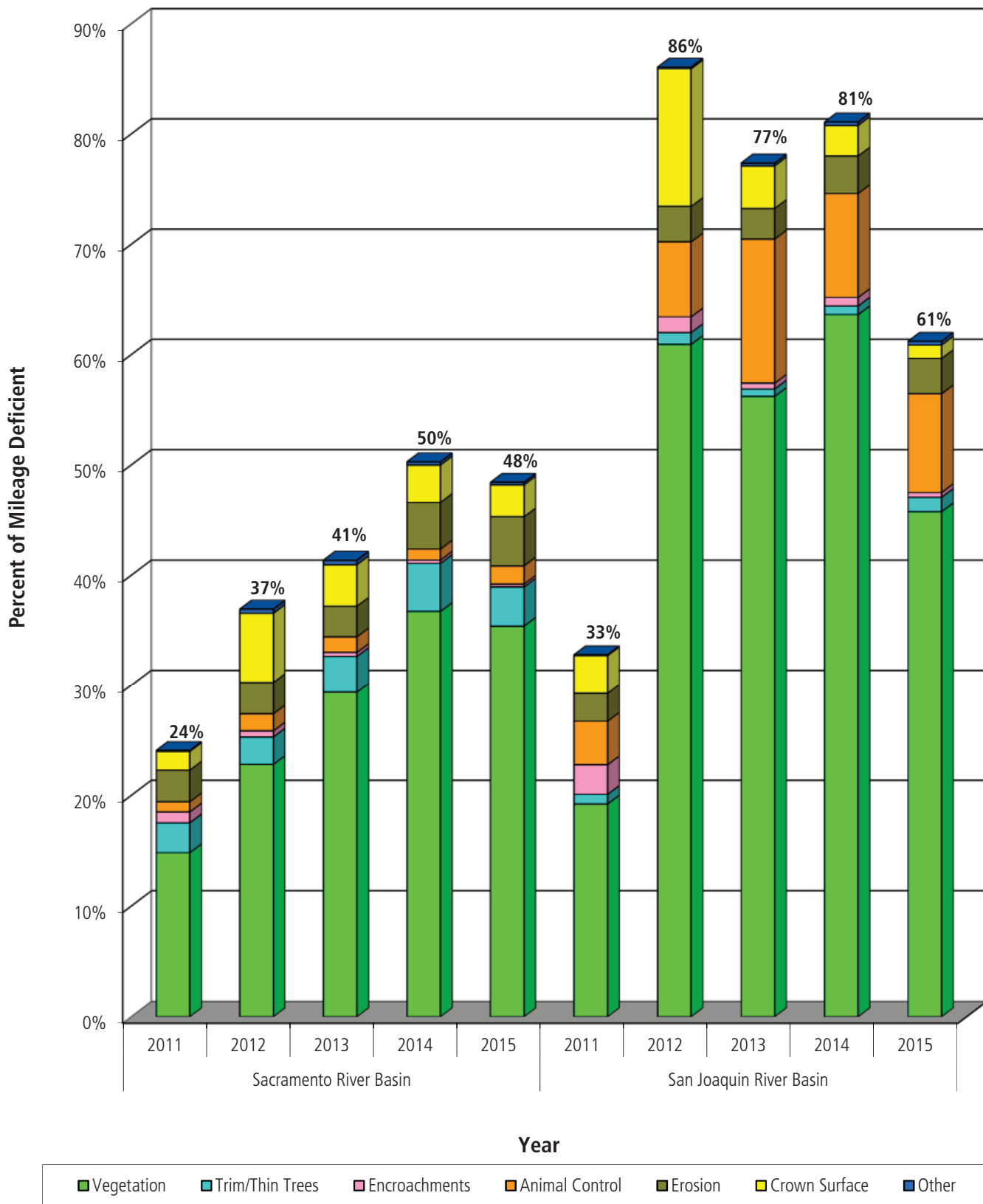
**Figure E-4: Percentage of Levee Miles with Maintenance Deficiencies by Basin**



Table E-1: Total of Maintenance Issue Lengths  
for 2014 and 2015

Total Project Length: 1548.40 Miles	Fall 2014				Fall 2015				2014 to 2015 Change			
	M	U	M+4U	Threshold Percent	M	U	M+4U	Threshold Percent	M	U	M+4U	Threshold Percent
Vegetation	337.98	89.23	694.90	<b>44.88%</b>	181.18	103.98	597.10	<b>38.56%</b>	-156.80	<b>14.75</b>	-97.80	<b>-6.32%</b>
Trim/Thin Trees	21.67	7.30	50.87	<b>3.29%</b>	17.04	6.87	44.52	<b>2.88%</b>	-4.63	-0.43	-6.35	<b>-0.41%</b>
Encroachments	6.11	0.18	6.83	<b>0.44%</b>	3.74	0.29	4.90	<b>0.32%</b>	-2.37	<b>0.11</b>	-1.93	<b>-0.12%</b>
Animal Control	29.47	6.35	54.87	<b>3.54%</b>	21.99	9.44	59.75	<b>3.86%</b>	-7.48	<b>3.09</b>	<b>4.88</b>	<b>0.32%</b>
Erosion	40.00	5.40	61.60	<b>3.98%</b>	40.89	5.57	63.17	<b>4.08%</b>	<b>0.89</b>	<b>0.17</b>	<b>1.57</b>	<b>0.10%</b>
Crown Surface	49.62	0.03	49.74	<b>3.21%</b>	36.24	0.18	36.96	<b>2.39%</b>	-13.38	<b>0.15</b>	-12.78	<b>-0.83%</b>
Other	3.08	0.36	4.53	<b>0.29%</b>	2.73	0.32	4.01	<b>0.26%</b>	-0.35	-0.04	-0.52	<b>-0.03%</b>
Total	487.93	108.85	923.34	<b>59.63%</b>	303.81	126.65	810.41	<b>52.34%</b>	-184.12	<b>17.80</b>	-112.93	<b>-7.29%</b>

Table E-2: Sacramento River Basin Maintenance  
Issue Lengths for 2014 and 2015

Sacramento River Basin: 1082.16 Miles	Fall 2014				Fall 2015				2014 to 2015 Change			
	M	U	M+4U	Threshold Percent	M	U	M+4U	Threshold Percent	M	U	M+4U	Threshold Percent
Vegetation	216.94	45.31	398.18	<b>36.80%</b>	108.12	68.89	383.68	<b>35.46%</b>	-108.82	<b>23.58</b>	-14.50	<b>-1.34%</b>
Trim/Thin Trees	19.04	7.04	47.20	<b>4.36%</b>	15.03	5.86	38.47	<b>3.56%</b>	-4.01	-1.18	-8.73	<b>-0.81%</b>
Encroachments	2.80	0.11	3.24	<b>0.30%</b>	2.24	0.15	2.84	<b>0.26%</b>	-0.56	<b>0.04</b>	-0.40	<b>-0.04%</b>
Animal Control	9.85	0.26	10.89	<b>1.01%</b>	7.89	2.53	18.01	<b>1.66%</b>	-1.96	<b>2.27</b>	<b>7.12</b>	<b>0.66%</b>
Erosion	34.09	2.92	45.77	<b>4.23%</b>	35.63	3.15	48.23	<b>4.46%</b>	<b>1.54</b>	<b>0.23</b>	<b>2.46</b>	<b>0.23%</b>
Crown Surface	36.69	0.03	36.81	<b>3.40%</b>	30.79	0.13	31.31	<b>2.89%</b>	-5.90	<b>0.10</b>	-5.50	<b>-0.51%</b>
Other	2.63	0.11	3.08	<b>0.28%</b>	2.17	0.06	2.43	<b>0.22%</b>	-0.45	-0.05	-0.65	<b>-0.06%</b>
Total	322.04	55.78	545.17	<b>50.38%</b>	201.87	80.77	524.97	<b>48.52%</b>	-120.16	<b>24.99</b>	-20.20	<b>-1.87%</b>

**Table E-2: San Joaquin River Basin Maintenance  
Issue Lengths for 2014 and 2015**

San Joaquin River Basin: 466.38 Miles	Fall 2014					Fall 2015					2014 to 2015 Change				
	M	U	M+4U	Threshold Percent		M	U	M+4U	Threshold Percent		M	U	M+4U	Threshold Percent	
Vegetation	121.04	43.92	296.72	<b>63.62%</b>		73.06	35.09	213.42	<b>45.76%</b>		-47.98	-8.83	-83.30	-17.86%	
Trim/Thin Trees	2.63	0.26	3.67	<b>0.79%</b>		2.01	1.01	6.05	<b>1.30%</b>		-0.62	0.75	2.38	<b>0.51%</b>	
Encroachments	3.31	0.07	3.59	<b>0.77%</b>		1.50	0.14	2.06	<b>0.44%</b>		-1.81	0.07	-1.53	<b>-0.33%</b>	
Animal Control	19.62	6.09	43.98	<b>9.43%</b>		14.10	6.91	41.74	<b>8.95%</b>		-5.52	0.82	-2.24	<b>-0.48%</b>	
Erosion	5.91	2.48	15.83	<b>3.39%</b>		5.26	2.42	14.94	<b>3.20%</b>		-0.65	-0.06	-0.89	<b>-0.19%</b>	
Crown Surface	12.93	0.00	12.93	<b>2.77%</b>		5.45	0.05	5.65	<b>1.21%</b>		-7.48	0.05	-7.28	<b>-1.56%</b>	
Other	0.45	0.25	1.44	<b>0.31%</b>		0.55	0.26	1.57	<b>0.34%</b>		0.10	0.01	0.14	<b>0.03%</b>	
Total	165.89	53.07	378.16	<b>81.08%</b>		101.93	45.88	285.43	<b>61.20%</b>		-63.96	-7.19	-92.72	<b>-19.88%</b>	

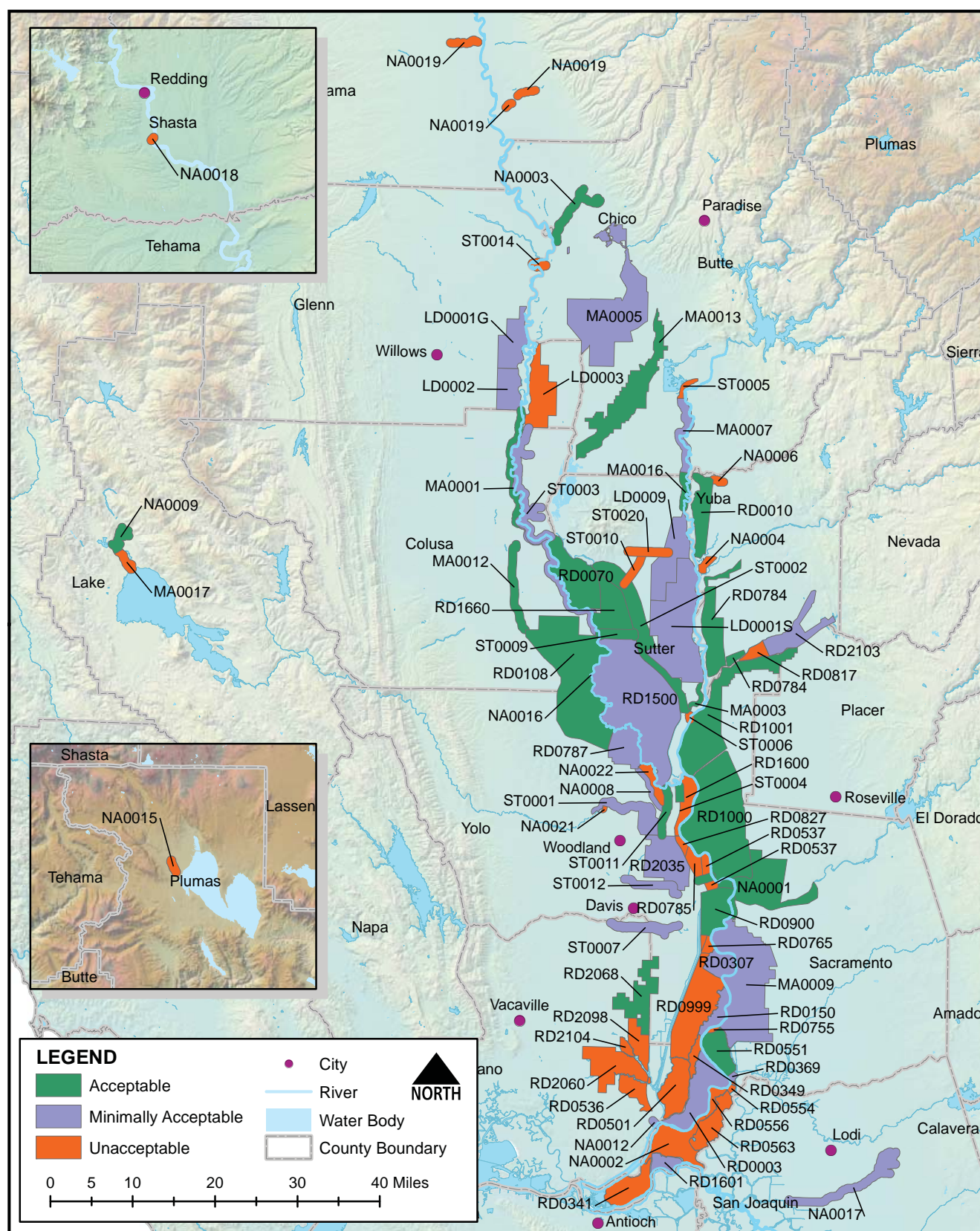
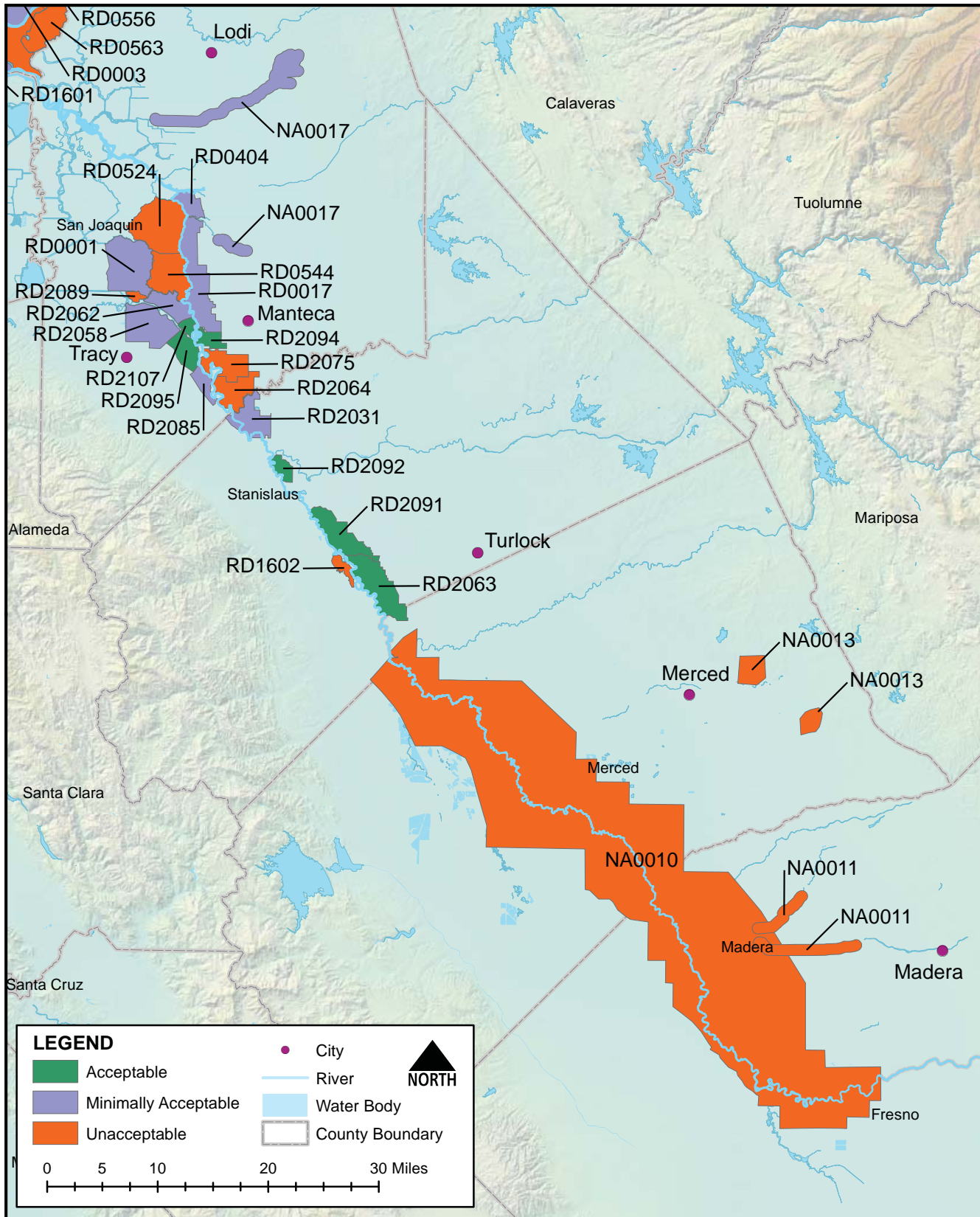




Figure E-6: Map of 2015 Local Maintaining Agency Ratings; Southern Area



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# Appendix F: Maintenance Requirements and Responsibilities

Appendix F includes background information on the State-federal flood protection system in the Central Valley, maintenance requirements, and maintenance responsibilities as well as federal and State inspection criteria and rating methodology. Inspections include levees, channels, and structures in the State Plan of Flood Control. This information remains relatively static from year to year. Any significant changes in maintenance requirements and maintenance responsibilities that occur in a given year, if any, are noted in Section 1.1 of the main report.

## F-1 STATE-FEDERAL FLOOD PROTECTION SYSTEM

The State-federal flood protection system is located in the Central Valley and is composed of many projects along the Sacramento and San Joaquin rivers and tributaries. The system includes federally authorized projects for which the State participated and provided the federal government assurances of continued cooperation.

Congress authorized the Sacramento River Flood Control Project (SRFCP) in 1917, and subsequent supplemental authorizations (e.g. Sacramento River and Major and Minor Tributaries, American River levees, etc.) have added projects to the SRFCP over the years. The San Joaquin River Flood Control Project consists of a number of separate federally authorized flood protection projects, most of which have been built since the 1940's (for example: Merced County Stream Group, Lower San Joaquin River, etc.).

Some existing levees were also incorporated into the Sacramento and San Joaquin flood protection systems through the passage of federal statutes if the USACE believed the levees met or exceeded design standards. The State of California generally provides lands, easements, and right-of-ways for project construction. An exception to this process is the Lower San Joaquin River Flood Control Project that was designed and constructed to federal standards by the State of California (substituting physical works for acquisition of more costly flowage easements required for the authorized federal project).

The major river flood protection systems currently have combined totals of approximately 1,576 miles of federal project levees, 1,200 miles (148,000 acres) of designated floodways, 26 project channels covering several thousand acres, and 56 other major flood protection works including overflow weirs, flood relief structures, outfall gates, and pumping plants.

Since the beginning of federal participation, the Sacramento River and San Joaquin River flood systems have been constructed, expanded, improved, and repaired through a series of subsequent federal authorizations. Projects within these systems, for which the Central Valley Flood Protection Board (formerly the Reclamation Board) or DWR has provided the assurances of nonfederal cooperation to the United States, are considered the State-federal flood protection system in the Central Valley.

### ***F-1.1 Integrated Flood Management***

It should be noted that this State-federal flood protection system is a part of an integrated flood protection system in the Central Valley. Parts of this larger system are interdependent and rely on other features operating successfully. For example, many reservoirs, private levees and designated floodways, though not part of the State-federal flood protection system, regulate and contain flood flows to the benefit of the State-federal flood protection system.

Improved and sustainable integrated flood management is a stated goal of FloodSAFE California, specifically the Central Valley Flood Planning (CVFP) Program. Legislation passed in 2007 directs the California Department of Water Resources (DWR) to develop three important documents that will guide improvement of integrated flood management:

- **State Plan of Flood Control (SPFC) Descriptive Document** to inventory and describe the flood management facilities, land, programs, conditions, and mode of operations and maintenance for the State-federal flood protection system in the Central Valley.
- **Flood Control System Status Report** to assess the status of the facilities included in the SPFC Descriptive Document, identify deficiencies, and make recommendations.

- **Central Valley Flood Protection Plan (CVFPP)** to describe a sustainable, integrated flood management plan that reflects a system-wide approach for protecting areas of the Central Valley currently receiving protection from flooding by existing facilities of the SPFC.

These documents can be found at <http://www.water.ca.gov/cvfmp/documents.cfm>.

## **F-2 MAINTENANCE REQUIREMENTS**

Title 33 of the Code of Federal Regulations, Section 208.10 (33 CFR 208.10) outlines federal regulatory requirements for the maintenance and operation of structures and facilities that comprise the State-federal flood protection system.

33 CFR 208.10 provides general operation and maintenance guidance to obtain the maximum benefits from the following features:

- a) Structures and Facilities
- b) Levees
- c) Floodwalls
- d) Drainage
- e) Closure Structures
- f) Pumping Plants
- g) Channels and Floodways

Additionally, Standard and Supplemental O&M Manuals were prepared by USACE, Sacramento District, for project levees and flood protection works in the Central Valley.

A Standard O&M Manual was published for the Sacramento River Flood Control Project in May 1955, and for the Lower San Joaquin River Levees, Lower San Joaquin River and Tributaries Project in April 1959. The purpose of these Standard O&M Manuals is to present general information for use by local interests who maintain and operate the various geographical units comprising the Projects.

Supplemental O&M Manuals were prepared to supplement the respective USACE Standard O&M Manual. These supplemental manuals serve as a project specific guide to assist each LMA in carrying out its responsibilities for levee maintenance. Section 4 of the Standard O&M Manual and Section 2 of the supplements describe some of the standards to be met by LMAs in the performance of their routine maintenance.



## **F-3 MAINTENANCE RESPONSIBILITIES**

As construction of federally authorized project units was completed, the USACE prepared unit-specific operation manuals and transferred the projects by letter to the CVFPB for review and acceptance. Project levees and flood protection works for which the State of California had provided the assurances of non-federal cooperation were formally accepted by the CVFPB on behalf of the State for operation and maintenance in accordance with federal regulations. In many cases, the State officially transferred operation and maintenance responsibilities to local entities.

Local public entities within the Sacramento and San Joaquin river systems have the responsibility, liability, and duty to maintain and operate the levees and other flood protection works on a day-to-day basis in accordance with assurance agreements, guidelines provided in the USACE Standard O&M Manuals, and each applicable supplement for individual project units. Flood protection features for which operation and maintenance are not performed by local entities are those SRFCP works maintained by DWR in accordance with Water Code §8361; and those facilities within Maintenance Areas (MA) that are maintained by DWR, with local beneficiaries paying costs under Water Code §12878. For the Sacramento River Flood Control Project, the LMA responsibilities were set forth in Water Code §8370 with the exception of enumerated works identified under Water Code §8361 and those for which provision is made by federal law. Flood protection project responsibilities in the San Joaquin River basin are based upon assurance agreements between the CVFPB and each LMA.

Currently, operation and maintenance responsibilities for the State-federal flood protection system levees in the Central Valley are carried out by 106 individual State and local maintaining agencies.

## **F-4 FEDERAL INSPECTION REQUIREMENTS AND CORPS OF ENGINEERS INSPECTION CHECKLIST**

This appendix presents federal and state inspection criteria and rating methodology for levees, channels, and structures.

### ***F-4.1 Federal Inspection Requirements and Corps of Engineers Inspection Checklist***

Title 33 of CFR, *Navigation and Navigable Waters*, Section 208.10 (33 CFR 208.10) outlines the federal requirements for the periodic inspection of structures and facilities that comprise the State-federal flood protection system. These include inspections:

- Immediately prior to the beginning of the flood season
- Immediately following each major high water period
- At intervals not exceeding 90 days
- At intermediate times as necessary

Title 33 CFR 208.10 can be viewed at: [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/33cfr208\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/33cfr208_06.html)

DWR implements this as:

- The LMAs and DWR patrol and inspect all project levees during high water events.
- Four quarterly inspections are required per year.

To meet this federal requirement, DWR performs comprehensive levee inspections in the spring and fall. Channel and structure inspections are conducted by DWR in the summer. The findings of these inspections make up the results of this report.

The LMAs are required to perform summer and winter levee inspections. LMAs report the condition of their system in relation to the most recent DWR inspection results. They do so by describing any changes in the condition of the system (since the last DWR inspection) or by reporting that none have occurred. The findings of these inspections are reported to the Chief Engineer of the CVFPB through DWR's FPIIB. Pursuant to California Water Code (CWC) Sections 9140 and 9141, LMAs are required to report in greater detail the results of their inspections and O&M activities. With the release of the 2012 version of this report, this information is now available in Appendices A, B, and C. Older versions of this information can be viewed at <http://cdec.water.ca.gov/lma.html>.

Criteria by which the flood control projects inspections have historically been reported are outlined in the Standard Operation and Maintenance Manuals. Subsequently, the USACE has developed additional inspection criteria for project and non-project systems participating in the federal PL84-99 rehabilitation and inspection program. The USACE checklist, *Flood Damage Reduction Segment/System Inspection Report* includes the USACE inspection criteria. For a copy, see <http://www.spk.usace.army.mil/Missions/CivilWorks/LeveeSafetyProgram.aspx>.

## **F-5 DWR MODIFICATION TO USACE CRITERIA**

### ***F-5.1 Levee Inspection Criteria***

The USACE's *Flood Damage Reduction System Inspection Report* forms the basis of the DWR flood project inspection program. However, changes to some portions of the checklist have been made by DWR. The USACE criteria rates an Area's entire levee as unacceptable if any single inspection category is found to be unacceptable at any point on the levee. Therefore, under USACE criteria, an Area with a few unacceptable trees is rated the same as an Area with unacceptable ratings in several different rating categories. Additionally, strict application of the checklist, considering the unique environmental conditions of vegetation and encroachments on California levees, would result in almost universally unacceptable ratings throughout the system without providing any overall benefit to the system.

DWR believes that its modified criteria described below provide for realistic view of the severity of deficiencies and of the significant differences among LMA maintenance performance. DWR considers the length of each deficiency with respect to the total length of levee maintained by an LMA as well as the LMA's ability and responsibility to address the issue. Since a given reach of levee may have several concurrent deficiencies, the length of total deficiencies can exceed the length of the levee. (See detail of the rating methodology later in this appendix)

DWR's criteria for vegetation and encroachments are aimed at improving public safety by encouraging continued maintenance by LMAs for access and visibility of the flood protection system.

#### ***Inspection Criteria - Vegetation***

DWR inspects vegetation on levees based upon USACE's checklist criteria with exceptions listed below. More details on DWR's Levee Vegetation Management Strategy can be found in the *2012 Central Valley Flood Protection Plan* and DWR's *Urban Levee Design Criteria*.

- DWR inspectors evaluate and rate all vegetation within the top 20 feet (slope length) of the waterside hinge point (intersection of crown and slope), anywhere on the landside slope, and within 15 feet of the landside toe or to the edge of the easement. Riparian vegetation and other vegetation beyond 20 feet from the waterside hinge point are not evaluated or rated at present. See Figures F-1 through F-4 for further clarification and special cases.
- Grass and weeds on the landside and upper waterside must be maintained at a height of less than 12 inches.
- Trees must be trimmed at least five feet above the ground and 12 feet above the ground over roadways.
- Trees must be thinned sufficiently to allow clear visibility and access for flood fight operations.
- Brush and woody vegetation must be trimmed, thinned, or removed to allow clear visibility and access for flood fight operations.
- Minimal densities of vegetation not meeting these criteria are rated as Minimally Acceptable.
- Significant densities of vegetation not meeting these criteria are rated as Unacceptable.
- Elderberries are evaluated using the same criteria as trees or other vegetation.
- Vegetation on the levee and within the easement must be managed in compliance with the Life Cycle Management policy outlined in the Urban Levee Design Criteria and the Central Valley Flood Protection Plan.

These criteria are shown in Figures F-1 through F-4. The criteria protect levee operability and integrity by requiring open visibility and access to those portions of the levee most susceptible to high water damage while retaining vegetation that possess both habitat and environmental value. Such vegetation may also have positive effects on levee integrity. The Urban Levee Design Criteria and the Central Valley Flood Protection Plan have more information on DWR's vegetation criteria. These documents can be reviewed at <http://www.water.ca.gov/floodsafe/leveedesign/> and <http://www.water.ca.gov/cvfm/documents.cfm>. These criteria may change in the future as more information becomes available.

Figure F-1: Vegetation Management for Existing Levees with a Long Waterside Slope



Figure F-2: Vegetation Management for Existing Levees with a Short Waterside Slope

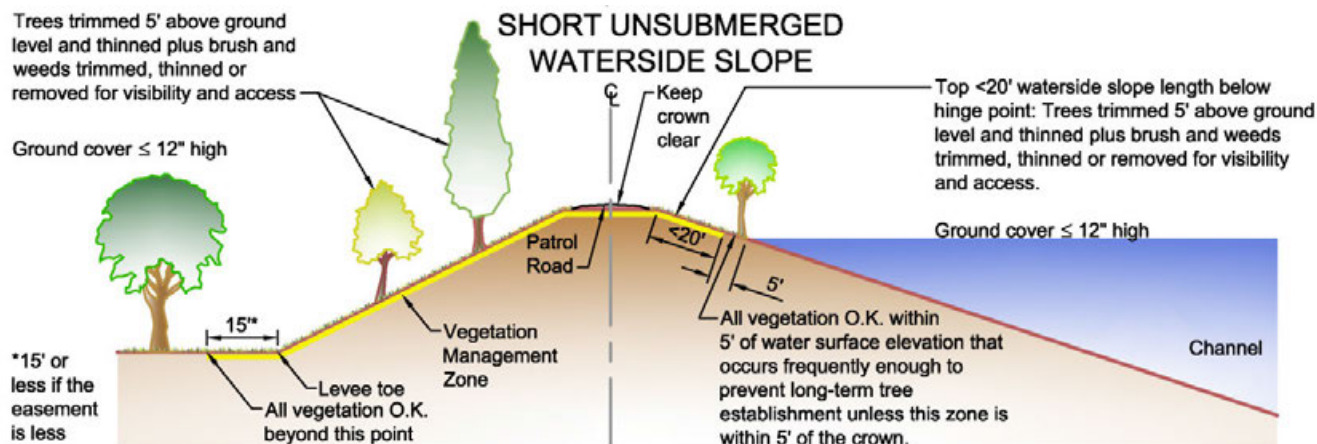


Figure F-3: Vegetation Management for Existing Levees with a Short Waterside Slope above the Water Surface Elevation that Frequently Submerges the Lower Waterside Slope

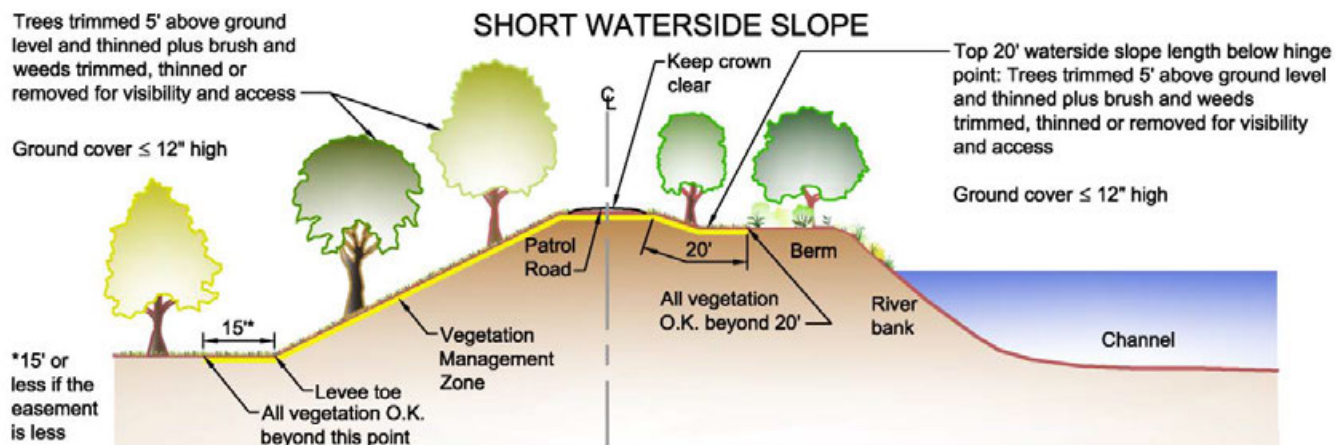
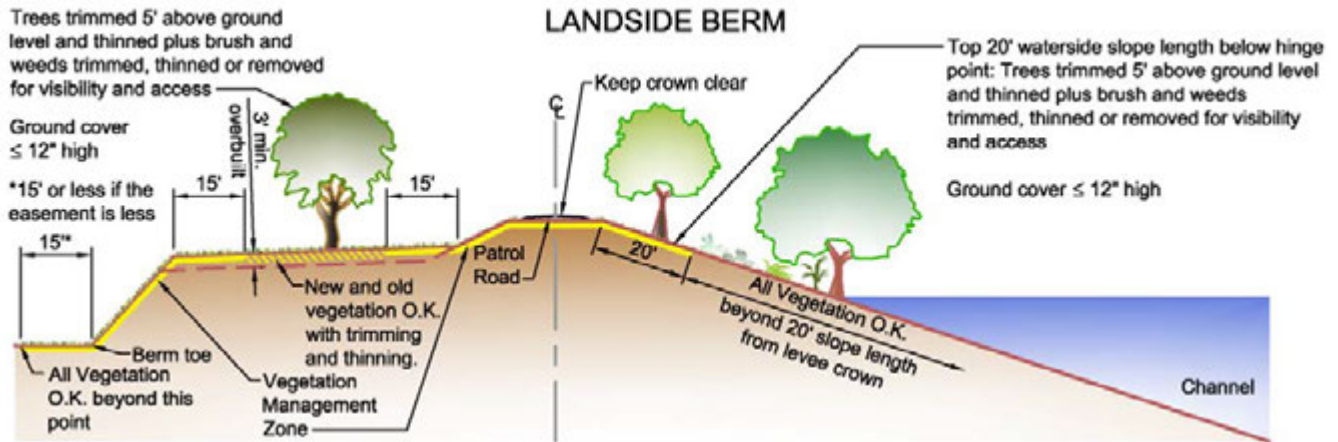


Figure F-4: Vegetation Management for Existing Levees with a Landside Berm





The following photos show examples of Acceptable, Minimally Acceptable, and Unacceptable maintenance of vegetation and trees.



**Acceptable Vegetation Maintenance:** Good grass coverage with no grass or brush over 12" tall



**Minimally Acceptable Maintenance:** Grass or brush partially obstruct visibility and access



**Unacceptable Maintenance:** Grass or brush completely obstruct visibility and access



**Acceptable Tree Maintenance:** No limbs within 5' of the levee obstruct visibility or access





**Minimally Acceptable Tree Maintenance:** Moderate density of tree limbs partially obstruct visibility and access



**Unacceptable Tree Maintenance:** Significant density of tree limbs completely obstruct visibility and access

### ***Inspection Criteria - Encroachments***

Past USACE inspections identified encroachments that posed a threat to the integrity of the levee, or blocked visibility or access to the levee as unacceptable (U). DWR inspectors followed a similar approach during their inspections since fall 2007.

The DWR approach included documenting and rating three types of encroachments:

- a) Encroachments that threaten levee integrity.
- b) Encroachments that are inappropriately placed on the levee, such as trash, prunings, abandoned equipment, etc.
- c) Encroachments that obstruct visibility and access during the flood fighting efforts.

Inspections completed from 2007 through 2011 rated the first two encroachment types as either Minimally Acceptable (M) or Unacceptable (U). The first two types of encroachments are generally included in the overall ratings and should generally be corrected by the LMAs. The third type of encroachment that the USACE identified as unacceptable may be beyond the current authority of the LMAs to correct because the encroachment may be Board permitted or have other factors associated with it that prevent LMAs from taking action. These Partially Obstructing (PO) and Completely Obstructing (CO) encroachments are not included in the overall ratings (A, M, and U). Instead, they are identified to generate an inventory of those encroachments that the USACE has, in the past, found to be unacceptable and those encroachments that could affect the operation of the system. The permit status of these encroachments may not have been determined.

In the current inspections, as of 2012, DWR inspectors rate all encroachments as A, M, or U instead of PO and CO, but introduced Issue Types. Issue Types are discussed in the next section. Encroachments that LMAs may not be able to address and would have been rated as PO or CO previously are assigned an Issue Type of Enforcement in 2012 and beyond.

### ***Inspection Criteria - Issue Type***

The DWR inspection criterion includes three issue types: Maintenance, Enforcement, and Design/System Obsolescence.

- **Maintenance** – These issues include animal control, vegetation, and other deficiencies, as described in Appendix G, where annual maintenance is required by the LMAs to maintain the levees to an acceptable condition to ensure the project will function as designed, intended, or required. Items with this Issue Type are included in the overall ratings.
- **Enforcement** – This includes encroachments: that threaten levee integrity, that are inappropriately placed on the levee, or that obstruct visibility and access during the flood fighting efforts. Some of these encroachments may require enforcement action and may have been permitted by the Board. It is recommended that the LMAs collaborate with the Board in addressing situations where they are not able to address the issue without an enforcement action. Items with this Issue Type are not included in the overall ratings but still need to be addressed.
- **Design/System Obsolescence** – This category encompasses deficient conditions that may be a part of or a result of the original design and construction of the project. These conditions may also be due to the age of the project and require actions beyond the ability of the LMA. Items with this Issue Type are not included in the overall ratings but still need to be addressed.

Not all issues are documented with all three of these Issue Types. See Appendix G for further criteria descriptions and what Issue Types are used for individual issues.

## ***F-5.2 Levee Inspection Rating Methodology***

This section conveys the rating method (developed in 2007 and revised in 2012) and the associated maintenance guidelines that are applied by the Inspection Section of the FPIIB to generate the *overall* Area ratings which are a representation of the LMAs' annual levee maintenance practices.

### ***The Rating Method***

USACE Document ER 500-1-1, paragraph 5-5.b (2) (b) defines the following project condition as presented in EP 500-1-1, Table 5-2:

- **Acceptable** – No immediate work required, other than routine maintenance. The flood protection project will function as designed and intended, with a high degree of reliability, and necessary cyclic maintenance is being adequately performed.
- **Minimally Acceptable** – One or more deficient conditions exist in the flood protection project that need to be improved or corrected. However, the project will essentially function as designed with a lesser degree of reliability than what the project could provide.
- **Unacceptable** – One or more deficient conditions exist that may prevent the project from functioning as designed, intended, or required. Minimally Acceptable issues that have not been addressed within two years may also be rated as Unacceptable. The USACE treats Unacceptable differently, depending on the situation. DWR does not differential Unacceptable items.
- **Acceptable but Monitor and Maintain** – DWR uses this rating to document an item that inspectors want to flag. The item may be something that should be monitored or that some maintenance may be helpful, but it does not violate criteria at the time of inspection.

USACE is in the process of modifying the levee inspection checklist and has requested that DWR use the new Checklist. With revisions to DWR's criteria in 2012 the criteria closely match the USACE's criteria in most categories with few exceptions, including vegetation.

In the past, DWR arrived at each overall unit and Area rating by making an estimation of the number, expanse, and seriousness of the deficient conditions found during the annual inspection and arriving at one of the above project condition ratings. This system was subjective and possibly inconsistent. It did not always reflect the possible negative effect of combined deficiencies.

Under the current USACE ratings directive, a System with a single Minimally Acceptable deficient condition may have received the same overall Minimally Acceptable rating as a System with dozens of Minimally Acceptable deficient conditions throughout its length. DWR believes that the LMAs should be rated by their overall maintenance condition rather than just by the rating of their worst deficient condition.

- In 2007, DWR created a new methodology, whereby 2007 overall ratings were calculated using the percentage of an Area's overall mileage receiving less-than-acceptable ratings. This is known as the threshold percent.
- This methodology has proven to be effective and was again applied for subsequent cycles.
- In 2010, DWR introduced an additional rating, Acceptable/Watch/Monitor (A/W) and uses it to document issues found during inspections that do not yet warrant an M or U rating but that should be monitored or maintained to avoid a maintenance deficiency in the future.

### ***Thresholds***

Thresholds were established that determine the overall rating as shown below. If over 20 percent of the total Area mileage was given a Minimally Acceptable rating, the overall rating was deemed Unacceptable.

### ***Greater than 100% Deficient***

Since 12 main categories and numerous minor categories were inspected, with most receiving ratings for the landside, waterside, and crown (triple the length of the levee), it is possible for a poorly maintained levee to receive Minimally Acceptable or Unacceptable ratings for well over 100 percent of its length.

Table F-1 and Figure F-5 further explain the rating method.

**Table F-1: Overall Rating Thresholds**

A = Acceptable, M = Minimally Acceptable, U = Unacceptable
<p><b><u>Only M ratings within Unit or Area:</u></b></p> <p>Zero to &lt; 10 % M results in Overall A rating. 10% to &lt; 20% M results in Overall M rating. ≥ 20% M results in Overall U Rating</p> $\frac{\text{If Miles of M in Unit or LMA}}{\text{Total Miles in Unit or LMA}} > 0.00, \quad \text{but} < 0.10, \quad \text{Overall Rating} = A$ $\frac{\text{If Miles of M in Unit or LMA}}{\text{Total Miles in Unit or LMA}} \geq 0.10, \quad \text{but} < 0.20, \quad \text{Overall Rating} = M$ $\frac{\text{If Miles of M in Unit or LMA}}{\text{Total Miles in Unit or LMA}} \geq 0.20, \quad \text{Overall Rating} = U$
<p><b><u>Only U ratings within Unit or Area:</u></b></p> <p>&gt; Zero to &lt; 5% U rating results in Overall M rating. ≥ 5% U rating results in Overall U rating</p> $\frac{\text{If Miles of U in Unit or LMA}}{\text{Total Miles in Unit or LMA}} > 0.00, \quad \text{but} < 0.05, \quad \text{Overall Rating} = M$ $\frac{\text{If Miles of U in Unit or LMA}}{\text{Total Miles in Unit or LMA}} \geq 0.05, \quad \text{Overall Rating} = U$
<p><b><u>Both M and U ratings within Unit or Area:</u></b></p> $\text{Correlation of Severity} = \text{COS} = \frac{\text{Only M Threshold \%}}{\text{Only U Threshold \%}} = \frac{20\%}{5\%} = 4$ <p>Multiply <i>Miles of U</i> by COS of 4 and add to <i>Miles of M</i> → <math>M + 4U</math></p> $\frac{\text{If Miles of (M + 4U) in Unit or LMA}}{\text{Total Miles in Unit or LMA}} > 0.00, \quad \text{but} < 0.20, \quad \text{Overall Rating} = M$ $\frac{\text{If Miles of (M + 4U) in Unit or LMA}}{\text{Total Miles in Unit or LMA}} \geq 0.20, \quad \text{Overall Rating} = U$ <p><b>Example 1:</b> Unit length = 10.00 miles, M = 0.60 mile, U = 0.30 mile:  <math>4U = 4(0.30) = 1.20</math> miles. <math>M + 4U = 0.60 \text{ mile} + 1.20 \text{ mile} = 1.80</math> miles</p> $\frac{M + 4U}{\text{Total unit miles}} = \frac{1.80 \text{ miles}}{10.00 \text{ miles}} = 0.18 < 0.20 \quad \text{so Overall Rating} = M$ <p><b>Example 2:</b> Unit length = 10.00 miles, M = 1.10 mile, U = 0.30 mile:  <math>4U = 4(0.30) = 1.20</math> miles. <math>M + 4U = 1.10 \text{ miles} + 1.20 \text{ miles} = 2.30</math> miles</p> $\frac{M + 4U}{\text{Total unit miles}} = \frac{2.30 \text{ miles}}{10.00 \text{ miles}} = 0.23 > 0.20 \quad \text{so Overall Rating} = U$

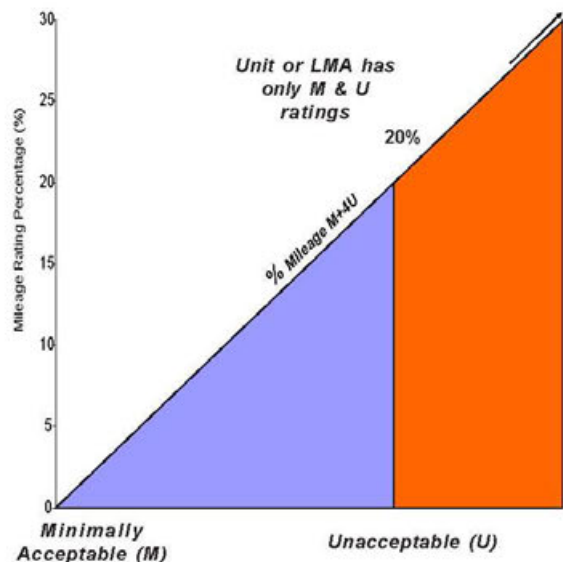
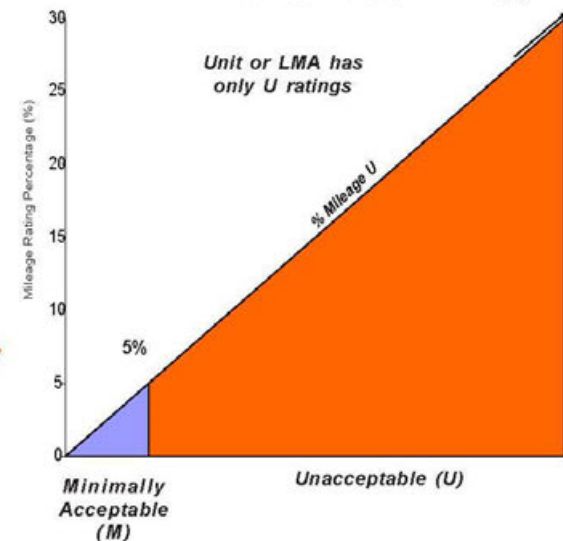
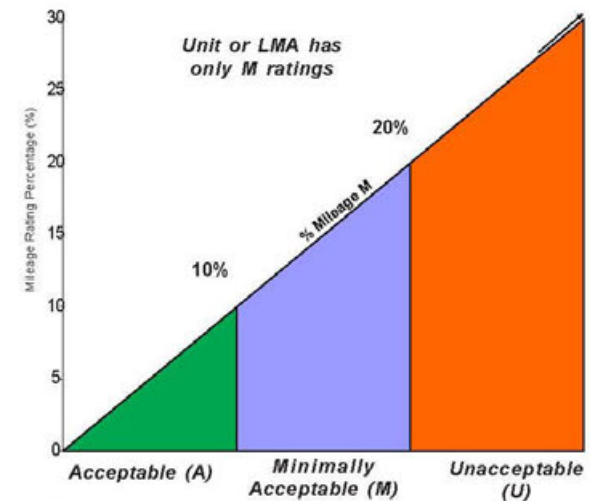
Figure F-5: Overall Maintenance Rating Flow Chart: *The Maintenance Guidelines*

**DWR Inspections**

DWR inspectors document location and length of maintenance deficiencies.

Deficiencies are rated either as **Minimally Acceptable (M)** or **Unacceptable (U)**. Total mileages of each rating in each unit and LMA are calculated and divided by total unit and LMA length to determine percentages of M or U. Percentage thresholds are then applied to determine overall unit and LMA ratings as shown at right.

**Overall  
Levee  
Rating**



Overall Maintenance Rating Flow Chart



When applying the ratings described above, a number of maintenance categories pertaining to levee maintenance are considered. These categories are based on maintenance guidelines listed below.

### Readiness for Flood Emergency

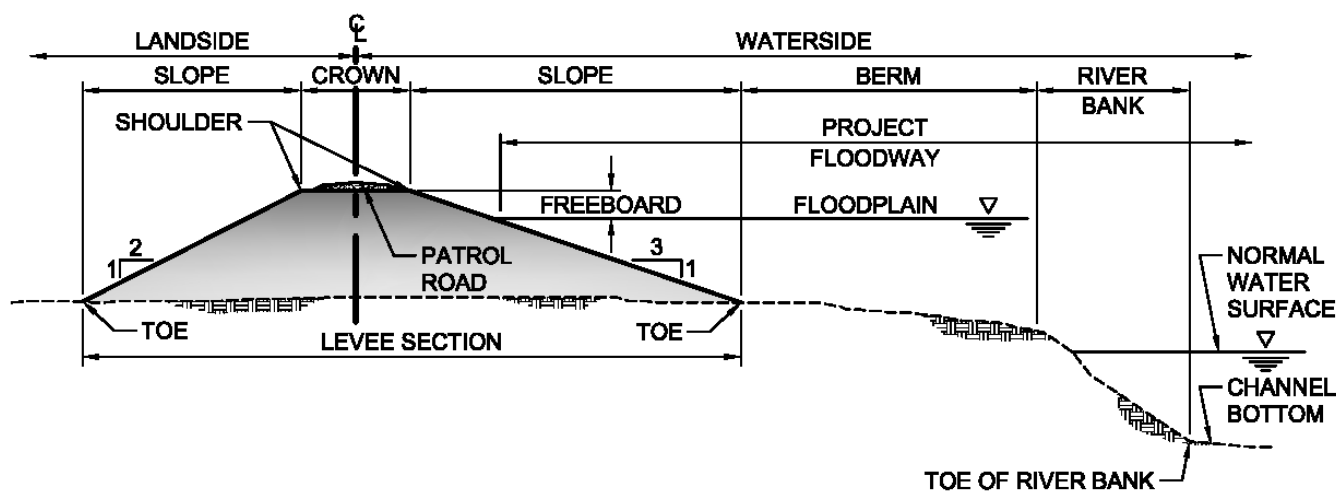
Each LMA shall have an organized plan to effectively combat a flood situation. This should include the appointment of a superintendent to supervise and execute the plan, a copy of applicable O&M Manuals, maintain a stockpile of standard flood-fighting equipment and materials, and have a network of handheld radios or cellular telephones for communication available while patrolling during a flood emergency. DWR started looking at these items again during the 2012 inspections and is including them in the overall Area ratings. Each of three ratings will count as an appropriately rated issue with a length of 1% of the total Area's length, or 0.01 miles, whichever is greater.

The LMA is encouraged to improve the overall quality of the project by addressing the three issue types previously discussed. The overall rating is affected by the number of issues noted during the fall inspection; as the LMA properly addresses the noted issues the overall rating of the project improves. The overall improvement of the project will facilitate increased effectiveness of potential flood-fighting efforts.

### Adequate Levee Section and Grade

Each LMA must perform the work necessary to maintain levee side-slopes, grade, and crown width to meet the standards for its particular reach of the levee system. Levee design standards are summarized in Figure F-6.

**Figure F-6: Project Levee Terminology**



### Adequate Encroachment Control

Each LMA is held responsible for preventing the construction of, or requiring the removal of, any illegally encroaching structures or activities on the levee or within the fifteen-foot regulatory easement at the landward toe of the levee. The maintaining agency must also stop any unauthorized modifications or alterations to the levee. If any person or organization deems any construction or modification necessary within the levee regulatory easement, that person or organization must apply for an encroachment permit. The permit may only be issued by the CVFPB. Failure of the LMA to control unauthorized encroachments can threaten the integrity of the levee, interfere with levee patrol visibility, and hamper a flood fight. These may be cause for downgrading the Area's annual rating in this report. More information on Issue Types may be found in the *Inspection Criteria – Issue Types* section of this appendix.

### Vegetation

Each LMA shall have a program to selectively control vegetation on the levee slopes and in rock revetments. This requirement provides visibility for inspection and patrol and prevents interference with flood-fighting activities. Some vegetation on oversized levees is permitted in accordance with standards as set forth in CCR, Title 23. However, present

DWR vegetation inspection criteria allow vegetation on standard-sized levees as well, provided that visibility and flood fight capabilities are maintained. Both water-side and land-side slopes are rated for vegetation and obstructions. An unmaintained band of vegetation is allowed anywhere beyond 20 feet (slope length) from the waterside hinge (intersection of levee slope and crown – see Figures F-1 through F-4).

### **Rodent and Animal Control**

It is imperative that each LMA have a rodent control program. Rodent burrows can weaken the structural integrity of a levee by creating a seepage path through the levee. Diligent efforts to eradicate burrowing animals are a necessity, and eliminating them from an infested levee is extremely difficult. Control of these animals must be pursued frequently and persistently to ensure safety of the levee during high water events. Effective filling of the burrows is necessary to maintain the integrity of the levee. This category also includes effective control of grazing animals on the levee or easement.

DWR encourages effective rodent control methods, such as grouting and baiting. The LMAs may request a schematic of an inexpensive grout machine as well as other related literature with methods DWR has found effective by contacting their DWR inspector.

### **Seepage/Boils**

Seepage under or through the levee can cause boils, leading to erosion and possible piping failure of the foundation or structure of the levee. Seepage and boils must be identified, monitored, controlled, and corrected as quickly and effectively as possible.

### **Slope Stability and Repair of Cracks, Erosion, and Caving**

Each LMA shall maintain slope stability and repair cracks, flow current or wave wash erosion, and caving or other structural problems. Timely repair of these problems is critical. Failure to address slope stability problems and repair cracks, erosion, or caving could lead to a levee failure.

The LMA superintendent is required to report to the CVFPB's Chief Engineer any suspected or known structural abnormalities found during his inspections. Such un-repaired structural problems are also cause for downgrading of the Area rating.

### **Condition of Rock Revetment**

Each LMA shall make all repairs to scour, wash, settlement, or failure of any portion of rock revetments. Rock revetments have been installed at locations where stream flow conditions indicate the need for such protection. Early detection and prompt repair will result in a minimum of effort and reduce the cost to restore the revetment.

### **Condition of Levee Crown and Roadway**

Each LMA is required to keep crown roadways shaped and graded to provide proper drainage and all-weather access. Repair of ruts and addition of gravel ensures a serviceable road under adverse conditions.

### **Condition of Pipes and Interior Drainage System**

Each LMA must examine all structures situated through, in, or on the levee for stability and structural soundness and record its observations twice annually. All component parts must be examined for proper operation and reliability before the start of each flood season. New structures should be installed or older structures repaired only in accordance with adopted Board standards and under the supervision of qualified Board personnel. Defective structures must be repaired, replaced, or removed immediately. Although maintenance and repair of pipes and other structures passing through a levee are the responsibility of the owner (e.g., a farmer owning an irrigation pipe), the LMA may be responsible for inspecting the pipes for corrosion, collapse, valve integrity, seepage, and any other condition that could threaten the integrity of the levee. Many of these issues can be discovered through an external examination of the pipe as well as the soil and vegetation around it. Because of its full-time presence, the LMA is most able to discover and identify actual and potential problems and should make all efforts to immediately notify DWR of any problems found and thereafter include the problems on their inspection reports until they are resolved. DWR works with the Board to require the timely repair or removal of pipes or other structures that threaten the levee integrity.



## **Concrete Floodwalls / Closure Structures**

In some instances, a portion of a levee is not built to the design height of the rest of the levee. A floodwall, usually either concrete or driven piling, is built to provide necessary hydraulic capacity. In some cases, due to space constraints, a floodwall may be constructed in lieu of a levee. Where a roadway or railroad passes through a levee or floodwall, a closure structure is built on either side of the roadway to hold gates or barriers to be installed for use during high water events. Floodwalls, closure structures, gates, and barriers must be properly maintained, structurally sound, and of proper height and design. Gates and barriers and installation paths must be readily accessible for timely installation and dependable performance and maintained and operated in compliance with the operations and maintenance (O&M) Manual.

### ***Combining Criteria, Maintenance Guidelines and Methodology***

In the field, each inspector documents the location, length, and type of maintenance category (see the guidelines listed above) giving a rating to each category found to be deficient in accordance with the established ratings criteria above. In any field inspection process, there will be some inherent subjectivity. However, DWR believes that training, the use of the new database driven inspection software, new hardware, and the inclusion of the ratings criteria on the inspectors' field computers have led to more accurate and consistent ratings - which are provided by the inspectors themselves. The inspection criteria used in the field can be seen in Table G-1 of Appendix G. Further, the new methodology of determining overall unit and Area ratings, described in Table F-1 and Figure F-5, has resulted in more consistent and objective overall ratings.

### ***Levee Inspection Reporting***

Individual levee mile inspection reports that summarize findings and identify deficiencies are distributed to each LMA after the spring and fall DWR inspection cycles. These reports are to be used by LMAs to scope and prioritize maintenance and improvement efforts, and the LMAs have been instructed to use these reports as a baseline for their summer and winter inspections. When requested, DWR levee inspectors may accompany LMAs on joint summer or winter inspections to discuss non-compliance and needed improvements. Spring and fall levee mile reports are submitted to USACE and the CVFPB. Monthly presentation updates and an annual report are also submitted to the CVFPB.

## ***F-5.3 Channel Inspection Criteria***

The Sacramento River, San Joaquin River, and other river and stream basins have 26 project channels that are inspected annually by the Flood Project Integrity and Inspection Branch of the Division of Flood Management during the summer months.

The purpose of the annual inspection is to identify and report on any condition which may diminish channel design capacities. Such conditions include: vegetation & obstructions, encroachments, sediment deposition (shoaling), revetments, and erosion / bank caving. Concrete lined channels are further evaluated with respect to the condition of the concrete and other structural appurtenances. Appendix G, Table G-2 Channel Inspection Rating Categories outlines the channel inspection criteria used in the field.

In general, maintaining the channels to the condition that existed after completion of the initial construction will preserve their design capacities. The standard of comparison for the inspection is, therefore, the condition immediately after construction. Design capacities, if applicable, can be found in the operations and maintenance (O&M) manuals for each project channel.

The annual inspections rely upon a qualitative rating system that has been developed based on the USACE O&M manuals. As the annual inspections are qualitative in nature, the existing channel capacities are not evaluated in this report. Ultimately, a single overall rating is assigned to each channel by the DWR. This overall rating is a relative indication of how well maintained each channel is.

The USACE and the State of California constructed the channels included in this report. Local agencies or the State of California agreed to be responsible for the maintenance of these channels at the time of construction or at a later time. The USACE issued the O&M manuals referenced above to each maintaining agency at the time of construction. The results of these annual inspections are shown in Appendix I and are made available to the maintaining agencies, USACE, the CVFPB, and the public.

### ***F-5.4 Channel Inspection Rating Methodology***

This section outlines the methodology by which an overall rating is developed from the field applied category ratings for the project channels of the flood protection system:

**Step 1).** The inspector must assess an initial rating of A (Acceptable), M (Minimally Acceptable), U (Unacceptable), or N (Not Rated) to each category for the flood protection work under inspection. Each of the five categories is weighted equally as a threat to the flood protection works' capacity.

**Step 2).** In the office, a numeric total is obtained for each flood protection work by valuing each rating given to each of the designated categories. The ratings are valued as follows: A is given zero points, M is given one point, U is given four points and N is given zero points. Note that if a category is not applicable to a flood protection work, then it should not be detrimental to the overall rating; hence, the zero point value for the N rating.

**Step 3).** This total is then divided by the total number of categories that were found to be applicable (A, M or U) in the field to calculate the average value.

**Step 4).** Lastly, an overall rating of A, M, or U is found by determining which range that average value falls within. The ranges are:  $A \leq 0.2$ ,  $0.2 < M \leq 1.0$ ,  $1.0 < U \leq 4.0$ .

Channel inspection results are shown in Appendix I.

### ***F-5.5 Structures Inspection Criteria***

The maintenance effort expended on structures has been the subject of an annual report dating back to 1959. A report entitled, *Location, Description and Inventory of Miscellaneous Project Structures, Sacramento River Flood Control Project, and American River Flood Control Project*, was issued and was followed shortly thereafter by a maintenance status report. Maintenance status reports on flood protection structures have since been made on an annual basis. It was in this Structures Report that the State of California made its inspection results (formerly maintenance status reports) available to the LMAs, the USACE, the CVFPB, and the public. In 2008 the structures report was incorporated into the annual Inspection Report. These inspections are made on behalf of the CVFPB by DWR, Division of Flood Management, Flood Project Inspection Section.

Structures are inspected once annually during the summer months and include forty three flood protection structures and thirteen pumping plants. The summer inspections of these structures and pumping plants are visual field inspections and are based on USACE inspection categories. Category names and rating descriptions are provided in Appendix G; Table G-3 Structure Rating Categories and Table G-4 Pump Station Rating Categories. The inspector must assess an initial rating of A (Acceptable), M (Minimally Acceptable), U (Unacceptable), or N (Not Rated) to each category that is applicable to the flood protection work under inspection.

### ***F-5.6 Structure Inspection Rating Methodology***

This section outlines the methodology by which an overall rating is developed from the field applied category ratings for the structural components of the flood protection system:

**Step 1).** The inspector must assess an initial rating of A (Acceptable), M (Minimally Acceptable), U (Unacceptable), or N (Not Rated) to each category for the flood protection work under inspection. Each category is weighted equally as a threat to the flood protection works' capacity.

**Step 2).** In the office, a numeric total is obtained for each flood protection work by valuing each rating given to each of the USACE designated categories. The ratings are valued as follows: A is given zero points, M is given one point, U is given four points and N is given zero points. Note that if a category is not applicable to a flood protection work, then it should not be detrimental to the overall rating; hence, the zero point value for the N rating.

**Step 3).** This total is then divided by the total number of categories that were found to be applicable (rated A, M or U) in the field to calculate the average value.

**Step 4).** Lastly, an overall rating of A, M, or U is found by determining which range that average value falls within. The ranges are:  $A \leq 0.2$ ,  $0.2 < M \leq 1.0$ ,  $1.0 < U \leq 4.0$ .

Structure inspection results are shown in Appendix J. Pump Station inspection results are shown in Appendix K.

## **F-6 SAN JOAQUIN RIVER FLOOD CONTROL SYSTEM RANKING CRITERIA FOR WATERSIDE EROSION**

### ***F-6.1 Field Investigation***

Field investigations cover some of the major extents of the San Joaquin River system, and include natural channels and manmade diversions. River Miles and Levee Miles used in this report are based on the estimates performed by FPIIB staff, and may be slightly different from the U.S. Army Corps of Engineer (USACE) river mile alignment. All results presented in this report are based upon the 2010 and previous field survey, and DO NOT reflect changes of conditions past the field survey date unless otherwise noted.

### ***F-6.2 Procedure***

Prior to the field investigations, a master list of the current inventory of erosion sites was reviewed. This list was used to locate previously identified erosion sites. The most current Levee Inspection report was also reviewed for previously identified erosion sites. Erosion sites reported to have been repaired or scheduled for repair were noted and inspected for verification.

Land-based survey was conducted with FPIIB staff inspecting the waterside levee and berm on a 4x4 vehicle. In waterways where view of the waterside levee was obstructed by wide berm or by thick vegetation and where waterway access was permissible, a jet-driven boat was used to conduct the survey. In both instances, observation and measurements were taken with the use of a portable Trimble GeoXT GPS handheld receiver.

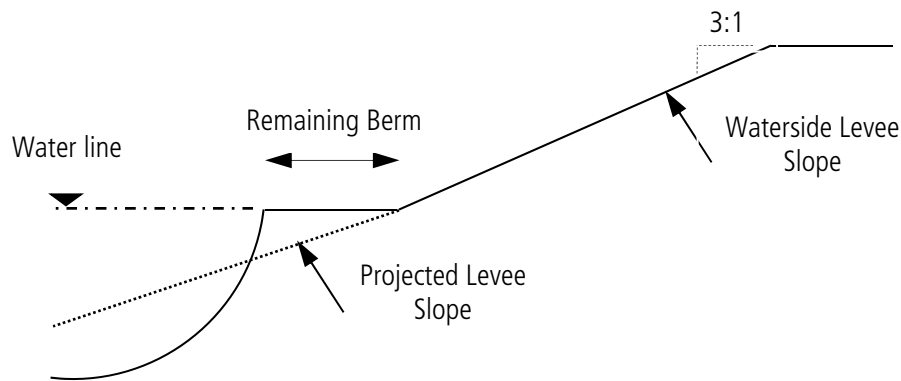
Data collected at each site includes, but are not limited to:

- a) GPS coordinates of the levee crown at the midpoint of the erosion site
- b) Estimated length of erosion, in feet
- c) Estimated height of erosion, in feet
- d) Location of erosion relative to the levee slope
- e) Estimated waterside berm width, in feet
- f) Estimated levee slope (H:V)
- g) Animal burrow hole activity
- h) Existing vegetation
- i) Soil type at the eroded face
- j) Condition of surrounding trees
- k) Digital photographs of the site

Inclusion of a bank erosion site into the inventory takes into account the severity of the erosion and the threat to the levee integrity. Figure F-7 shows a typical cross section of a levee on the waterside. The following criteria are used as a reference to consider a site as being susceptible to erosion:

- a) Bank erosion in the projection of the levee slope
- b) Berm width of less than 30 feet

**Figure F-7: Typical Cross Section of a Waterside Levee**



### ***F-6.3 Rating Methodology***

The 2010 SJRFC System Rating Criteria can be found in Table F-2. The criteria reflect quantitative and qualitative analysis used to determine the severity of an erosion site. It is separated into three categories—physical levee characteristics, erosion characteristics, and hydraulics. Each category is further subdivided into factors related to erosion failure, and are used to calculate a final normalized score. Each factor has a potential score of 0, 1, 2, 3, 4, or 5 and is multiplied by a weighted multiplier ranging from 1 to 5. The weighted multiplier reflects qualitative assumptions relating each factor to erosion failure. The total score for an erosion site is collected by summing all the weighted points. It is then normalized to a 100 point scale and is determined by dividing the total score by the maximum possible score of 91. Once all the erosion sites have been assigned a normalized score, they are ranked from highest to lowest. A high score is associated with a high erosion potential, and a low score is associated with a low erosion potential.

**Table F-2: San Joaquin River Flood Control System Ranking Criteria for Waterside Erosion**

Criteria	Score Definition		Weight	Weighted Score
Physical Levee Characteristics (waterside)				
Berm Width	0 – Greater than 30 feet 1 – 20 to 30 feet 2 – 15 to 20 feet	3 – 10 to 15 feet 4 – 5 to 10 feet 5 – Less than 5 feet	1	5
Vegetation Cover	0 – Ground surrounding site fully covered 1 – 2/3 of ground covered	2 – 1/3 of ground covered 3 – No vegetation	2	6
Burrow Holes	0 – No signs of activity	5 – Signs of activity	1	5
Levee Slope (H:V)	0 – 3:1 or greater 1 – 2.5:1 2 – 2:1	3 – 1.5:1 4 – 1: or less 5 – Near vertical	3	15
Soil Type	1 – Cobbles 2 – Gravel (GP-GW) 3 – Clay (CL, CH, SC, GC)	4 – Sand (SP, SM and mixtures) 5 – Silt (ML)	4	20
Hydraulic Characteristics				
Site Relative to Bend	0 – Inside of bend 1 – Straight reach 2 – immediately downstream of bend	3 – Outside of bend > 90 degrees 4 – Outside of bend @ 90 degree turn 5 – Outside of bend < 90 degrees	1	5
Radius of Curvature (Rc/W)	0 – Greater than 5 or no curve 1 – 4 to 5 2 – 3 to 4	3 – 2 to 3 4 – 1 to 2 5 – less than 1	1	5
Erosion Characteristics				
Length	1 – Less than 50 feet 2 – 50 to 100 feet 3 – 100 to 200 feet	4 – 200 to 300 feet 5 – Greater than 300 feet	2	10
Scarp Height	1 – Less than 50 feet 2 – 50 to 100 feet 3 – 2 to 5 feet & near-vertical	4 – Greater than 5 feet 5 – Greater than 5 feet & near vertical	3	15
Location	1 – Erosion on berm	5 – Erosion affecting levee toe	1	5
Total Weighted Score:				91

### ***F-6.4 Overall Rating***

Overall rating was assigned to each site based on their normalized score. First, an average was found by adding all the scores and dividing them by the number of non-repaired erosion sites in the inventory. The average score is established to be the group threshold and determines the overall rating as described by the following: If the normalized score of a site falls at or below the average, the site is given a rating of M. If it is greater than the average, the site is given a rating of U. Table F-3 summarizes the definition of ratings.

**Table F-3: Definition of Ratings**

<b>Minimally Acceptable (M)</b>	<b>Unacceptable (U)</b>
If Normalized Score $\leq$ Average Normalized Score, then Overall Rating = <b>M</b>	If Normalized Score $>$ Average Normalized Score, then Overall Rating = <b>U</b>
A site that receives a Normalized Score equal to or less than the Average Normalized Score is rated as M, or Minimally Acceptable. This site should be monitored closely and annually, as it may become a serious deficiency in the near future.	A site that receives a Normalized Score greater than the Average Normalized Score is rated as U, or Unacceptable. This site may require immediate attention and corrective action, as it may be a serious deficiency that can fail during normal flow or in the next high water event.

# Appendix G: Inspection Category Rating Descriptions

Table G-1: Levee Inspection Rating Categories

## Earthen Levee

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Animal Control	<p><b>A1</b> Exterminate rodents and backfill and compact or grout burrows.</p> <p>A Rodent holes have been backfilled in a manner that adequately addresses the void created in the levee. A continuous animal burrow control program is in place that includes elimination of active burrowing and the filling of existing burrows. Less than 5 holes (holes that penetrate the levee prism more than 6") in any 25' length of levee, and less than 2 cubic feet of material observed beside any hole. All holes are less than 6" in diameter.</p> <p>M Either more than 5 holes were observed in a 25' length of levee or at least one hole greater than 6" in diameter was observed. No rodent activity was observed on opposing slope and holes penetrate the levee prism more than 6".</p> <p>U More than 2 cubic feet of material was observed beside at least one hole. Either 5 or more holes were observed in a 25' length of levee or a hole 6" in diameter or more was observed with rodent activity on the opposing slope. Holes penetrate the levee prism more than 6".</p> <p>A/W The animal burrow control program has produced results per the standard, but the area should be monitored and the control program continued to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Maintenance Deficiency
Animal Control	<p><b>A2</b> Repair the levee slope damaged by livestock and prevent large animal access.</p> <p>A Rodent holes have been backfilled in a manner that adequately addresses the void created in the levee. A continuous animal burrow control program is in place that includes elimination of active burrowing and the filling of existing burrows. Less than 5 holes (holes that penetrate the levee prism more than 6") in any 25' length of levee, and less than 2 cubic feet of material observed beside any hole. All holes are less than 6" in diameter.</p> <p>M Either more than 5 holes were observed in a 25' length of levee or at least one hole greater than 6" in diameter was observed. No rodent activity was observed on opposing slope and holes penetrate the levee prism more than 6".</p> <p>U More than 2 cubic feet of material was observed beside at least one hole. Either 5 or more holes were observed in a 25' length of levee or a hole 6" in diameter or more was observed with rodent activity on the opposing slope. Holes penetrate the levee prism more than 6".</p> <p>A/W The animal burrow control program has produced results per the standard, but the area should be monitored and the control program continued to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Maintenance Deficiency
Animal Control	<p><b>A3</b> No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.</p> <p>A Rodent holes have been backfilled in a manner that adequately addresses the void created in the levee. A continuous animal burrow control program is in place that includes elimination of active burrowing and the filling of existing burrows. Less than 5 holes (holes that penetrate the levee prism more than 6") in any 25' length of levee, and less than 2 cubic feet of material observed beside any hole. All holes are less than 6" in diameter.</p> <p>M Either more than 5 holes were observed in a 25' length of levee or at least one hole greater than 6" in diameter was observed. No rodent activity was observed on opposing slope and holes penetrate the levee prism more than 6".</p> <p>U More than 2 cubic feet of material was observed beside at least one hole. Either 5 or more holes were observed in a 25' length of</p>	Maintenance Deficiency	Maintenance Deficiency



# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Animal Control (cont)	<p><b>A3</b> No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.</p> <p>levee or a hole 6" in diameter or more was observed with rodent activity on the opposing slope. Holes penetrate the levee prism more than 6".</p> <p>A/W The animal burrow control program has produced results per the standard, but the area should be monitored and the control program continued to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Maintenance Deficiency
Closure Structures	<p><b>n/a</b></p> <p>A Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components of closure clearly marked and installation instructions / procedures readily available. Trial erections have been accomplished.</p> <p>U Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within normal warning time. Trial erections have not been accomplished in accordance with the O&amp;M manual.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Maintenance Deficiency
Cracking	<p><b>CR1</b> Monitor and have inspected by geotechnical engineer.</p> <p>A No cracks were observed that are present year round that are greater than 2" deep, with transverse more than 1/3 width of the levee crown or longitudinal length with a length of 1/3 the height of the levee .</p> <p>M Cracks were observed that are between 2" and 6" deep, transverse between 1/3 and the full levee crown width, or have a longitudinal length of between 1/3 and the full height of the levee.</p> <p>U Cracks were observed that are 6" or deeper, have transverse cracks extending the entire levee width, have a longitudinal length greater than the height of the levee. Signs of vertical movement may have been observed.</p> <p>A/W No cracks were observed that violate standards, but the area should be monitored and maintained to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Design & System Obsolescence
Cracking	<p><b>CR2</b> Schedule repair of subsidence prior to the next inspection.</p> <p>A No cracks were observed that are present year round that are greater than 2" deep, with transverse more than 1/3 width of the levee crown or longitudinal length with a length of 1/3 the height of the levee .</p> <p>M Cracks were observed that are between 2" and 6" deep, transverse between 1/3 and the full levee crown width, or have a longitudinal length of between 1/3 and the full height of the levee.</p> <p>U Cracks were observed that are 6" or deeper, have transverse cracks extending the entire levee width, have a longitudinal length greater than the height of the levee. Signs of vertical movement may have been observed.</p> <p>A/W No cracks were observed that violate standards, but the area should be monitored and maintained to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Design & System Obsolescence

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Crown Surface / Depressions / Rutting (cont)	<b>C1</b> Add appropriate material and re-grade the levee to bring the crown above the design elevation.	Maintenance Deficiency	Maintenance Deficiency
	A The crown is at or above the design elevation.		
	M Sections of the crown have settled below the design elevation for distances less than 100'.		
	U Sections of the crown have settled below the design elevation for distances greater than 100'.		
	A/W Sections of the crown may have settled below the design elevation and may need maintenance in the future.		
	C The deficiency noted previously has been corrected.		
Crown Surface / Depressions / Rutting	<b>C2</b> Repair depressions or ruts in the crown or slope.	Maintenance Deficiency	Maintenance Deficiency
	A There are no ruts, pot holes, or other depressions on the levee crown or embankments. The levee crown and access roads are well established and drain properly without any ponded water.		
	M Some ruts, holes, settlement or other depressions on the levee less than 6" deep were observed.		
	U There are depressions greater than 6" deep that will pond water or a large amount of additional road material is needed to ensure all-weather access. The levee may have settled below the design elevation for a distance greater than 100'.		
	A/W The crown surface complies with standards but should be monitored and maintained to avoid a future maintenance issue.		
	C The deficiency noted previously has been corrected.		
Crown Surface / Depressions / Rutting	<b>C3</b> Add appropriate gravel or road base. Grade and compact.	Maintenance Deficiency	Maintenance Deficiency
	A The road is in all-weather condition and drain properly without any ponded water.		
	M The all-weather surface requires some maintenance but will not prevent access during the coming flood season.		
	U The all-weather surface will not able to be used during the coming flood season. Material should be added or the roadway re-graded before the next flood season.		
	A/W The crown surface complies with standards but should be monitored and maintained to avoid a future maintenance issue.		
	C The deficiency noted previously has been corrected.		
Emergency Supplies & Equipment	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A The LMA maintains a stockpile of sandbags, shovels, and other flood fight supplies from a centralized location which will adequately supply all needs for the initial days of a flood fight. The LMA determines the required quantity of supplies after consulting with inspector.		
	M The LMA does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.		
	C The deficiency noted previously has been corrected.		
Encroachments	<b>AT</b> Agricultural tilling	Enforcement	Maintenance Deficiency
	A The levee and soil along the levee or within the landside easement is not being disced or tilled.		
	M Evidence of or active disking or tilling along the levee or within the landward easement was observed but will not inhibit operations and maintenance or emergency operations.		

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Encroachments (cont)	<b>AT</b>	Agricultural tilling	Enforcement	Maintenance Deficiency
	U	Evidence of or active disking or tilling along the levee or within the landside easement was observed that may inhibit operations and maintenance or emergency operations.		
	A/W	Evidence of past active disking or tilling along the levee, within the landside easement, or nearby was observed that should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>AV</b>	Abandoned vehicles	Enforcement	Maintenance Deficiency
	A	No abandoned vehicles blocking visibility or access along the levee or within the landside easement were observed.		
	M	Abandoned vehicles blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Abandoned vehicles blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No vehicles were observed, but have been in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>BU</b>	Building	Enforcement	Design & System Obsolescence
	A	Buildings along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	A building blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	A building blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No building was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>CR</b>	Crops	Enforcement	Design & System Obsolescence
	A	No agricultural crops or related features blocking visibility or access along the levee or within the landside easement were observed.		
	M	Agricultural crops or related features blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Agricultural crops or related features blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	Agricultural crops or related features were observed, but have been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>DE</b>	Debris	Enforcement	Maintenance Deficiency

## Table G-1: Levee Inspection Rating Categories

### Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Encroachments (cont)	<b>DE</b>	Debris	Enforcement	Maintenance Deficiency
	A	No trash or debris blocking visibility or access along the levee or within the landside easement were observed.		
	M	Trash or debris blocking visibility and access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Trash or debris blocking visibility and access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No trash or debris were observed, but has been in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>DT</b>	Ditch	Enforcement	Design & System Obsolescence
	A	The ditch within the landside easement appears to be maintained per permit conditions and does not appear to create a slope instability or inhibit operations and maintenance or emergency operations.		
	M	An ditch blocking visibility or access along the levee or within the landside easement were observed but will not inhibit slope stability or operations and maintenance or emergency operations.		
	U	An ditch blocking visibility or access along the levee or within the landside easement were observed that may inhibit slope stability or operations and maintenance or emergency operations.		
	A/W	No ditch was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>EQ</b>	Equipment	Enforcement	Maintenance Deficiency
	A	No construction or agricultural equipment blocking visibility or access along the levee or within the landside easement was observed.		
	M	Construction or agricultural equipment blocking visibility and access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Construction or agricultural equipment blocking visibility and access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No construction or agricultural equipment were observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>FE</b>	Fence	Enforcement	Design & System Obsolescence
	A	Fences along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	Fences blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Fences blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No fence was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Encroachments (cont)	<b>FE</b>	Fence	Enforcement	Design & System Obsolescence
Encroachments	<b>FW</b>	Firewood	Enforcement	Maintenance Deficiency
	A	No firewood blocking visibility or access was along the levee or within the landside easement observed.		
	M	Firewood blocking visibility and access along the levee or within the landside easement was observed but will not inhibit operations and maintenance or emergency operations.		
	U	Firewood blocking visibility and access along the levee or within the landside easement was observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No firewood was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>GA</b>	Garbage	Enforcement	Maintenance Deficiency
	A	No trash or garbage blocking visibility or access along the levee or within the landside easement was observed.		
	M	Trash or garbage blocking visibility and access along the levee or within the landside easement was observed but will not inhibit operations and maintenance or emergency operations.		
	U	Trash or garbage blocking visibility and access along the levee or within the landside easement was observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No garbage was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>LI</b>	Landscape Irrigation	Enforcement	Design & System Obsolescence
	A	Landscape irrigation along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	Landscape irrigation blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Landscape irrigation blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No landscape irrigation was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>MA</b>	Material	Enforcement	Maintenance Deficiency
	A	No material blocking visibility or access along the levee or within the landside easement was observed.		
	M	Material blocking visibility and access along the levee or within the landside easement was observed but will not inhibit operations and maintenance or emergency operations.		
	U	Material blocking visibility and access along the levee or within the landside easement was observed that may inhibit operations and maintenance or emergency operations.		

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Encroachments (cont)	<b>MA</b> Material  A/W No material was observed, but has been observed in the past and the location should be monitored. C The deficiency noted previously has been corrected.	Enforcement	Maintenance Deficiency
Encroachments	<b>MW</b> Monitoring Well  A The monitoring well has been authorized by the USACE and CVFPB. It functions as designed to determine water levels and all associated equipment in functioning. The well does not appear to be plugged. M The monitoring well has been authorized by the USACE and CVFPB. It does not appear to be functioning as designed but other methods of determining water levels nearby are adequate. U The monitoring well has not been authorized by the USACE and CVFPB. It does not appear to function as designed and there are no other methods of determining water levels in proximity of the location. A/W The monitoring well has been authorized by the USACE and CVFPB. It appears to be functioning as designed but should be monitored to ensure that it continues to do so. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Design & System Obsolescence
Encroachments	<b>PI</b> Pipe  A Pipes through the levee at this location have been inspected and appear to be intact. No evidence of leakage has been observed and the pipe appears to be maintained per permit conditions. M A pipe through the levee at this location is not maintained per permit conditions or may not be authorized but will not inhibit the operations and maintenance or emergency operations. U A pipe through the levee at this location is not maintained per permit conditions or may not be authorized that may inhibit the operations and maintenance or emergency operations. A/W A pipe through the levee was observed that appears to be leak free and maintained per permit conditions but should be monitored. C The deficiency noted previously has been corrected.	Enforcement	Maintenance Deficiency
Encroachments	<b>PL</b> Pool  A Pool along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations. M Pool blocks visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations. U Pool blocks visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations. A/W No pool was observed, but has been observed in the past and the location should be monitored. C The deficiency noted previously has been corrected.	Enforcement	Design & System Obsolescence
Encroachments	<b>PO</b> Pole	Enforcement	Design & System Obsolescence

## Table G-1: Levee Inspection Rating Categories

### Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Encroachments (cont)	<b>PO</b>	Pole	Enforcement	Design & System Obsolescence
	A	A pole along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	A pole blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	A pole blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No pole was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>PR</b>	Prunings	Enforcement	Maintenance Deficiency
	A	No prunings blocking visibility or access along the levee or within the landside easement were observed.		
	M	Prunings blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Prunings blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No prunings were observed, but have been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>RA</b>	Ramp	Enforcement	Design & System Obsolescence
	A	A ramp along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	A ramp blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	A ramp blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No ramp was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>RW</b>	Retaining Wall	Enforcement	Design & System Obsolescence
	A	Retaining Wall along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	Retaining wall blocks visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Retaining wall blocks visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No retaining wall was observed, but has been observed in the past and the location should be monitored.		



# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Encroachments (cont)	<b>RW</b>	Retaining Wall	Enforcement	Design & System Obsolescence
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>SI</b>	Sign	Enforcement	Design & System Obsolescence
	A	A sign along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	A sign blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	A sign blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No sign was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>ST</b>	Stairway	Enforcement	Maintenance Deficiency
	A	No unauthorized stairways were observed along the levee or within the landside easement. Stairs found appear to be maintained per permit conditions.		
	M	A stairway on the levee or within the landside easement was observed that is not maintained per permit conditions or may not be authorized but will not inhibit operations and maintenance or emergency operations.		
	U	A stairway on the levee or within the landside easement was observed that is not maintained per permit conditions or may not be authorized that may inhibit operations and maintenance or emergency operations.		
	A/W	A stairway was observed that appears to be maintained per permit conditions but should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>TA</b>	Tank	Enforcement	Design & System Obsolescence
	A	A tank along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	A tank blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	A tank blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No tank was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>TR</b>	Tree or limb	Enforcement	Maintenance Deficiency
	A	No discarded tree branches or limbs blocking visibility or access along the levee or within the landside easement were observed.		
	M	Discarded tree branches or limbs blocking visibility or access along the levee or within the landside easement were observed but will		

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Encroachments (cont)	<b>TR</b>	Tree or limb	Enforcement	Maintenance Deficiency
		not inhibit operations and maintenance or emergency operations.		
	U	Discarded tree branches or limbs blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No discarded tree branches or limbs were observed, but have been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>UR</b>	Urban	Enforcement	Design & System Obsolescence
	A	Multiple encroachments of various types along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	Multiple encroachments of various types blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Multiple encroachments of various types blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	Multiple encroachments of various types were not currently observed, but have been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Encroachments	<b>WL</b>	Wall	Enforcement	Design & System Obsolescence
	A	Walls along the levee or within the landside easement appear to be maintained per permit conditions and do not appear to inhibit operations and maintenance or emergency operations.		
	M	Walls blocking visibility or access along the levee or within the landside easement were observed but will not inhibit operations and maintenance or emergency operations.		
	U	Walls blocking visibility or access along the levee or within the landside easement were observed that may inhibit operations and maintenance or emergency operations.		
	A/W	No wall was observed, but has been observed in the past and the location should be monitored.		
	C	The deficiency noted previously has been corrected.		
Erosion / Bank Caving	<b>E1</b>	Note and monitor erosion site.	Maintenance Deficiency	Design & System Obsolescence
	A	No erosion greater than 3" in depth was observed in the levee prism or stability berm.		
	M	Erosion with a depth greater than 3" but less than 1' and less than 3' in length was observed in the levee prism or stability berm.		
	U	Erosion with a depth of 1' or greater and a length of 3' or greater was observed in the levee prism or stability berm or overbuilt section.		
	A/W	No erosion greater than 3" in depth was observed in the levee prism or stability berm, but the area should be monitored and maintained to avoid a future maintenance issue.		
	C	The deficiency noted previously has been corrected.		

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Erosion / Bank Caving (cont)	<b>E2</b>	Schedule repair of erosion site prior to the next inspection.	Maintenance Deficiency	Design & System Obsolescence
	A	No erosion greater than 3" in depth was observed in the levee prism or stability berm.		
	M	Erosion with a depth greater than 3" but less than 1' and less than 3' in length was observed in the levee prism or stability berm.		
	U	Erosion with a depth of 1' or greater and a length of 3' or greater was observed in the levee prism or stability berm or overbuilt section.		
	A/W	No erosion greater than 3" in depth was observed in the levee prism or stability berm, but the area should be monitored and maintained to avoid a future maintenance issue.		
	C	The deficiency noted previously has been corrected.		
Flood Preparedness & Training	<b>n/a</b>		Maintenance Deficiency	Maintenance Deficiency
	A	The LMA has a written system-specific flood response plan and a solid understanding of how to operate, maintain, and staff the Flood Protection System during a flood. LMA maintains a list of emergency contact information for appropriate personnel and other emergency response activities.		
	M	The LMA maintains a good working knowledge of flood response activities, but documentation of system-specific emergency procedures and emergency contact personnel is insufficient or out of date.		
	C	The deficiency noted previously has been corrected.		
Operations & Maintenance Manuals	<b>n/a</b>		Maintenance Deficiency	Maintenance Deficiency
	A	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.		
	M	Manuals are lost or missing or out of date. The LMA will obtain the documents prior to next scheduled inspection.		
	U	LMA has not obtained lost or missing manuals identified during previous inspection.		
	C	The deficiency noted previously has been corrected.		
Repair Gates	<b>n/a</b>		Maintenance Deficiency	Maintenance Deficiency
	A	Gates open and close freely, locks are in place and there is little corrosion on metal parts.		
	M	Gates are damaged or corroded but appear to be operable.		
	U	Gates are damaged, corroded or impassable and require replacement. District or pass key is not accepted by attached locks.		
	A/W	The gate complies with standards but should be monitored and maintained to avoid a maintenance issue.		
	C	The deficiency noted previously has been corrected.		
Riprap Revetments	<b>n/a</b>		Maintenance Deficiency	Maintenance Deficiency
	A	Existing riprap protection has not been displaced and is properly maintained and undamaged. No voids exist under the riprap / grout. Riprap has been engineered.		
	M	Existing riprap protection has been displaced but the subgrade is not exposed and there is no evidence of scour, erosion, or voids. Riprap adequately functions as slope protection.		
	U	Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Slope		

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Riprap Revetments (cont)	<b>n/a</b>	protection is needed. Or significant riprap displacement has occurred exposing the subgrade or fabric or there are voids under t A/W Riprap revetments comply with standards but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency
Seepage / Sandboils	<b>n/a</b>	A No evidence of unrepaired seepage, continuous saturated areas, or sandboils was observed at the time of the inspection. U Evidence of unrepaired seepage, continuous saturated areas, and/or and boils were observed. Records indicate that unrepaired seepage or sandboils exist. C The deficiency noted previously has been corrected.	Design & System Obsolescence	Maintenance Deficiency
Slope Stability	<b>S1</b>	Repair slope instability.  A The slope does not show any separation of soil, any caving, soil movement, or other signs of an unstable slope. M Either a separation of soil can be seen, caving was observed on the slope or crown, tension cracks due to a slip or slide, or depressions in the slope were observed. U A crack or depression with a depth greater than 1" and a length of 200' was observed. A bulge in the slope or at the toe due to upward movement of the soil was observed. A/W The area complies with the slope stability standard but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Design & System Obsolescence
Slope Stability	<b>S2</b>	Repair the levee slope damaged by foot traffic and prevent access where possible.  A The slope does not show any separation of soil, any caving, soil movement, or other signs of an unstable slope. M Either a separation of soil can be seen, caving was observed on the slope or crown, tension cracks due to a slip or slide, or depressions in the slope were observed. U A crack or depression with a depth greater than 1" and a length of 200' was observed. A bulge in the slope or at the toe due to upward movement of the soil was observed. A/W The area complies with the slope stability standard but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Design & System Obsolescence
Slope Stability	<b>S3</b>	Repair the levee slope damaged by vehicle traffic and prevent access where possible.  A The slope does not show any separation of soil, any caving, soil movement, or other signs of an unstable slope. M Either a separation of soil can be seen, caving was observed on the slope or crown, tension cracks due to a slip or slide, or depressions in the slope were observed. U A crack or depression with a depth greater than 1" and a length of 200' was observed. A bulge in the slope or at the toe due to upward movement of the soil was observed. A/W The area complies with the slope stability standard but should be monitored and maintained to avoid a future maintenance issue.	Maintenance Deficiency	Design & System Obsolescence

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Slope Stability (cont)	<b>S3</b>	Repair the levee slope damaged by vehicle traffic and prevent access where possible.	Maintenance Deficiency	Design & System Obsolescence
	C	The deficiency noted previously has been corrected.		
Trim / Thin Trees	<b>T1</b>	Trim trees to at least five feet above ground level.	Maintenance Deficiency	Maintenance Deficiency
	A	Any trees on the levee or the landside easement are trimmed up at least 5 feet above the levee slope and spaced enough to allow visibility and flood fight access. All trees are maintained per DWR's Vegetation Criteria.		
	M	Moderate density of limbs, leaves, or the trees themselves are partially obstructing visibility and flood fight access to the levee slope and/or within the landside easement.		
	U	Significant density of limbs, leaves, or the trees themselves are completely obstructing visibility and flood fight access to the levee slope and/or within the landside easement.		
	A/W	Trees comply with standards but should be monitored and maintained to avoid a future maintenance issue.		
	C	The deficiency noted previously has been corrected.		
Trim / Thin Trees	<b>T2</b>	Thin trees to allow visibility of the ground and room to flood fight.	Maintenance Deficiency	Maintenance Deficiency
	A	Any trees on the levee or the landside easement are trimmed up at least 5 feet above the levee slope and spaced enough to allow visibility and flood fight access. All trees are maintained per DWR's Vegetation Criteria.		
	M	Moderate density of limbs, leaves, or the trees themselves are partially obstructing visibility and flood fight access to the levee slope and/or within the landside easement.		
	U	Significant density of limbs, leaves, or the trees themselves are completely obstructing visibility and flood fight access to the levee slope and/or within the landside easement.		
	A/W	Trees comply with standards but should be monitored and maintained to avoid a future maintenance issue.		
	C	The deficiency noted previously has been corrected.		
Trim / Thin Trees	<b>T3</b>	Trim and thin trees to allow visibility of the ground and room to flood fight.	Maintenance Deficiency	Maintenance Deficiency
	A	Any trees on the levee or the landside easement are trimmed up at least 5 feet above the levee slope and spaced enough to allow visibility and flood fight access. All trees are maintained per DWR's Vegetation Criteria.		
	M	Moderate density of limbs, leaves, or the trees themselves are partially obstructing visibility and flood fight access to the levee slope and/or within the landside easement.		
	U	Significant density of limbs, leaves, or the trees themselves are completely obstructing visibility and flood fight access to the levee slope and/or within the landside easement.		
	A/W	Trees comply with standards but should be monitored and maintained to avoid a future maintenance issue.		
	C	The deficiency noted previously has been corrected.		
Trim / Thin Trees	<b>T4</b>	Trim trees over roadway to at least 12 feet above ground level.	Maintenance Deficiency	Maintenance Deficiency
	A	Any trees on the levee or the landside easement are trimmed up at least 5 feet above the levee slope and spaced enough to allow visibility and flood fight access. All trees are maintained per DWR's Vegetation Criteria.		

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Trim / Thin Trees (cont)	<b>T4</b> Trim trees over roadway to at least 12 feet above ground level.  M Moderate density of limbs, leaves, or the trees themselves are partially obstructing visibility and flood fight access to the levee slope and/or within the landside easement. U Significant density of limbs, leaves, or the trees themselves are completely obstructing access along the roadway. A/W Trees comply with standards but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency
Trim / Thin Trees	<b>T5</b> Tree stumps.  U There are tree stumps visibly decomposing that may pose a risk to the integrity of the levee. N Tree stumps with diameters of 2" or greater were observed on the levee or within the landside easement. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency
Underseepage Relief Wells	<b>n/a</b>  A Toe drainage system and pressure relief wells necessary for maintaining levee stability during flood events functioned properly during the last flood event and no sediment is observed in horizontal system. Nothing is observed which would indicate that the system won't function properly during the next flood and is maintained per the O&M Manual. Maintenance records are available for review. M Toe drainage system or pressure relief wells are not maintained in accordance with the O&M Manual but maintenance records are available, the well has maintained at least 80% efficiency, and has not fallen into disrepair or become clogged. U Toe drainage systems or pressure relief wells have observable issues that would indicate that they wouldn't function properly in the next event, OR maintenance records were not available, OR cracks were observed between the ditch and well or in the ditch, OR the system is in disrepair and the pump is operating at less than 80% efficiency. A/W The toe drainage system or pressure relief wells comply with standards but should be monitored and maintained to avoid a maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Design & System Obsolescence
Vegetation	<b>V1</b> Control annual grass and weeds on the levee slopes and easements.  A The Levee has no unwanted vegetation (brush, bushes, and undesirable weeds) blocking visibility or access; vegetation is maintained per DWR's Vegetation Criteria. M Tall grass, weeds, brush or other vegetation partially block visibility of or access to the levee and/or 15 feet or the limit of the easement at the landside toe and 20 feet from shoulder to the waterside of the levee. U Tall grass, weeds, brush or other vegetation completely block visibility of or access to the levee and/or to 15 feet or the limit of the easement at the landside toe and also 20 feet from shoulder to the waterside of the levee. A/W The vegetation complies with standards but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency
Vegetation	<b>V2</b> Remove the wild growth other than native grasses from the levee slopes.	Maintenance Deficiency	Maintenance Deficiency

# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Vegetation (cont)	<b>V2</b> Remove the wild growth other than native grasses from the levee slopes.  A The Levee has no unwanted vegetation (brush, bushes, and undesirable weeds) blocking visibility or access; vegetation is maintained per DWR's Vegetation Criteria. M Tall grass, weeds, brush or other vegetation partially block visibility of or access to the levee and/or 15 feet or the limit of the easement at the landside toe and 20 feet from shoulder to the waterside of the levee. U Tall grass, weeds, brush or other vegetation completely block visibility of or access to the levee and/or to 15 feet or the limit of the easement at the landside toe and also 20 feet from shoulder to the waterside of the levee. A/W The vegetation complies with standards but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency
Vegetation	<b>V4</b> Elderberries are blocking visibility and flood fight capability.  A The Levee has no unwanted vegetation (brush, bushes, and undesirable weeds) blocking visibility or access; vegetation is maintained per DWR's Vegetation Criteria. M Tall grass, weeds, brush or other vegetation partially block visibility of or access to the levee and/or 15 feet or the limit of the easement at the landside toe and 20 feet from shoulder to the waterside of the levee. U Tall grass, weeds, brush or other vegetation completely block visibility of or access to the levee and/or to 15 feet or the limit of the easement at the landside toe and also 20 feet from shoulder to the waterside of the levee. A/W The vegetation complies with standards but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency
Vegetation	<b>V5</b> Other Vegetation Information.  1 Between 75% and 50% of the levee slope (both sides) is covered with grass or sod. 2 75% or more of the levee slope (both sides) is covered with grass or sod. 3 Plants greater than 2 inches in diameter exist but do not obstruct visibility. 4 Brush and/or weeds exist on the waterward side of the levee beyond the top 20 feet that obstruct visibility. 5 This area complies with the USACE ETL 1110-2-571 vegetation standards. C The deficiency noted previously has been corrected.	Design & System Obsolescence	Design & System Obsolescence
Vegetation	<b>V6</b> Landscaping  A The Levee has no unwanted vegetation (brush, bushes, and undesirable weeds) blocking visibility or access; vegetation is maintained per DWR's Vegetation Criteria. M Landowner maintained vegetation partially block visibility of or access to the levee and/or 15 feet or the limit of the easement at the landside toe and 20 feet from shoulder to the waterside of the levee. U Landowner maintained vegetation completely block visibility of or access to the levee and/or to 15 feet or the limit of the easement at the landside toe and also 20 feet from shoulder to the waterside of the levee. A/W The vegetation complies with standards but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Enforcement	Enforcement



# Table G-1: Levee Inspection Rating Categories

## Earthen Levee (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Vegetation (cont)	<b>V7</b> Trees / Woody Vegetation  A No trees or woody vegetation have been identified that currently pose an unacceptable threat to the integrity of the levee. U Trees or woody vegetation exist that pose an unacceptable threat to the integrity of the levee. Identified trees shall be removed and associated root balls and roots shall be appropriately removed in coordination with the resource agencies. A/W Monitor trees or woody vegetation which may pose a future unacceptable threat to the integrity of the levee. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency
Vegetation	<b>V8</b> Environmental Requirements.  A/W Vegetation was introduced, allowed, required as mitigation, or endorsed by a previous DWR or USACE action as necessary to comply with environmental requirements.	Design & System Obsolescence	Design & System Obsolescence
Vegetation	<b>V9</b> Keep the crown roadway free of vegetation.  A The roadway has no unwanted vegetation (brush, bushes, and undesirable weeds) blocking visibility or access. M Tall grass, weeds, brush or other vegetation partially block visibility of or access along the roadway. U Tall grass, weeds, brush or other vegetation completely block visibility of or access along the roadway. A/W The roadway does not have any vegetation blocking visibility or access currently, but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency

# Table G-1: Levee Inspection Rating Categories

## Interior Drainage & Piping Systems

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Concrete Foundations	<b>n/a</b>  A No scouring / erosion or undermining near the structure. M Scouring / erosion near the footing of the structure but not close enough to affect structure stability during the next flood. U Scouring or undermining at the foundation that has affected structural integrity. A/W There was no scouring / erosion or undermining observed but the area should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Design & System Obsolescence
Concrete Surfaces (cont)	<b>n/a</b>  A Negligible spalling, scaling or cracking. If the concrete surface is weathered, rough to the touch or holds moisture, it is still satisfactory but should be seal coated to prevent freeze / thaw damage. M Spalling, scaling, and open cracking present, but the immediate integrity or performance of the project is not threatened. Reinforcing steel may be exposed. Repairs / sealing is necessary to prevent additional damage during periods of thawing and freeze. U Surface deterioration or deep cracks present that result in an threaten the integrity of the project. A/W Concrete surfaces were intact but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency
Concrete Tilting / Settlement	<b>n/a</b>  A There are no significant areas of tilting, sliding or settlement that would endanger the integrity of the project. M There are areas of tilting, sliding or settlement (either active or inactive) that need to be repaired. The integrity of the structure is not in danger. U There are areas of tilting, sliding or settlement (either active or inactive) that threaten the structure's integrity and performance. A/W There was no concrete tilting or settlement observed but the area should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Design & System Obsolescence
Culverts: Breaks / Holes / Cracks	<b>n/a</b>  A There are no breaks, holes, cracks in the culvert that would result in significant water leakage. Pipes are in good condition or have been relined with appropriate material, which is still in good condition. M There are breaks, holes, cracks in the culvert that would result in water leakage and need to be repaired, but do not threaten the integrity of the project. Pipes may showing deterioration but do not threaten the integrity of the project. U Culvert has deterioration and/or has significant leakage such that it threatens the integrity of the project. Pipes are in danger of collapsing or have already begun to collapse. A/W The culvert does not currently have any significant integrity issues but should be monitored and maintained to avoid a future maintenance issue. C The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency

# Table G-1: Levee Inspection Rating Categories

## Interior Drainage & Piping Systems (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Culverts: Inlets / Outlets (cont)	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	<p>A There is little or no debris, sediment or vegetation blocking the culverts, inlets, sump or discharge areas. The channel capacity for designed flow is not affected.</p> <p>M Debris, sediment or vegetation blocks less than 10% of the culvert opening, but must be removed.</p> <p>U Accumulated debris, sediment or vegetation blocks more than 10% of the culvert opening, impairing the culvert's capacity and hydraulic effectiveness.</p> <p>A/W No material was observed blocking the culvert, but has been observed in the past and the location should be monitored and maintained.</p> <p>C The deficiency noted previously has been corrected.</p>		
Electric Gate Operators	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	<p>A All electric gate operators are in good working condition and are adequately powered, and are capable of opening and closing the gate properly. Preventative maintenance is being performed and the system is tested periodically.</p> <p>M All electric gate operators are operational with minor deficiencies, but should perform through the next period of usage.</p> <p>U The electric gate operators are not operational, or the power source is not considered reliable to sustain operations during flood conditions.</p> <p>A/W Electric gate operators functioned as designed but should be monitored and maintained to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>		
Encroachments	<b>n/a</b>	Maintenance Deficiency	Enforcement
	<p>A No trash, debris, excavation, structures, or other obstructions present within the project easement area was observed. Encroachments which do not diminish proper functioning of the project have been previously approved by the CVFPB and are maintained per</p> <p>M Trash, debris, excavations, structures, or other obstructions present, or inappropriate activities that will not inhibit project operations and maintenance or emergency operations was observed. Encroachments have been approved by the CVFPB but may need ma</p> <p>U Trash, debris, excavation, structures, or other obstructions present, or inappropriate activities that will inhibit project operations and maintenance or emergency operation was observed.</p> <p>A/W Encroachments were not currently observed, but have been observed in the past and the location should be monitored. Permitted encroachments should be monitored and maintained for compliance with permit conditions.</p> <p>C The deficiency noted previously has been corrected.</p>		
Erosion Areas	<b>n/a</b>	Maintenance Deficiency	Design & System Obsolescence
	<p>A No erosion greater than 3" in depth was observed in the levee prism or stability berm.</p> <p>M Erosion with a depth greater than 3" but less than 1' and less than 3' in length was observed in the levee prism or stability berm.</p> <p>U Erosion with a depth of 1' or greater and a length of 3' or greater was observed in the levee prism or stability berm or overbuilt section.</p> <p>A/W No erosion greater than 3" in depth was observed in the levee prism or stability berm, but the area should be monitored and</p>		

# Table G-1: Levee Inspection Rating Categories

## Interior Drainage & Piping Systems (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Erosion Areas (cont)	<p><b>n/a</b></p> <p>maintained to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Design & System Obsolescence
Flap Gates	<p><b>n/a</b></p> <p>A Flap gates open and close easily with minimal leakage. Gates show no corrosion damage and have been maintained.</p> <p>M Gates will not fully open or close because of obstructions that can be easily removed or have corrosion damage that requires maintenance.</p> <p>U Gate is missing, has been damaged or has deteriorated and needs repair. Gate will not prevent flow from the channel toward the landside.</p> <p>A/W Flap gates open and close with minimal leakage and function as designed but should be monitored and maintained to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Enforcement
Manual Gate Operators	<p><b>n/a</b></p> <p>A All manual gate operators are in good working condition and are capable of opening and closing the gate properly. Preventative maintenance is being performed and the system is tested periodically.</p> <p>M Manual gate operators are operational with minor deficiencies, but should perform through the next period of usage.</p> <p>U Manual gate operators are not operational.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Maintenance Deficiency
Metal Pipes	<p><b>n/a</b></p> <p>A There are no breaks, holes, cracks in the pipe that would result in significant water leakage. Pipes are in good condition or have been relined with appropriate material, which is still in good condition.</p> <p>M There are breaks, holes, cracks in the pipe that would result in water leakage and need to be repaired, but do not threaten the integrity of the project. Pipes may showing deterioration but do not threaten the integrity of the project.</p> <p>U Pipe has deterioration and/or has significant leakage such that it threatens the integrity of the project. Pipes are in danger of collapsing or have already begun to collapse.</p> <p>A/W The Pipe does not currently have any significant integrity issues but should be monitored and maintained to avoid a future maintenance issue.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Enforcement
Revetments	<p><b>n/a</b></p> <p>A Existing riprap protection has not been displaced and is properly maintained and undamaged. No voids exist under the riprap / grout. Riprap has been engineered.</p> <p>M Existing riprap protection has been displaced but the subgrade is not exposed and there is no evidence of scour, erosion, or voids.</p>	Maintenance Deficiency	Maintenance Deficiency

# Table G-1: Levee Inspection Rating Categories

## Interior Drainage & Piping Systems (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Revetments (cont)	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	Riprap adequately functions as slope protection.		
	U Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Slope protection is needed. Or significant riprap displacement has occurred exposing the subgrade or fabric or there are voids under t		
	A/W Riprap revetments comply with standards but should be monitored and maintained to avoid a future maintenance issue.		
	C The deficiency noted previously has been corrected.		
Security Fencing	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Safety / security fencing is good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.		
	M Safety / security fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.		
	U Safety / security fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous project features are not secured.		
	A/W Security fencing was adequate but should be monitored and maintained to avoid a future maintenance issue.		
Sluice / Slide Gates	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Gates open and close freely with minor leakage. Sill is free of sediment and other obstructions. Gates and lifters have been maintained.		
	M Gates have been damaged or have deteriorated, and open and close with resistance or binding. Leakage quantity is controllable and is not a threat to project performance. Maintenance is required.		
	U Gates do not open or close. Gate, stem, lifter and/or guides are damaged or corroded.		
	A/W Gates functioned as designed but should be monitored and maintained to avoid a future maintenance issue.		
Trash Racks	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Trash racks are fastened in place and properly maintained.		
	M Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station. Repair or replacement is required.		
	U Trash rack is missing, damaged or not operational, or deficiencies will inhibit operations during the next flood event.		
	A/W The trash rack was in place and functioning as designed but should be monitored and maintained to avoid a future maintenance issue.		
Vegetation & Obstructions	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Minimal, scattered obstructions or vegetation. The flow is not impeded.		

**Table G-1: Levee Inspection Rating Categories**

**Interior Drainage & Piping Systems (cont)**

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Vegetation & Obstructions (cont)	<b>n/a</b>			
	M	Log jams, snags, vegetation growth (such as cat tails, bull rushes, bushes or saplings) or other obstructions block approximately 25% of the designed channel capacity.		
	U	Log jams, snags, vegetation growth (such as cat tails, bull rushes, bushes or saplings) or other obstructions block approximately 50% of the designed channel capacity.		
	A/W	Vegetation does not currently impede flow significantly, but the area should be monitored and maintained to avoid a future maintenance issue.		
	C	The deficiency noted previously has been corrected.	Maintenance Deficiency	Maintenance Deficiency

# Table G-1: Levee Inspection Rating Categories

## Concrete Floodwalls

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Closure Structures	n/a	Maintenance Deficiency	Maintenance Deficiency
	<p>A The closure structure for lower areas of floodwalls is in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components of closure clearly marked and installation instructions / procedures readily available. Trial erections have been accomplished in accordance with the O&amp;M Manual.</p> <p>U The closure structure for lower areas of floodwalls is in poor condition. Parts missing or corroded. Placing equipment may not be available within normal warning time. Trial erections have not been accomplished in accordance with the O&amp;M Manual.</p> <p>C The deficiency noted previously has been corrected.</p>		
Concrete Foundations (cont)	n/a	Maintenance Deficiency	Design & System Obsolescence
	<p>A No scouring / erosion or undermining near the floodwall.</p> <p>M Scouring / erosion near the footing of the floodwall but not close enough to affect project stability during the next flood.</p> <p>U Scouring or undermining at the foundation that has affected integrity of the floodwall.</p> <p>C The deficiency noted previously has been corrected.</p>		
Concrete Surfaces	n/a	Maintenance Deficiency	Maintenance Deficiency
	<p>A Negligible spalling, scaling or cracking. If the concrete surface is weathered, rough to the touch or holds moisture, it is still satisfactory but should be seal coated to prevent freeze / thaw damage.</p> <p>M Spalling, scaling, and open cracking present, but the immediate integrity or performance of the floodwall is not threatened. Reinforcing steel may be exposed. Repairs / sealing is necessary to prevent additional damage during periods of thawing and freeze.</p> <p>U Surface deterioration or deep cracks present that result in an threaten the integrity of the floodwall.</p> <p>C The deficiency noted previously has been corrected.</p>		
Concrete Tilting / Settlement	n/a	Maintenance Deficiency	Design & System Obsolescence
	<p>A There are no significant areas of tilting, sliding or settlement that would endanger the integrity of the floodwall.</p> <p>M There are areas of tilting, sliding or settlement (either active or inactive) that need to be repaired. The integrity of the floodwall is not in danger.</p> <p>U There are areas of tilting, sliding or settlement (either active or inactive) that threaten the integrity of the floodwall.</p> <p>C The deficiency noted previously has been corrected.</p>		
Encroachments	n/a	Maintenance Deficiency	Enforcement
	<p>A No trash, debris, excavations, structure, or other obstructions that block visibility or access was along the floodwall or within the easement observed. No inappropriate activities that inhibit project operations and maintenance or emergency operations were observed.</p> <p>M Trash, debris, excavations, structure, or other obstructions blocking visibility or access along the floodwall or within the easement was observed but will not inhibit operations and maintenance or emergency operations.</p> <p>U Trash, debris, excavation, structures, or other obstructions along the floodwall or within the easement was observed that may inhibit</p>		



# Table G-1: Levee Inspection Rating Categories

## Concrete Floodwalls (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Encroachments (cont)	<p><b>n/a</b></p> <p>operations and maintenance or emergency operations.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Enforcement
Erosion / Bank Caving	<p><b>n/a</b></p> <p>A No active erosion or bank caving observed on the landward or on the waterside of the floodwall.</p> <p>M There are areas where active erosion is occurring or has occurred on or near the floodwall, but project integrity is not threatened.</p> <p>U Erosion or caving is occurring or has occurred that threatens the stability and integrity of the floodwall. The erosion or caving has compromised project integrity.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Design & System Obsolescence
Monolith Joints	<p><b>n/a</b></p> <p>A The monolith joint material is in good condition.</p> <p>M The monolith joint material is deteriorating and needs to be repaired or replaced to prevent spalling and cracking during freeze / thaw cycles.</p> <p>U The monolith joint material is severely deteriorated and the concrete has spalled and cracked, damaging the water stop to the point where it will not provide the intended level of protection during a flood.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Maintenance Deficiency
Underseepage Relief Wells	<p><b>n/a</b></p> <p>A Toe drainage system and pressure relief wells necessary for maintaining project stability during flood events functioned properly during the last flood event and no sediment is observed in horizontal system. Nothing is observed which would indicate that the system won't function properly during the next flood and is maintained per the O&amp;M Manual. Maintenance records are available for review.</p> <p>M Toe drainage system or pressure relief wells are not maintained in accordance with the O&amp;M Manual but maintenance records are available, the well has maintained at least 80% efficiency, and has not fallen into disrepair or become clogged.</p> <p>U Toe drainage systems or pressure relief wells have observable issues that would indicate that they wouldn't function properly in the next event. Maintenance records are not available. Cracks were observed between the ditch and well or in the ditch. The system is in disrepair and the well is operating at less than 80% efficiency.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Design & System Obsolescence
Vegetation	<p><b>n/a</b></p> <p>A No vegetation blocking visibility or access was along the floodwall or within the easement observed.</p> <p>M Vegetation blocking visibility or access along the floodwall or within the easement was observed but will not inhibit operations and maintenance or emergency operations.</p> <p>U Vegetation along the floodwall or within the easement was observed that may inhibit operations and maintenance or emergency</p>	Maintenance Deficiency	Maintenance Deficiency

**Table G-1: Levee Inspection Rating Categories**

**Concrete Floodwalls (cont)**

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Vegetation (cont)	<p><b>n/a</b></p> <p>operations.</p> <p>C The deficiency noted previously has been corrected.</p>	Maintenance Deficiency	Maintenance Deficiency

# Table G-1: Levee Inspection Rating Categories

## Pump Stations

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Closure Structures	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A Closure structures for lower areas of floodwall or levee are in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components of closure clearly marked and installation instructions / procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.		
	U Closure structure for lower areas of floodwall or levee in poor condition. Parts missing or corroded. Placing equipment may not be available within normal warning time. Trial erections have not been accomplished in accordance with the O&M manual.		
	N This plant does not have a closure structure.		
Communications (cont)	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A Telephone, cellular telephone, two-way radio, or similar device is available to pumping plant operator or maintenance personnel.		
	U Pumping plant operator or maintenance personnel required to leave the plant and drive to access communications.		
Cranes	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A Crane operational, and has been inspected and load tested in accordance with OSHA requirements.		
	M Crane has not been inspected or operationally tested within the past year, or there are visible signs of corrosion, oil leakage, etc., requiring maintenance.		
	U Crane not operational, or tagged out of service.		
	N There is no crane is located at this station.		
Electric Gate Operators	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A All electric gate operators are in good working condition and are adequately powered, and are capable of opening and closing the gate properly. Preventative maintenance is being performed and the system is tested periodically.		
	M All electric gate operators are operational with minor deficiencies, but should perform through the next period of usage.		
	U The electric gate operators are not operational, or the power source is not considered reliable to sustain operations during flood conditions.		
	N No electric gate operators exist on this plant. Gates are only opened manually or do not exist at this plant.		
Flap Gates	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A Flap gates open and close easily with minimal leakage. Gates show no corrosion damage and have been maintained.		
	M Gates will not fully open or close because of obstructions that can be easily removed or have corrosion damage that requires maintenance.		
	U Gate is missing, has been damaged or has deteriorated and needs repair. Gate will not prevent flow from the channel toward the landside.		
	N There are no flap gates on this plant and are not needed to ensure water does not flow from the channel toward the landside.		

# Table G-1: Levee Inspection Rating Categories

## Pump Stations (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Intake and Discharge Pipes (cont)	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	There are no breaks, holes, corrosion or cracks in the pipe that would result in significant water leakage. The pipe shape is essentially circular. All joints appear to be closed and the soil tight.		
	M	Pipe is not leaking significantly but shows signs of corrosion, deformation, or joint damage and requires maintenance.		
	U	Pipe has deterioration and/or leakage. Immediate repair or replacement required.		
Manual Gate Operators	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	All manual gate operators are in good working condition and are capable of opening and closing the gate properly. Preventative maintenance is being performed and the system is tested periodically.		
	M	Manual gate operators are operational with minor deficiencies, but should perform through the next period of usage.		
	U	Manual gate operators are not operational.		
Motors, Engines, Fans & Gear Reducers	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	All items are operational. Preventive maintenance and lubrication is being performed and the system is periodically subjected to performance testing. Instrumentation, alarms, and auto shutdowns are operational.		
	M	Systems have minor deficiencies, but are operational and will function adequately through the next flood.		
	U	One or more primary motors or systems are not operational.		
Operating Log	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	Operation and Maintenance log is present at the pumping plant and is being used and updated. Personnel have been trained in pumping plant operations. Names and last training date shown in the log book.		
	U	No operating log present, or refresher training for personnel has not been conducted.		
Operation & Maintenance Manual	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	Operation and Maintenance (O&M) Manual and/or posted operating instructions are present and adequately covers all pertinent pumping plant features.		
	U	Operation and Maintenance (O&M) Manual and/or posted operating instructions are missing or sponsor is unsure of location.		
Other Metallic Items	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	All metal parts are protected from corrosion damage, and show no rust or deterioration that would cause a safety concern.		
	M	Corrosion seen on metallic parts (except equipment anchors) appears maintainable.		
	U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.		
	N	There are no metallic parts at this plant other than pumps and associated pressure pipes.		

# Table G-1: Levee Inspection Rating Categories

## Pump Stations (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Other Metallic Items (cont)	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
Plant Building	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Design & System Obsolescence
	A	Plant structure is in good structural condition with no major cracks in concrete or brick. The roof is not leaking, exhaust fans are operational, there are no exposed electrical components, and the working environment is safe.		
	M	There is significant cracking in the building structure, or the building is damaged in other ways such that it needs repair but does not threaten pumping operations.		
	U	The structural integrity or stability of the structure is threatened, or there is other damage to the building such that pumping operations can not be performed as intended.		
Power	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Design & System Obsolescence
	A	The power source is adequate, safe, and reliable. Backup generators are on hand or there is a reliable backup power plan in place. Backup units are properly sized, operational, periodically exercised, and properly maintained.		
	U	Power source not considered safe or reliable to sustain operations during flood conditions.		
	N	Pumping plant does not need electricity to operate. Pumping capacity can be maintained without power.		
Pump Control Systems	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	Operational and maintained free of damage, corrosion, or other debris.		
	M	Operational with minor discrepancies. Will function adequately during the next flood event.		
	U	Pump controls not operational. May not function adequately during the next flood season.		
Pumps	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	All pumps appear to be properly maintained and lubricated. System is periodically tested. There is no evidence of cavitation, vibration, or unusual sounds.		
	M	Minor deficiencies exist which need to be closely monitored or repaired, such as the presence of minor vibrations or the corrosion of the pump shaft housing. However the pumps are operational and are expected to perform through the next expected period of usage.		
	U	One or more of the pumps are not operational, or the pump capacity has degraded to the point where project performance is in question.		
Safety	<b>P1</b>	Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
	A	No exhaust leaks in building. Fuel storage/distribution meets state/local requirement. Fire extinguishers on hand, of sufficient quantity, and properly charged. Safety hardware installed. Required safety items used (hearing, eyes, etc.).		
	M	Minor safety hazards are present, but do not pose an immediate threat to the pumping plant or personnel at the plant. Corrections should be made prior to the next annual inspection.		
	U	Safety issues exist that could cause injury or loss of life.		

# Table G-1: Levee Inspection Rating Categories

## Pump Stations (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Safety (cont)	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.	Maintenance Deficiency	Maintenance Deficiency
Security Fencing	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.  <b>A</b> Safety / security fencing is good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts. <b>M</b> Safety / security fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged. <b>U</b> Safety / security fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous project features are not secured. <b>N</b> No safety / security fencing or gates exist or are needed.	Maintenance Deficiency	Maintenance Deficiency
Sluice / Slide Gates	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.  <b>A</b> Gates open and close freely with minor leakage. Sill is free of sediment and other obstructions. Gates and lifters have been maintained. <b>M</b> Gates have been damaged or have deteriorated, and open and close with resistance or binding. Leakage quantity is controllable and is not a threat to project performance. Maintenance is required. <b>U</b> Gates do not open or close. Gate, stem, lifter and/or guides are damaged or corroded. <b>N</b> There are no sluice / slide gates on this plant and are not needed to ensure water does not flow from the channel toward the landside.	Maintenance Deficiency	Maintenance Deficiency
Sumps/Wet Well	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.  <b>A</b> Sumps / Wet wells are clear of excessive debris, sediment, or other obstructions. Procedures are in place to move debris accumulation during operation. <b>M</b> Debris, sediment, or other obstructions are present and must be removed, but the sump/wet well will function as intended during the next flood event. Procedures are in place to remove debris accumulation during operation. <b>U</b> Large debris or excessive silt present which will hinder or damage pumps during operation, or no procedures have been established to remove debris accumulation during operation.	Maintenance Deficiency	Maintenance Deficiency
Trash Racks	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.  <b>A</b> Trash racks are fastened in place and properly maintained. <b>M</b> Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station. Repair or replacement is required. <b>U</b> Trash rack is missing, damaged or not operational, or deficiencies will inhibit operations during the next flood event.	Maintenance Deficiency	Maintenance Deficiency
Trash Rakes	<b>P1</b> Item inspected visually only. Item was not operated during the inspection.  <b>A</b> Drive chain, bearings, gear reducers, and other components are in good operating condition and are being properly maintained.	Maintenance Deficiency	Maintenance Deficiency

**Table G-1: Levee Inspection Rating Categories**

**Pump Stations (cont)**

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Trash Rakes (cont)	<p><b>P1</b> Item inspected visually only. Item was not operated during the inspection.</p> <p>M The trash rake is in need of maintenance, but is still operational.</p> <p>U Trash rake is not operational or deficiencies will inhibit operations during the next flood event.</p> <p>N There are no trash rakes for this pumping plant.</p>	Maintenance Deficiency	Maintenance Deficiency



# Table G-1: Levee Inspection Rating Categories

## Structures & Concrete Lined Channels

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Closure Structures	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Closure structures for lower areas of floodwall or levee are in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components of closure clearly marked and installation instructions / procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.		
	U Closure structures for lower areas of floodwall or levee in poor condition. Parts missing or corroded. Placing equipment may not be available within normal warning time. Trial erections have not been accomplished in accordance with the O&M manual.		
	N This structure does not have a closure structure.		
Concrete Foundations (cont)	<b>n/a</b>	Maintenance Deficiency	Design & System Obsolescence
	A No scouring / erosion or undermining near the structure.		
	M Scouring / erosion near the footing of the structure but not close enough to affect structure stability during the next flood.		
	U Scouring or undermining at the foundation that has affected structural integrity.		
	N There are no concrete foundations at this structure.		
Concrete Surfaces	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Negligible spalling, scaling or cracking. If the concrete surface is weathered, rough to the touch or holds moisture, it is still satisfactory but should be seal coated to prevent freeze / thaw damage.		
	M Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs / sealing is necessary to prevent additional damage during periods of thawing and freeze.		
	U Surface deterioration or deep cracks present that result in an threaten the integrity of the structure.		
	N There are no concrete surfaces on this structure.		
Concrete Tilting / Settlement	<b>n/a</b>	Maintenance Deficiency	Design & System Obsolescence
	A There are no significant areas of tilting, sliding or settlement that would endanger the integrity of the project.		
	M There are areas of tilting, sliding or settlement (either active or inactive) that need to be repaired. The integrity of the structure is not in danger.		
	U There are areas of tilting, sliding or settlement (either active or inactive) that threaten the structure's integrity and performance.		
	N There is no concrete at this structure.		
Culverts: Breaks / Holes / Cracks	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A There are no breaks, holes, cracks in the culvert that would result in significant water leakage. Pipes are in good condition or have been relined with appropriate material, which is still in good condition.		
	M There are breaks, holes, cracks in the culvert that would result in water leakage and need to be repaired, but do not threaten the integrity of the project. Pipes may showing deterioration but do not threaten the integrity of the project.		
	U Culvert has deterioration and/or has significant leakage such that it threatens the integrity of the project. Pipes are in danger of collapsing or have already begun to collapse.		

# Table G-1: Levee Inspection Rating Categories

## Structures & Concrete Lined Channels (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Culverts: Breaks / Holes / Cracks (cont)	<b>n/a</b>		Maintenance Deficiency	Maintenance Deficiency
	N	There are no culverts at this structure that were able to be inspected.		
Culverts: Inlets / Outlets	<b>n/a</b>		Maintenance Deficiency	Maintenance Deficiency
	A	There is little or no debris, sediment or vegetation blocking the culverts, inlets, sump or discharge areas. The channel capacity for designed flow is not affected.		
	M	Debris, sediment or vegetation blocks less than 10% of the culvert opening, but must be removed.		
	U	Accumulated debris, sediment or vegetation blocks more than 10% of the culvert opening, impairing the culvert's capacity and hydraulic effectiveness.		
	N	There are no culverts at this structure that were able to be inspected.		
Electric Gate Operators	<b>n/a</b>		Maintenance Deficiency	Maintenance Deficiency
	A	All electric gate operators are in good working condition and are adequately powered, and are capable of opening and closing the gate properly. Preventative maintenance is being performed and the system is tested periodically.		
	M	All electric gate operators are operational with minor deficiencies, but should perform through the next period of usage.		
	U	The electric gate operators are not operational, or the power source is not considered reliable to sustain operations during flood conditions.		
	N	No electric gate operators exist on this structure. Gates are only opened manually or do not exist at this structure.		
Encroachments	<b>n/a</b>		Maintenance Deficiency	Enforcement
	A	No trash, debris, excavation, structures, or other obstructions present within the easement. Encroachments which do not diminish proper functioning of the project have been previously approved by the Central Valley Flood Protection Board.		
	M	Trash, debris, excavations, structures, or other obstructions present, or inappropriate activities that will not inhibit project operations and maintenance or emergency operations were observed. Encroachments have been approved by the Central Valley Flood Protection Board.		
	U	Trash, debris, excavation, structures, or other obstructions present, or inappropriate activities that will inhibit project operations and maintenance or emergency operation were observed.		
Erosion / Bank Caving	<b>n/a</b>		Maintenance Deficiency	Maintenance Deficiency
	A	No active erosion or bank caving observed on the landward or on the waterside of the levee / channel.		
	M	There are areas where active erosion is occurring or has occurred on or near the levee / bank, but project integrity is not threatened.		
	U	Erosion or caving is occurring or has occurred that threatens the stability and integrity of the project. The erosion or caving has compromised project integrity.		

# Table G-1: Levee Inspection Rating Categories

## Structures & Concrete Lined Channels (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Flap Gates (cont)	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Flap gates open and close easily with minimal leakage. Gates show no corrosion damage and have been maintained.		
	M Gates will not fully open or close because of obstructions that can be easily removed or have corrosion damage that requires maintenance.		
	U Gate is missing, has been damaged or has deteriorated and needs repair. Gate will not prevent flow from the channel toward the landside.		
	N There are no flap gates on this structure that were able to be inspected and are not needed to ensure water does not flow from the channel toward the landside.		
Manual Gate Operators	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A All manual gate operators are in good working condition and are capable of opening and closing the gate properly. Preventative maintenance is being performed and the system is tested periodically.		
	M Manual gate operators are operational with minor deficiencies, but should perform through the next period of usage.		
	U Manual gate operators are not operational.		
	N There are no sluice/slide gates on this structure.		
Metal Pipes	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A There are no breaks, holes, cracks in the culvert that would result in significant water leakage. Metal pipes are in good condition or have been relined with appropriate material, which is still in good condition.		
	M There are breaks, holes, cracks in the pipe that would result in water leakage and need to be repaired, but do not threaten the integrity of the project. Pipes may showing deterioration but do not threaten the integrity of the project.		
	U Pipe has deterioration and/or has significant leakage such that it threatens the integrity of the structure. Pipes are in danger of collapsing or have already begun to collapse.		
	N There are no pipes at this structure that were able to be inspected.		
Monolith Joints	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A The monolith joint material is in good condition.		
	M The monolith joint material is deteriorating and needs to be repaired or replaced to prevent spalling and cracking during freeze / thaw cycles.		
	U The monolith joint material is severely deteriorated and the concrete has spalled and cracked, damaging the water stop to the point where it will not provide the intended level of protection during a flood.		
	N There are no monolith joints at this structure.		
Operation & Maintenance Manual	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Operation and Maintenance (O&M) Manual and/or posted operating instructions are present and adequately covers all pertinent structure features.		

# Table G-1: Levee Inspection Rating Categories

## Structures & Concrete Lined Channels (cont)

Item	Comment Code & Ratings		Default Issue Type	Alternate Issue Type
Operation & Maintenance Manual (cont)	n/a		Maintenance Deficiency	Maintenance Deficiency
	U	Operation and Maintenance (O&M) Manual and/or posted operating instructions are missing or sponsor is unsure of location.		
Other Metallic Items	n/a		Maintenance Deficiency	Maintenance Deficiency
	A	All metal parts are protected from corrosion damage, and show no rust or deterioration that would cause a safety concern.		
	M	Corrosion seen on metallic parts (except equipment anchors) appears maintainable.		
	U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.		
	N	There are no metallic parts at this structure.		
Photo Documentation	n/a		Maintenance Deficiency	Maintenance Deficiency
	N	Not Rated		
Revetments	n/a		Maintenance Deficiency	Maintenance Deficiency
	A	Existing riprap protection is properly maintained and is undamaged. Riprap clearly visible.		
	M	No riprap displacement or scouring activity that could undercut banks, erode embankments, or restrict desired flow. Unwanted vegetation must be cleared and sprayed with an appropriate herbicide.		
	U	Dense brush, trees, or grasses hide the rock protection, or meandering and/or scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Cavities may exist under the revetment.		
	N	There is no revetment at this location and is not needed.		
Safety	n/a		Maintenance Deficiency	Maintenance Deficiency
	A	No exhaust leaks in building. Fuel storage/distribution meets state/local requirement. Fire extinguishers on hand, of sufficient quantity, and properly charged. Safety hardware installed. Required safety items used (hearing, eyes, etc.).		
	M	Minor safety hazards are present, but do not pose an immediate threat to the pumping plant or personnel at the plant. Corrections should be made prior to the next annual inspection.		
	U	Safety issues exist that could cause injury or loss of life.		
Security Fencing	n/a		Maintenance Deficiency	Maintenance Deficiency
	A	Safety / security fencing is good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.		
	M	Safety / security fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.		
	U	Safety / security fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous project features are not secured.		
	N	No safety / security fencing or gates exist or are needed.		

# Table G-1: Levee Inspection Rating Categories

## Structures & Concrete Lined Channels (cont)

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Shoaling / Sedimentation (cont)	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A No shoaling or sedimentation present.		
	M Non-aquatic grasses present on shoal. No trees or brush are present on shoal, and structure operation and channel flows are not impeded.		
	U Shoaling is well established, stabilized by trees, brush or other vegetation. Shoals are obstructing structure operation or diverting flow to channel bank causing bank erosion and undercutting.		
Sluice/Slide Gates	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Gates open and close freely with minor leakage. Sill is free of sediment and other obstructions. Gates and lifters have been maintained.		
	M Gates have been damaged or have deteriorated, and open and close with resistance or binding. Leakage quantity is controllable and is not a threat to project performance. Maintenance is required.		
	U Gates do not open or close. Gate, stem, lifter and/or guides are damaged or corroded.		
	N There are no sluice / slide gates on this structure and are not needed to ensure water does not flow from the channel toward the landside.		
Trash Racks	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Trash racks are fastened in place and properly maintained.		
	M Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station. Repair or replacement is required.		
	U Trash rack is missing, damaged or not operational, or deficiencies will inhibit operations during the next flood event.		
	N There are no trash racks that were able to be inspected at this structure.		
Trash Rakes	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Drive chain, bearings, gear reducers, and other components are in good operating condition and are being properly maintained.		
	M The trash rake is in need of maintenance, but is still operational.		
	U Trash rake is not operational or deficiencies will inhibit operations during the next flood event.		
	N There are no trash rakes at the structure.		
Vegetation & Obstructions	<b>n/a</b>	Maintenance Deficiency	Maintenance Deficiency
	A Minimal, scattered obstructions or vegetation. The flow is not impeded.		
	M Log jams, snags, vegetation growth (such as cat tails, bull rushes, bushes or saplings) or other obstructions block approximately 25% of the capacity.		
	U Log jams, snags, vegetation growth (such as cat tails, bull rushes, bushes or saplings) or other obstructions block approximately 50% of the capacity.		

# Table G-1: Levee Inspection Rating Categories

## Rivers, Channels & Designated Floodways

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Concrete Foundations	<b>n/a</b>  A No scouring / erosion or undermining near the channel. M Scouring / erosion near the footing of the structure but not close enough to affect channel integrity or capacity during the next flood. U Scouring or undermining at the foundation that threaten the channel's integrity and capacity.	Maintenance Deficiency	Design & System Obsolescence
Concrete Surfaces (cont)	<b>n/a</b>  A Negligible spalling, scaling or cracking. If the concrete surface is weathered, rough to the touch or holds moisture, it is still satisfactory but should be seal coated to prevent freeze / thaw damage. M Spalling, scaling, and open cracking present, but the immediate integrity or capacity of the channel is not threatened. Reinforcing steel may be exposed. Repairs / sealing is necessary to prevent additional damage during periods of thawing and freeze. U Surface deterioration or deep cracks present that result in an threaten the channel's integrity and capacity.	Maintenance Deficiency	Enforcement
Concrete Tilting / Settlement	<b>n/a</b>  A There are no significant areas of tilting, sliding or settlement that would endanger the integrity of the project. M There are areas of tilting, sliding or settlement (either active or inactive) that need to be repaired. The integrity and capacity of the channel is not affected. U There are areas of tilting, sliding or settlement (either active or inactive) that threaten the channel's integrity and capacity.	Maintenance Deficiency	Design & System Obsolescence
Encroachments	<b>n/a</b>  A No trash, debris, excavation, structures, or other obstructions present within the easement. Encroachments which do not diminish proper functioning of the project have been previously approved by the Central Valley Flood Protection Board. M Trash, debris, excavations, structures, or other obstructions present, or inappropriate activities that will not inhibit project operations and maintenance or emergency operations were observed. Encroachments have been approved by the Central Valley Flood Protection Board. U Trash, debris, excavation, structures, or other obstructions present, or inappropriate activities that will inhibit project operations and maintenance or emergency operation were observed.	Maintenance Deficiency	Enforcement
Erosion / Bank Caving	<b>n/a</b>  A No erosion encroaching into the channel bank that would endanger the capacity of the channel was observed. M Erosion encroaching into the channel bank less than 1 foot into the designed grade or cross section was observed. U Erosion encroaching into the channel bank more than 1 foot into the designed grade or cross section was observed. Corrective actions required to stop or slow erosion.	Maintenance Deficiency	Design & System Obsolescence
Gates	<b>n/a</b>  A Gates open and close easily with minimal leakage. Gates show no corrosion damage and have been maintained.	Maintenance Deficiency	Enforcement

**Table G-1: Levee Inspection Rating Categories**  
**Rivers, Channels & Designated Floodways (cont)**

Item	Comment Code & Ratings	Default Issue Type	Alternate Issue Type
Gates (cont)	<p><b>n/a</b></p> <p>M Gates will not fully open or close because of obstructions that can be easily removed or have corrosion damage. Gate operators may need lubrication or other maintenance but do not threaten the integrity of capacity of the channel.</p> <p>U Gate is missing, has been damaged or has deteriorated and needs repair. Gate will not prevent flow from the channel toward the landside.</p>	Maintenance Deficiency	Enforcement
Revetments	<p><b>n/a</b></p> <p>A Existing riprap protection is properly maintained and is undamaged. Riprap clearly visible.</p> <p>M Riprap displacement or scouring activity that could undercut banks, erode embankments, or restrict desired flow was observed, but the integrity and capacity of the channel is not affected. Unwanted vegetation must be cleared and sprayed with an appropriate herbicide.</p> <p>U Dense brush, trees, or grasses hide the rock protection, or meandering and/or scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Cavities may exist under the revetment.</p> <p>N There is no revetment at this location and is not needed.</p>	Maintenance Deficiency	Enforcement
Shoaling / Sedimentation	<p><b>n/a</b></p> <p>A No shoaling or sedimentation present.</p> <p>M Non-aquatic grasses present on shoal. No trees or brush is present on shoal, and channel flow is not impeded.</p> <p>U Shoaling is well established, stabilized by trees, brush or other vegetation. Shoals are diverting flow to channel bank causing bank erosion and undercutting.</p>	Maintenance Deficiency	Maintenance Deficiency
Vegetation & Obstructions	<p><b>n/a</b></p> <p>A Minimal, scattered obstructions or vegetation. The flow is not impeded.</p> <p>M Log jams, snags, vegetation growth (such as cat tails, bull rushes, bushes or saplings) or other obstructions block approximately 25% of the capacity.</p> <p>U Log jams, snags, vegetation growth (such as cat tails, bull rushes, bushes or saplings) or other obstructions block approximately 50% of the capacity.</p>	Maintenance Deficiency	Maintenance Deficiency



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<b>LD0001G</b>	Total LMA Miles		<b>12.23</b>									
<b>Levee District No. 0001 (Glenn County)</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>			
	Overall LMA Rating		<b>A</b>		Overall LMA Rating		<b>M *</b>					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
<i>Earthen Levee</i>												
Vegetation	0.06		0.06	<b>0.49</b>	0.07		0.07	<b>0.57</b>	<b>0.01</b>		<b>0.01</b>	<b>0.08</b>
Trim / Thin Trees	0.11		0.11	<b>0.90</b>	0.13		0.13	<b>1.06</b>	<b>0.02</b>		<b>0.02</b>	<b>0.16</b>
Encroachments	0.05		0.05	<b>0.41</b>	0.05		0.05	<b>0.41</b>				<b>0.00</b>
Animal Control	0.18		0.18	<b>1.47</b>	0.19	0.09	0.55	<b>4.50</b>	<b>0.01</b>	<b>0.09</b>	<b>0.37</b>	<b>3.02</b>
Slope Stability	0.01		0.01	<b>0.08</b>	0.02		0.02	<b>0.16</b>	<b>0.01</b>		<b>0.01</b>	<b>0.08</b>
<i>Supplemental</i>												
DWR UCIP Field Study												<b>0.00</b>
LMA Totals:	0.41	0.00	0.41	<b>3.35</b>	0.46	0.09	0.82	<b>6.70*</b>	<b>0.05</b>	<b>0.09</b>	<b>0.41</b>	<b>3.35</b>

<b>LD0001S</b>	Total LMA Miles		<b>16.11</b>									
<b>Levee District No. 0001 (Sutter County)</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>			
	Overall LMA Rating		<b>A</b>		Overall LMA Rating		<b>M *</b>					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
<i>Earthen Levee</i>												
Vegetation	0.31		0.31	<b>1.92</b>		0.02	0.08	<b>0.50</b>	<b>-0.31</b>	<b>0.02</b>	<b>-0.23</b>	<b>-1.43</b>
Trim / Thin Trees					0.01		0.01	<b>0.06</b>	<b>0.01</b>		<b>0.01</b>	<b>0.06</b>
Encroachments					0.04		0.04	<b>0.25</b>	<b>0.04</b>		<b>0.04</b>	<b>0.25</b>
Slope Stability					0.02		0.02	<b>0.12</b>	<b>0.02</b>		<b>0.02</b>	<b>0.12</b>
<i>Interior Drainage &amp; Piping Systems</i>												
Metal Pipes	0.01		0.01	<b>0.06</b>	0.01		0.01	<b>0.06</b>				<b>0.00</b>
<i>Supplemental</i>												
DWR UCIP Field Study												<b>0.00</b>
LMA Totals:	0.32	0.00	0.32	<b>1.99</b>	0.08	0.02	0.16	<b>0.99*</b>	<b>-0.24</b>	<b>0.02</b>	<b>-0.16</b>	<b>-0.99</b>

<b>LD0002</b>	Total LMA Miles		<b>4.90</b>									
<b>Levee District No. 0002 (Glenn County)</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>			
	Overall LMA Rating		<b>A</b>		Overall LMA Rating		<b>M</b>					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
<i>Earthen Levee</i>												
Trim / Thin Trees					0.01		0.01	<b>0.20</b>	<b>0.01</b>		<b>0.01</b>	<b>0.20</b>
Encroachments					0.02		0.02	<b>0.41</b>	<b>0.02</b>		<b>0.02</b>	<b>0.41</b>
Animal Control	0.27		0.27	<b>5.51</b>	0.31	0.09	0.67	<b>13.67</b>	<b>0.04</b>	<b>0.09</b>	<b>0.40</b>	<b>8.16</b>
Erosion / Bank Caving					0.01		0.01	<b>0.20</b>	<b>0.01</b>		<b>0.01</b>	<b>0.20</b>
<i>Supplemental</i>												
USACE Erosion Survey	0.01		0.01	<b>0.20</b>	0.21		0.21	<b>4.29</b>	<b>0.20</b>		<b>0.20</b>	<b>4.08</b>
DWR UCIP Field Study												<b>0.00</b>
LMA Totals:	0.28	0.00	0.28	<b>5.71</b>	0.56	0.09	0.92	<b>18.77</b>	<b>0.28</b>	<b>0.09</b>	<b>0.64</b>	<b>13.06</b>

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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LD0003	Total LMA Miles		11.97									
Levee District No. 0003 (Glenn County)	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.08	0.01	0.44	1.77	14.79		0.44	1.76	14.70
Trim / Thin Trees	0.19		0.19	1.59	0.34	0.04	0.50	4.18	0.15	0.04	0.31	2.59
Encroachments	0.14		0.14	1.17	0.15		0.15	1.25	0.01		0.01	0.08
Animal Control	0.84		0.84	7.02	0.10	2.15	8.70	72.68	-0.74	2.15	7.86	65.66
Slope Stability	0.07		0.07	0.59	0.09		0.09	0.75	0.02		0.02	0.17
Erosion / Bank Caving		0.01	0.04	0.33		0.01	0.04	0.33				0.00
Supplemental												
USACE Erosion Survey	1.16		1.16	9.69	0.30		0.30	2.51	-0.86		-0.86	-7.18
DWR UCIP Field Study												0.00
LMA Totals:	2.41	0.01	2.45	20.47	0.99	2.64	11.55	96.48	-1.42	2.63	9.10	76.02

LD0009	Total LMA Miles		6.25									
Levee District No. 0009 (Sutter County)	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation												0.00
Encroachments	0.01		0.01	0.16					-0.01		-0.01	-0.16
Animal Control		0.23	0.92	14.73		0.01	0.04	0.64		-0.22	-0.88	-14.09
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.01	0.23	0.93	14.89	0.00	0.01	0.04	0.64 *	-0.01	-0.22	-0.89	-14.25

MA0001	Total LMA Miles		16.76									
Sutter Maintenance Yard Maintenance Area 0001	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.04		0.04	0.24	0.04		0.04	0.24				0.00
Animal Control					0.02		0.02	0.12	0.02		0.02	0.12
Erosion / Bank Caving					0.01		0.01	0.06	0.01		0.01	0.06
Supplemental												
USACE Erosion Survey	0.24		0.24	1.43	0.68		0.68	4.06	0.44		0.44	2.62
DWR UCIP Field Study												0.00
LMA Totals:	0.28	0.00	0.28	1.67	0.75	0.00	0.75	4.47	0.47	0.00	0.47	2.80

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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MA0003		Total LMA Miles		5.11									
Sutter Maintenance Yard Maintenance Area 0003		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Vegetation		0.01		0.01	0.20	0.01		0.01	0.20				0.00
Trim / Thin Trees						0.01		0.01	0.20	0.01		0.01	0.20
Animal Control						0.02		0.02	0.39	0.02		0.02	0.39
Slope Stability						0.01		0.01	0.20	0.01		0.01	0.20
Crown Surface / Depressions / Rutting			0.01	0.04	0.78	0.02		0.02	0.39	0.02	-0.01	-0.02	-0.39
Interior Drainage & Piping Systems													
Sluice / Slide Gates		0.01		0.01	0.20	0.01		0.01	0.20				0.00
Supplemental													
USACE Erosion Survey		0.02		0.02	0.39	0.09		0.09	1.76	0.07		0.07	1.37
DWR UCIP Field Study													0.00
LMA Totals:		0.04	0.01	0.08	1.57*	0.17	0.00	0.17	3.33	0.13	-0.01	0.09	1.76

MA0004		Total LMA Miles		3.47									
Sacramento Maintenance Yard Maintenance Area 0004		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Trim / Thin Trees						0.01		0.01	0.29	0.01		0.01	0.29
Animal Control		0.01		0.01	0.29	0.03		0.03	0.86	0.02		0.02	0.58
Slope Stability						0.03		0.03	0.86	0.03		0.03	0.86
Erosion / Bank Caving			0.01	0.04	1.15	0.01		0.01	0.29	0.01	-0.01	-0.03	-0.86
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.01	0.01	0.05	1.44*	0.08	0.00	0.08	2.30	0.07	-0.01	0.03	0.86

MA0005		Total LMA Miles		32.84									
Sutter Maintenance Yard Maintenance Area 0005		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Vegetation		0.02		0.02	0.06	0.02		0.02	0.06				0.00
Trim / Thin Trees		0.01		0.01	0.03	0.01		0.01	0.03				0.00
Encroachments		0.03		0.03	0.09	0.04		0.04	0.12	0.01		0.01	0.03
Slope Stability		0.05	0.01	0.09	0.27	0.05	0.01	0.09	0.27				0.00
Repair Gates		0.01		0.01	0.03	0.01		0.01	0.03				0.00
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.12	0.01	0.16	0.49*	0.13	0.01	0.17	0.52*	0.01	0.00	0.01	0.03

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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MA0007	Total LMA Miles		11.90									
Sutter Maintenance Yard Maintenance Area 0007	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.08					-0.01		-0.01	-0.08
Trim / Thin Trees	0.01		0.01	0.08					-0.01		-0.01	-0.08
Animal Control	0.01		0.01	0.08					-0.01		-0.01	-0.08
Erosion / Bank Caving					1.70		1.70	14.29	1.70		1.70	14.29
Supplemental												
USACE Erosion Survey	0.02		0.02	0.17	0.23		0.23	1.93	0.21		0.21	1.77
DWR UCIP Field Study												0.00
LMA Totals:	0.05	0.00	0.05	0.42	1.93	0.00	1.93	16.23	1.88	0.00	1.88	15.80

MA0009	Total LMA Miles		19.35									
Sacramento Maintenance Yard Maintenance Area 0009	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.03		0.03	0.16	0.17		0.17	0.88	0.14		0.14	0.72
Trim / Thin Trees	0.05		0.05	0.26	0.08	0.01	0.12	0.62	0.03	0.01	0.07	0.36
Encroachments					0.01		0.01	0.05	0.01		0.01	0.05
Animal Control					0.15	0.02	0.23	1.19	0.15	0.02	0.23	1.19
Slope Stability					0.20	0.01	0.24	1.24	0.20	0.01	0.24	1.24
Erosion / Bank Caving					0.02	0.01	0.06	0.31	0.02	0.01	0.06	0.31
Cracking												0.00
Supplemental												
USACE Erosion Survey	0.42		0.42	2.17	0.39		0.39	2.02	-0.03		-0.03	-0.16
DWR UCIP Field Study												0.00
LMA Totals:	0.50	0.00	0.50	2.58	1.02	0.05	1.22	6.30*	0.52	0.05	0.72	3.72

MA0012	Total LMA Miles		11.06									
Sutter Maintenance Yard Maintenance Area 0012	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control					0.01		0.01	0.09	0.01		0.01	0.09
Slope Stability	0.01		0.01	0.09					-0.01		-0.01	-0.09
Repair Gates	0.01		0.01	0.09					-0.01		-0.01	-0.09
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.02	0.00	0.02	0.18	0.01	0.00	0.01	0.09	-0.01	0.00	-0.01	-0.09

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

MA0013	Total LMA Miles				41.03								
Sutter Maintenance Yard Maintenance Area 0013	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		A		Overall LMA Rating		A						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation												0.00	
Trim / Thin Trees	0.30		0.30	0.73	0.29		0.29	0.71	-0.01		-0.01	-0.02	
Encroachments	0.15		0.15	0.37	0.06		0.06	0.15	-0.09		-0.09	-0.22	
Animal Control					0.01		0.01	0.02	0.01		0.01	0.02	
Slope Stability	0.01		0.01	0.02					-0.01		-0.01	-0.02	
Erosion / Bank Caving	0.02		0.02	0.05	0.02		0.02	0.05				0.00	
Crown Surface / Depressions / Rutting					1.64		1.64	4.00	1.64		1.64	4.00	
Supplemental													
USACE Erosion Survey	0.01		0.01	0.02	0.01		0.01	0.02				0.00	
DWR UCIP Field Study												0.00	
LMA Totals:	0.49	0.00	0.49	1.19	2.03	0.00	2.03	4.95	1.54	0.00	1.54	3.75	

MA0016	Total LMA Miles		4.06									
Sutter Maintenance Yard Maintenance Area 0016	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation												0.00
Animal Control	0.01		0.01	0.25					-0.01		-0.01	-0.25
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.01	0.00	0.01	0.25	0.00	0.00	0.00	0.00	-0.01	0.00	-0.01	-0.25

MA0017	Total LMA Miles		3.87									
Sutter Maintenance Yard Maintenance Area 0017	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation		3.13	12.52	323.13					-3.13	-12.52	-323.13	
Trim / Thin Trees		3.12	12.48	322.10		3.14	12.56	324.16		0.02	0.08	2.06
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	6.25	25.00	645.23	0.00	3.14	12.56	324.16	0.00	-3.11	-12.44	-321.07

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

NA0001	Total LMA Miles				34.47							
American River Flood Control District	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			M *	Overall LMA Rating			A				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.07	0.01	0.11	0.32	0.04		0.04	0.12	-0.03	-0.01	-0.07	-0.20
Encroachments	0.01		0.01	0.03	0.02		0.02	0.06	0.01		0.01	0.03
Animal Control	0.04		0.04	0.12	0.11		0.11	0.32	0.07		0.07	0.20
Slope Stability	0.04		0.04	0.12	0.07		0.07	0.20	0.03		0.03	0.09
Erosion / Bank Caving	0.01		0.01	0.03					-0.01		-0.01	-0.03
Supplemental												
USACE Erosion Survey	0.01		0.01	0.03	0.04		0.04	0.12	0.03		0.03	0.09
DWR UCIP Field Study												0.00
LMA Totals:	0.18	0.01	0.22	0.64*	0.28	0.00	0.28	0.81	0.10	-0.01	0.06	0.17

NA0002	Total LMA Miles				17.55							
Brannan Andrus Levee Maintenance District	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			U	Overall LMA Rating			U				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.18	0.09	0.54	3.08	0.54	0.15	1.14	6.49	0.36	0.06	0.60	3.42
Trim / Thin Trees	0.59	0.50	2.59	14.75	0.54	0.82	3.82	21.76	-0.05	0.32	1.23	7.01
Encroachments	0.09		0.09	0.51	0.08		0.08	0.46	-0.01		-0.01	-0.06
Animal Control	0.01		0.01	0.06	0.01		0.01	0.06				0.00
Erosion / Bank Caving					0.01		0.01	0.06	0.01		0.01	0.06
Crown Surface / Depressions / Rutting	0.01		0.01	0.06					-0.01		-0.01	-0.06
Supplemental												
USACE Erosion Survey	0.58	0.47	2.46	14.01	0.34	0.74	3.30	18.80	-0.24	0.27	0.84	4.79
DWR UCIP Field Study												0.00
LMA Totals:	1.46	1.06	5.70	32.47	1.52	1.71	8.36	47.62	0.06	0.65	2.66	15.15

NA0003	Total LMA Miles				23.78							
Butte County Department of Public Works	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			A	Overall LMA Rating			A				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.13		0.13	0.55	0.13		0.13	0.55				0.00
Trim / Thin Trees					0.06		0.06	0.25	0.06		0.06	0.25
Encroachments	0.04		0.04	0.17					-0.04		-0.04	-0.17
Animal Control					0.02		0.02	0.08	0.02		0.02	0.08
Slope Stability	0.02		0.02	0.08	0.03		0.03	0.13	0.01		0.01	0.04
Supplemental												
USACE Erosion Survey	0.01		0.01	0.04	0.06		0.06	0.25	0.05		0.05	0.21
DWR UCIP Field Study												0.00
LMA Totals:	0.20	0.00	0.20	0.84	0.30	0.00	0.30	1.26	0.10	0.00	0.10	0.42

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Overall LMA Ratings, Compare 2014 & 2015**

**Sacramento River Basin (cont.)**

NA0004		Total LMA Miles		11.27									
Marysville Levee Commission		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		U					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Vegetation		0.02		0.02	0.18	4.10		4.10	36.39	4.08		4.08	36.22
Slope Stability						0.01		0.01	0.09	0.01		0.01	0.09
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.02	0.00	0.02	0.18	4.11	0.00	4.11	36.48	4.09	0.00	4.09	36.30

NA0005		Total LMA Miles		3.67									
City of Sacramento		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Animal Control						0.01		0.01	0.27	0.01		0.01	0.27
Slope Stability						0.01		0.01	0.27	0.01		0.01	0.27
Supplemental													
USACE Erosion Survey		0.09		0.09	2.45	0.13		0.13	3.54	0.04		0.04	1.09
DWR UCIP Field Study													0.00
LMA Totals:		0.09	0.00	0.09	2.45	0.15	0.00	0.15	4.08	0.06	0.00	0.06	1.63

NA0006		Total LMA Miles		1.46									
Eastern Honcut Creek		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Vegetation			2.95	11.80	810.66	1.78	1.10	6.18	424.57	1.78	-1.85	-5.62	-386.09
Trim / Thin Trees			0.01	0.04	2.75		0.01	0.04	2.75				0.00
Crown Surface / Depressions / Rutting						0.59		0.59	40.53	0.59		0.59	40.53
Operations & Maintenance Manuals		0.01		0.01	0.69	0.01		0.01	0.69				0.00
Flood Preparedness & Training		0.01		0.01	0.69	0.01		0.01	0.69				0.00
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.03	2.96	11.87	815.47	2.40	1.11	6.84	469.91	2.37	-1.85	-5.03	-345.56

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.



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**Sacramento River Basin (cont.)**

NA0008	Total LMA Miles			12.39									
Knights Landing Ridge Drainage District	Fall 2014				Fall 2015				Change				
	Overall LMA Rating			M *	Overall LMA Rating			M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation		0.01	0.04	0.32	0.73	0.01	0.77	6.22	0.73		0.73	5.89	
Encroachments	0.24		0.24	1.94					-0.24		-0.24	-1.94	
Animal Control					0.04	0.02	0.12	0.97	0.04	0.02	0.12	0.97	
Erosion / Bank Caving	0.01	0.02	0.09	0.73		0.01	0.04	0.32	-0.01	-0.01	-0.05	-0.40	
Cracking												0.00	
Crown Surface / Depressions / Rutting					0.01		0.01	0.08	0.01		0.01	0.08	
Supplemental													
USACE Erosion Survey	0.07		0.07	0.57	1.43		1.43	11.54	1.36		1.36	10.98	
DWR UCIP Field Study												0.00	
LMA Totals:	0.32	0.03	0.44	3.55*	2.21	0.04	2.37	19.13	1.89	0.01	1.93	15.58	

NA0009	Total LMA Miles			9.89									
Lake County Watershed Protection District	Fall 2014				Fall 2015				Change				
	Overall LMA Rating			M *	Overall LMA Rating			A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation	0.22		0.22	2.22	0.24		0.24	2.43	0.02		0.02	0.20	
Trim / Thin Trees	0.34		0.34	3.44	0.35		0.35	3.54	0.01		0.01	0.10	
Encroachments	0.01		0.01	0.10	0.01		0.01	0.10				0.00	
Slope Stability	0.04	0.01	0.08	0.81	0.04		0.04	0.40		-0.01	-0.04	-0.40	
Supplemental													
DWR UCIP Field Study												0.00	
LMA Totals:	0.61	0.01	0.65	6.57*	0.64	0.00	0.64	6.47	0.03	-0.01	-0.01	-0.10	

NA0012	Total LMA Miles			0.59									
Solano County Public Works Mellin Levee	Fall 2014				Fall 2015				Change				
	Overall LMA Rating			A	Overall LMA Rating			M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation	0.01		0.01	1.69	0.01		0.01	1.69				0.00	
Trim / Thin Trees						0.01	0.04	6.75		0.01	0.04	6.75	
Flood Preparedness & Training	0.01		0.01	1.69					-0.01		-0.01	-1.69	
LMA Totals:	0.02	0.00	0.02	3.37	0.01	0.01	0.05	8.43*	-0.01	0.01	0.03	5.06	

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

NA0015	Total LMA Miles		3.25									
Plumas County	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.20		1.20	36.93	6.44		6.44	198.17	5.24		5.24	161.24
Slope Stability	0.06	0.09	0.42	12.92	0.05	0.09	0.41	12.62	-0.01		-0.01	-0.31
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	1.26	0.09	1.62	49.85	6.49	0.09	6.85	210.78	5.23	0.00	5.23	160.93

NA0016	Total LMA Miles		49.64									
Sacramento River West Side Levee District	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					0.43		0.43	0.87	0.43		0.43	0.87
Trim / Thin Trees					0.07		0.07	0.14	0.07		0.07	0.14
Encroachments					0.04		0.04	0.08	0.04		0.04	0.08
Animal Control	0.01		0.01	0.02	0.07	0.01	0.11	0.22	0.06	0.01	0.10	0.20
Slope Stability					0.04		0.04	0.08	0.04		0.04	0.08
Crown Surface / Depressions / Rutting					0.04		0.04	0.08	0.04		0.04	0.08
Supplemental												
USACE Erosion Survey	1.60		1.60	3.22	1.05		1.05	2.12	-0.55		-0.55	-1.11
DWR UCIP Field Study												0.00
LMA Totals:	1.61	0.00	1.61	3.24	1.74	0.01	1.78	3.59*	0.13	0.01	0.17	0.34

NA0018	Total LMA Miles		0.30									
California Department of Fish and Game Shea Levee	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.22		0.22	73.23	0.27		0.27	89.87	0.05		0.05	16.64
Trim / Thin Trees	0.14		0.14	46.60	0.26		0.26	86.55	0.12		0.12	39.94
Animal Control	0.06		0.06	19.97	0.08		0.08	26.63	0.02		0.02	6.66
Operations & Maintenance Manuals	0.01		0.01	3.33	0.01		0.01	3.33				0.00
Emergency Supplies & Equipment	0.01		0.01	3.33	0.01		0.01	3.33				0.00
Flood Preparedness & Training	0.01		0.01	3.33	0.01		0.01	3.33				0.00
LMA Totals:	0.45	0.00	0.45	149.79	0.64	0.00	0.64	213.03	0.19	0.00	0.19	63.24

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

NA0019	Total LMA Miles		13.97									
Tehama County Flood Control and Water Conservation District	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.40		1.40	10.02	1.25		1.25	8.95	-0.15		-0.15	-1.07
Encroachments	0.07		0.07	0.50	0.07		0.07	0.50				0.00
Animal Control	0.04		0.04	0.29	0.01		0.01	0.07	-0.03		-0.03	-0.21
Slope Stability	0.36		0.36	2.58	0.37		0.37	2.65	0.01		0.01	0.07
Erosion / Bank Caving	0.04		0.04	0.29	0.05	0.41	1.69	12.10	0.01	0.41	1.65	11.81
Supplemental												
USACE Erosion Survey	0.16		0.16	1.15	0.15		0.15	1.07	-0.01		-0.01	-0.07
DWR UCIP Field Study												0.00
LMA Totals:	2.07	0.00	2.07	14.82	1.90	0.41	3.54	25.34	-0.17	0.41	1.47	10.52

NA0021	Total LMA Miles		0.59									
Yolo County Planning Resources and Public Works	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.38	0.25	1.38	235.16	0.61	0.20	1.41	240.27	0.23	-0.05	0.03	5.11
Trim / Thin Trees	0.08		0.08	13.63	0.03		0.03	5.11	-0.05		-0.05	-8.52
Animal Control						0.04	0.16	27.26		0.04	0.16	27.26
Slope Stability					0.01		0.01	1.70	0.01		0.01	1.70
Operations & Maintenance Manuals		0.02	0.09	15.34		0.02	0.09	15.34				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.46	0.27	1.55	264.13	0.65	0.26	1.70	289.69	0.19	-0.01	0.15	25.56

NA0022	Total LMA Miles		5.87									
Yolo County Service Area 6	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	7.24	0.34	8.60	146.60	3.76	0.25	4.76	81.14	-3.48	-0.09	-3.84	-65.46
Trim / Thin Trees	0.05	0.01	0.09	1.53	0.13	0.01	0.17	2.90	0.08		0.08	1.36
Encroachments	0.28		0.28	4.77	0.04		0.04	0.68	-0.24		-0.24	-4.09
Animal Control	0.06		0.06	1.02	0.03	0.02	0.11	1.88	-0.03	0.02	0.05	0.85
Slope Stability					0.02		0.02	0.34	0.02		0.02	0.34
Erosion / Bank Caving	0.01		0.01	0.17	0.02		0.02	0.34	0.01		0.01	0.17
Crown Surface / Depressions / Rutting					0.02		0.02	0.34	0.02		0.02	0.34
Operations & Maintenance Manuals	0.06		0.06	1.02	0.06		0.06	1.02				0.00
Supplemental												
USACE Erosion Survey	0.91		0.91	15.51	0.48		0.48	8.18	-0.43		-0.43	-7.33
DWR UCIP Field Study												0.00
LMA Totals:	8.61	0.35	10.01	170.63	4.56	0.28	5.68	96.82	-4.05	-0.07	-4.33	-73.81

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

RD0003	Total LMA Miles				28.73							
Reclamation District No. 0003 Grand Island	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			M *	Overall LMA Rating			M				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.08	0.02	0.16	0.56	0.06	0.04	0.22	0.77	-0.02	0.02	0.06	0.21
Trim / Thin Trees	0.73	0.02	0.81	2.82	0.64	0.20	1.44	5.01	-0.09	0.18	0.63	2.19
Encroachments	0.04	0.01	0.08	0.28	0.03	0.03	0.15	0.52	-0.01	0.02	0.07	0.24
Slope Stability	0.01		0.01	0.04	0.01		0.01	0.04				0.00
Erosion / Bank Caving	0.01	0.07	0.29	1.01	0.01	0.09	0.37	1.29		0.02	0.08	0.28
Crown Surface / Depressions / Rutting	0.56		0.56	1.95	0.29		0.29	1.01	-0.27		-0.27	-0.94
Supplemental												
USACE Erosion Survey	0.24		0.24	0.84	0.43		0.43	1.50	0.19		0.19	0.66
DWR UCIP Field Study												0.00
LMA Totals:	1.67	0.12	2.15	7.48*	1.47	0.36	2.91	10.13	-0.20	0.24	0.76	2.65

RD0010	Total LMA Miles		21.82									
Reclamation District No. 0010 Honcut	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			A	Overall LMA Rating			A				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.05	0.01		0.01	0.05				0.00
Animal Control	0.06		0.06	0.28	0.07		0.07	0.32	0.01		0.01	0.05
Slope Stability	0.01		0.01	0.05	0.01		0.01	0.05				0.00
Crown Surface / Depressions / Rutting					0.01		0.01	0.05	0.01		0.01	0.05
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.08	0.00	0.08	0.37	0.10	0.00	0.10	0.46	0.02	0.00	0.02	0.09

RD0070	Total LMA Miles		23.41									
Reclamation District No. 0070 Meridian	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			A	Overall LMA Rating			A				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Encroachments	0.06		0.06	0.26	0.01		0.01	0.04	-0.05		-0.05	-0.21
Slope Stability	0.02		0.02	0.09	0.02		0.02	0.09				0.00
Erosion / Bank Caving	0.02		0.02	0.09	0.02		0.02	0.09				0.00
Supplemental												
USACE Erosion Survey	0.71		0.71	3.03	0.80		0.80	3.42	0.09		0.09	0.38
DWR UCIP Field Study												0.00
LMA Totals:	0.81	0.00	0.81	3.46	0.85	0.00	0.85	3.63	0.04	0.00	0.04	0.17

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

RD0108	Total LMA Miles				20.92								
Reclamation District No. 0108 River Farms	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		A		Overall LMA Rating		A						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Encroachments					0.02		0.02	0.10	0.02		0.02	0.10	
Animal Control					0.07		0.07	0.34	0.07		0.07	0.33	
Cracking	0.01		0.01	0.05					-0.01		-0.01	-0.05	
Crown Surface / Depressions / Rutting					0.01		0.01	0.05	0.01		0.01	0.05	
Supplemental													
USACE Erosion Survey	0.01		0.01	0.05	0.07		0.07	0.34	0.06		0.06	0.29	
DWR UCIP Field Study												0.00	
LMA Totals:	0.02	0.00	0.02	0.10	0.17	0.00	0.17	0.81	0.15	0.00	0.15	0.72	

RD0150	Total LMA Miles				17.74								
Reclamation District No. 0150 Merrit Island	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		M *		Overall LMA Rating		M *						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation	0.03		0.03	0.17	0.08		0.08	0.45	0.05		0.05	0.28	
Trim / Thin Trees	0.04		0.04	0.23	0.02	0.02	0.10	0.56	-0.02	0.02	0.06	0.34	
Encroachments	0.12		0.12	0.68	0.11		0.11	0.62	-0.01		-0.01	-0.06	
Animal Control	0.04		0.04	0.23	0.06	0.01	0.10	0.56	0.02	0.01	0.06	0.34	
Slope Stability	0.09		0.09	0.51	0.07		0.07	0.39	-0.02		-0.02	-0.11	
Erosion / Bank Caving	0.09	0.01	0.13	0.73	0.08	0.03	0.20	1.13	-0.01	0.02	0.07	0.39	
Crown Surface / Depressions / Rutting	0.05		0.05	0.28	0.01		0.01	0.06	-0.04		-0.04	-0.23	
Supplemental													
USACE Erosion Survey	0.06		0.06	0.34	0.12		0.12	0.68	0.06		0.06	0.34	
DWR UCIP Field Study												0.00	
LMA Totals:	0.52	0.01	0.56	3.16*	0.55	0.06	0.79	4.45*	0.03	0.05	0.23	1.30	

RD0307	Total LMA Miles				6.56								
Reclamation District No. 0307 Lisbon	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		M		Overall LMA Rating		M						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation	0.08	0.06	0.32	4.88	0.05		0.05	0.76	-0.03	-0.06	-0.27	-4.11	
Trim / Thin Trees	0.18		0.18	2.74	0.07		0.07	1.07	-0.11		-0.11	-1.68	
Animal Control	0.13		0.13	1.98	0.14		0.14	2.13	0.01		0.01	0.15	
Flood Preparedness & Training	0.07		0.07	1.07	0.07		0.07	1.07				0.00	
Supplemental													
2015 USACE Erosion Survey, DRAFT					0.46		0.46	7.01	0.46		0.46	7.01	
DWR UCIP Field Study												0.00	
LMA Totals:	0.46	0.06	0.70	10.67	0.79	0.00	0.79	12.04	0.33	-0.06	0.09	1.37	

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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<b>RD0341</b>	Total LMA Miles		<b>9.64</b>										
<b>Reclamation District No. 0341 Sherman Island</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>				
	Overall LMA Rating		<b>U</b>		Overall LMA Rating		<b>U</b>						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
<i>Earthen Levee</i>													
Vegetation	3.40	1.13	7.92	<b>82.18</b>	0.03	4.40	17.63	<b>182.93</b>	-3.37	3.27	9.71	<b>100.75</b>	
Trim / Thin Trees	0.20		0.20	<b>2.08</b>	0.21	0.03	0.33	<b>3.42</b>	0.01	0.03	0.13	<b>1.35</b>	
<i>Supplemental</i>													
2015 USACE Erosion Survey, DRAFT					0.04	0.38	1.56	<b>16.19</b>	0.04	0.38	1.56	<b>16.19</b>	
DWR UCIP Field Study												<b>0.00</b>	
<b>LMA Totals:</b>	3.60	1.13	8.12	<b>84.25</b>	0.28	4.81	19.52	<b>202.54</b>	-3.32	3.68	11.40	<b>118.29</b>	
<b>RD0349</b>	Total LMA Miles		<b>12.41</b>										
<b>Reclamation District No. 0349 Sutter Island</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>				
	Overall LMA Rating		<b>U</b>		Overall LMA Rating		<b>U</b>						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
<i>Earthen Levee</i>													
Vegetation	21.27	4.64	39.83	<b>321.03</b>	6.79	17.87	78.27	<b>630.85</b>	-14.48	13.23	38.44	<b>309.82</b>	
Trim / Thin Trees	0.70	0.08	1.02	<b>8.22</b>	0.32	0.01	0.36	<b>2.90</b>	-0.38	-0.07	-0.66	<b>-5.32</b>	
Encroachments	0.04	0.02	0.12	<b>0.97</b>	0.06	0.02	0.14	<b>1.13</b>	0.02		0.02	<b>0.16</b>	
Animal Control					0.18		0.18	<b>1.45</b>	0.18		0.18	<b>1.45</b>	
Slope Stability		0.06	0.24	<b>1.93</b>		0.06	0.24	<b>1.93</b>				<b>0.00</b>	
Crown Surface / Depressions / Rutting	2.82		2.82	<b>22.73</b>					-2.82		-2.82	<b>-22.73</b>	
Emergency Supplies & Equipment	0.12		0.12	<b>0.97</b>	0.12		0.12	<b>0.97</b>				<b>0.00</b>	
Flood Preparedness & Training	0.12		0.12	<b>0.97</b>	0.12		0.12	<b>0.97</b>				<b>0.00</b>	
<i>Interior Drainage &amp; Piping Systems</i>													
Vegetation & Obstructions					0.43		0.43	<b>3.47</b>	0.43		0.43	<b>3.47</b>	
<i>Supplemental</i>													
USACE Erosion Survey	0.74	1.52	6.82	<b>54.97</b>	0.69	0.16	1.33	<b>10.72</b>	-0.05	-1.36	-5.49	<b>-44.25</b>	
DWR UCIP Field Study												<b>0.00</b>	
<b>LMA Totals:</b>	25.82	6.32	51.10	<b>411.86</b>	8.72	18.12	81.20	<b>654.47</b>	-17.10	11.80	30.10	<b>242.60</b>	
<b>RD0369</b>	Total LMA Miles		<b>0.78</b>										
<b>Reclamation District No. 0369 Libby McNeil</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>				
	Overall LMA Rating		<b>U</b>		Overall LMA Rating		<b>M</b>						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
<i>Earthen Levee</i>													
Vegetation	0.36		0.36	<b>46.34</b>	0.11		0.11	<b>14.16</b>	-0.25		-0.25	<b>-32.18</b>	
Trim / Thin Trees	0.08		0.08	<b>10.30</b>	0.02		0.02	<b>2.58</b>	-0.06		-0.06	<b>-7.72</b>	
Slope Stability	0.01		0.01	<b>1.29</b>					-0.01		-0.01	<b>-1.29</b>	
Operations & Maintenance Manuals	0.01		0.01	<b>1.29</b>	0.01		0.01	<b>1.29</b>				<b>0.00</b>	
Emergency Supplies & Equipment	0.01		0.01	<b>1.29</b>	0.01		0.01	<b>1.29</b>				<b>0.00</b>	
Flood Preparedness & Training	0.01		0.01	<b>1.29</b>	0.01		0.01	<b>1.29</b>				<b>0.00</b>	
<i>Supplemental</i>													
DWR UCIP Field Study												<b>0.00</b>	
<b>LMA Totals:</b>	0.47	0.00	0.47	<b>60.50</b>	0.15	0.00	0.15	<b>19.31</b>	-0.32	0.00	-0.32	<b>-41.19</b>	

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RD0501	Total LMA Miles		20.26									
Reclamation District No. 0501 Ryer Island	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	30.62	1.85	38.02	187.69	19.44	0.37	20.92	103.27	-11.18	-1.48	-17.10	-84.42
Trim / Thin Trees	1.75	0.03	1.87	9.23	1.26	0.02	1.34	6.62	-0.49	-0.01	-0.53	-2.62
Encroachments	0.02		0.02	0.10	0.01		0.01	0.05	-0.01		-0.01	-0.05
Animal Control	0.70		0.70	3.46	0.52		0.52	2.57	-0.18		-0.18	-0.89
Slope Stability	0.01		0.01	0.05					-0.01		-0.01	-0.05
Erosion / Bank Caving	0.07		0.07	0.35	0.06		0.06	0.30	-0.01		-0.01	-0.05
Supplemental												
USACE Erosion Survey	0.25		0.25	1.23	0.26		0.26	1.28	0.01		0.01	0.05
DWR UCIP Field Study												0.00
LMA Totals:	33.42	1.88	40.94	202.11	21.55	0.39	23.11	114.09	-11.87	-1.49	-17.83	-88.02

RD0536	Total LMA Miles		10.59									
Reclamation District No. 0536 Egbert	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	14.58	9.91	54.22	511.76	3.22	9.54	41.38	390.57	-11.36	-0.37	-12.84	-121.19
Trim / Thin Trees	0.08		0.08	0.76	0.02		0.02	0.19	-0.06		-0.06	-0.57
Encroachments	0.05		0.05	0.47	0.02	0.04	0.18	1.70	-0.03	0.04	0.13	1.23
Erosion / Bank Caving	0.01		0.01	0.09	0.01		0.01	0.09				0.00
Cracking	0.62		0.62	5.85					-0.62		-0.62	-5.85
Crown Surface / Depressions / Rutting	4.26	0.02	4.34	40.96	1.56	0.02	1.64	15.48	-2.70		-2.70	-25.48
Repair Gates	0.01	0.03	0.13	1.23					-0.01	-0.03	-0.13	-1.23
Operations & Maintenance Manuals	0.11		0.11	1.04	0.11		0.11	1.04				0.00
Emergency Supplies & Equipment	0.11		0.11	1.04	0.11		0.11	1.04				0.00
Flood Preparedness & Training	0.11		0.11	1.04	0.11		0.11	1.04				0.00
Supplemental												
USACE Erosion Survey	0.36		0.36	3.40	0.37		0.37	3.49	0.01		0.01	0.09
DWR UCIP Field Study												0.00
LMA Totals:	20.29	9.96	60.13	567.54	5.52	9.60	43.92	414.54	-14.77	-0.36	-16.21	-153.00

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<b>RD0537</b>	Total LMA Miles		<b>5.93</b>										
<b>Reclamation District No. 0537 Lovdal</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>				
	Overall LMA Rating		<b>M *</b>		Overall LMA Rating		<b>U</b>						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
<i>Earthen Levee</i>													
Vegetation					1.04		1.04	<b>17.53</b>	<b>1.04</b>		<b>1.04</b>	<b>17.53</b>	
Encroachments					0.01		0.01	<b>0.17</b>	<b>0.01</b>		<b>0.01</b>	<b>0.17</b>	
Animal Control	0.01	0.01	0.05	<b>0.84</b>	0.03	0.02	0.11	<b>1.85</b>	<b>0.02</b>	<b>0.01</b>	<b>0.06</b>	<b>1.01</b>	
Slope Stability	0.01		0.01	<b>0.17</b>	0.02		0.02	<b>0.34</b>	<b>0.01</b>		<b>0.01</b>	<b>0.17</b>	
Erosion / Bank Caving	0.01	0.01	0.05	<b>0.84</b>	0.01	0.01	0.05	<b>0.84</b>				<b>0.00</b>	
Crown Surface / Depressions / Rutting					0.01		0.01	<b>0.17</b>	<b>0.01</b>		<b>0.01</b>	<b>0.17</b>	
Operations & Maintenance Manuals	0.06		0.06	<b>1.01</b>	0.06		0.06	<b>1.01</b>				<b>0.00</b>	
Emergency Supplies & Equipment	0.06		0.06	<b>1.01</b>	0.06		0.06	<b>1.01</b>				<b>0.00</b>	
Flood Preparedness & Training	0.06		0.06	<b>1.01</b>	0.06		0.06	<b>1.01</b>				<b>0.00</b>	
<i>Supplemental</i>													
USACE Erosion Survey	0.03		0.03	<b>0.51</b>	0.05		0.05	<b>0.84</b>	<b>0.02</b>		<b>0.02</b>	<b>0.34</b>	
DWR UCIP Field Study												<b>0.00</b>	
<i>LMA Totals:</i>	0.24	0.02	0.32	<b>5.39*</b>	1.35	0.03	1.47	<b>24.78</b>	<b>1.11</b>	<b>0.01</b>	<b>1.15</b>	<b>19.38</b>	
<b>RD0551</b>	Total LMA Miles		<b>6.78</b>										
<b>Reclamation District No. 0551 Pearson</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>				
	Overall LMA Rating		<b>U</b>		Overall LMA Rating		<b>A</b>						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
<i>Earthen Levee</i>													
Vegetation	6.78		6.78	<b>99.94</b>					<b>-6.78</b>		<b>-6.78</b>	<b>-99.94</b>	
Trim / Thin Trees	0.01		0.01	<b>0.15</b>	0.01		0.01	<b>0.15</b>				<b>0.00</b>	
Encroachments					0.01		0.01	<b>0.15</b>	<b>0.01</b>		<b>0.01</b>	<b>0.15</b>	
<i>Supplemental</i>													
DWR UCIP Field Study												<b>0.00</b>	
<i>LMA Totals:</i>	6.79	0.00	6.79	<b>100.08</b>	0.02	0.00	0.02	<b>0.30</b>	<b>-6.77</b>	0.00	<b>-6.77</b>	<b>-99.79</b>	
<b>RD0554</b>	Total LMA Miles		<b>1.13</b>										
<b>Reclamation District No. 0554 Walnut Grove</b>	<b>Fall 2014</b>				<b>Fall 2015</b>				<b>Change</b>				
	Overall LMA Rating		<b>U</b>		Overall LMA Rating		<b>U</b>						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
<i>Earthen Levee</i>													
Vegetation	0.15		0.15	<b>13.32</b>	0.65		0.65	<b>57.74</b>	<b>0.50</b>		<b>0.50</b>	<b>44.41</b>	
Trim / Thin Trees		0.16	0.64	<b>56.85</b>		0.04	0.16	<b>14.21</b>		<b>-0.12</b>	<b>-0.48</b>	<b>-42.64</b>	
Erosion / Bank Caving		0.02	0.08	<b>7.11</b>		0.02	0.08	<b>7.11</b>				<b>0.00</b>	
<i>Supplemental</i>													
USACE Erosion Survey	0.09		0.09	<b>7.99</b>	0.10		0.10	<b>8.88</b>	<b>0.01</b>		<b>0.01</b>	<b>0.89</b>	
DWR UCIP Field Study												<b>0.00</b>	
<i>LMA Totals:</i>	0.24	0.18	0.96	<b>85.27</b>	0.75	0.06	0.99	<b>87.94</b>	<b>0.51</b>	<b>-0.12</b>	<b>0.03</b>	<b>2.66</b>	

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RD0556	Total LMA Miles		11.20									
Reclamation District No. 0556 Upper Andrus	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	46.06	5.09	66.42	593.01	3.43	13.01	55.47	495.25	-42.63	7.92	-10.95	-97.76
Trim / Thin Trees	6.73	2.94	18.49	165.08	2.74	1.05	6.94	61.96	-3.99	-1.89	-11.55	-103.12
Encroachments		0.01	0.04	0.36		0.02	0.08	0.71		0.01	0.04	0.36
Animal Control	3.63	0.01	3.67	32.77	3.34		3.34	29.82	-0.29	-0.01	-0.33	-2.95
Erosion / Bank Caving	0.06		0.06	0.54	0.02		0.02	0.18	-0.04		-0.04	-0.36
Operations & Maintenance Manuals	0.11		0.11	0.98	0.11		0.11	0.98				0.00
Emergency Supplies & Equipment	0.11		0.11	0.98	0.11		0.11	0.98				0.00
Flood Preparedness & Training	0.11		0.11	0.98	0.11		0.11	0.98				0.00
Supplemental												
USACE Erosion Survey	1.03		1.03	9.20	1.32		1.32	11.79	0.29		0.29	2.59
DWR UCIP Field Study												0.00
LMA Totals:	57.85	8.05	90.05	803.98	11.19	14.08	67.51	602.74	-46.66	6.03	-22.54	-201.24

RD0563	Total LMA Miles		12.11									
Reclamation District No. 0563 Tyler Island	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	6.28	0.86	9.72	80.29	0.34	1.54	6.50	53.69	-5.94	0.68	-3.22	-26.60
Trim / Thin Trees	0.46	0.05	0.66	5.45	0.43	0.23	1.35	11.15	-0.03	0.18	0.69	5.70
Encroachments	0.10	0.01	0.14	1.16	0.09	0.02	0.17	1.40	-0.01	0.01	0.03	0.25
Animal Control	0.28		0.28	2.31	0.16	0.02	0.24	1.98	-0.12	0.02	-0.04	-0.33
Slope Stability	0.06	0.01	0.10	0.83	0.06	0.01	0.10	0.83				0.00
Erosion / Bank Caving	0.02		0.02	0.17	0.02		0.02	0.17				0.00
Crown Surface / Depressions / Rutting	9.91		9.91	81.86	9.76		9.76	80.62	-0.15		-0.15	-1.24
Supplemental												
USACE Erosion Survey	3.25	0.51	5.29	43.70	3.46	0.51	5.50	45.43	0.21		0.21	1.73
DWR UCIP Field Study												0.00
LMA Totals:	20.36	1.44	26.12	215.77	14.32	2.33	23.64	195.28	-6.04	0.89	-2.48	-20.49

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Overall LMA Ratings, Compare 2014 & 2015**

**Sacramento River Basin (cont.)**

RD0755	Total LMA Miles				1.83								
Reclamation District No. 0755 Randall	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		U		Overall LMA Rating		U						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation	1.94	1.11	6.38	347.79	0.15	2.56	10.39	566.39	-1.79	1.45	4.01	218.60	
Trim / Thin Trees	0.01		0.01	0.55					-0.01		-0.01	-0.55	
Animal Control	1.35		1.35	73.59	1.34		1.34	73.05	-0.01		-0.01	-0.55	
Erosion / Bank Caving	0.01		0.01	0.55	0.01		0.01	0.55				0.00	
Operations & Maintenance Manuals	0.02		0.02	1.09	0.02		0.02	1.09				0.00	
Emergency Supplies & Equipment	0.02		0.02	1.09	0.02		0.02	1.09				0.00	
Flood Preparedness & Training	0.02		0.02	1.09	0.02		0.02	1.09				0.00	
Supplemental													
2015 USACE Erosion Survey, DRAFT					0.08		0.08	4.36	0.08		0.08	4.36	
DWR UCIP Field Study												0.00	
LMA Totals:	3.37	1.11	7.81	425.74	1.64	2.56	11.88	647.61	-1.73	1.45	4.07	221.87	

RD0765	Total LMA Miles				1.72								
Reclamation District No. 0765 Glide	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		U		Overall LMA Rating		U						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation	0.19	0.01	0.23	13.36	0.12	3.09	12.48	724.72	-0.07	3.08	12.25	711.36	
Trim / Thin Trees	0.36		0.36	20.91	0.19		0.19	11.03	-0.17		-0.17	-9.87	
Encroachments	0.02		0.02	1.16	0.06		0.06	3.48	0.04		0.04	2.32	
Erosion / Bank Caving						0.01	0.04	2.32		0.01	0.04	2.32	
Emergency Supplies & Equipment	0.02		0.02	1.16	0.02		0.02	1.16				0.00	
Flood Preparedness & Training	0.02		0.02	1.16	0.02		0.02	1.16				0.00	
Supplemental													
DWR UCIP Field Study												0.00	
LMA Totals:	0.60	0.01	0.64	37.17	0.40	3.10	12.80	743.30	-0.20	3.09	12.16	706.14	

RD0784	Total LMA Miles				33.20								
Reclamation District No. 0784 Plumas Lake	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		A		Overall LMA Rating		A						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation	0.01		0.01	0.03					-0.01		-0.01	-0.03	
Supplemental													
USACE Erosion Survey	0.43		0.43	1.30	0.44		0.44	1.33	0.01		0.01	0.03	
DWR UCIP Field Study												0.00	
LMA Totals:	0.44	0.00	0.44	1.33	0.44	0.00	0.44	1.33	0.00	0.00	0.00	0.00	

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

RD0785	Total LMA Miles		5.57									
Reclamation District No. 0785 Driver	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.16		1.16	20.84	7.67		7.67	137.77	6.51		6.51	116.93
Trim / Thin Trees	0.01		0.01	0.18	0.02		0.02	0.36	0.01		0.01	0.18
Animal Control	0.05		0.05	0.90	0.05		0.05	0.90				0.00
Slope Stability	0.04		0.04	0.72	0.06		0.06	1.08	0.02		0.02	0.36
Erosion / Bank Caving	0.02		0.02	0.36	0.01		0.01	0.18	-0.01		-0.01	-0.18
Operations & Maintenance Manuals	0.06		0.06	1.08					-0.06		-0.06	-1.08
Emergency Supplies & Equipment	0.06		0.06	1.08					-0.06		-0.06	-1.08
Flood Preparedness & Training	0.06		0.06	1.08					-0.06		-0.06	-1.08
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	1.45	0.00	1.45	26.05	7.81	0.00	7.81	140.28	6.36	0.00	6.35	114.06

RD0787	Total LMA Miles		4.45									
Reclamation District No. 0787 Fair	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					0.46		0.46	10.34	0.46		0.46	10.34
Flood Preparedness & Training	0.04		0.04	0.90	0.04		0.04	0.90				0.00
Supplemental												
USACE Erosion Survey	0.02		0.02	0.45	0.29		0.29	6.52	0.27		0.27	6.07
DWR UCIP Field Study												0.00
LMA Totals:	0.06	0.00	0.06	1.35	0.79	0.00	0.79	17.76	0.73	0.00	0.73	16.42

RD0817	Total LMA Miles		8.99									
Reclamation District No. 0817 Carlin	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation		0.96	3.84	42.71	1.64	0.93	5.36	59.62	1.64	-0.03	1.52	16.91
Trim / Thin Trees					0.01		0.01	0.11	0.01		0.01	0.11
Animal Control		0.01	0.04	0.44						-0.01	-0.04	-0.44
Slope Stability												0.00
Interior Drainage & Piping Systems												
Culverts: Inlets / Outlets	0.07		0.07	0.78					-0.07		-0.07	-0.78
Culverts: Breaks / Holes / Cracks		0.02	0.08	0.89						-0.02	-0.08	-0.89
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.07	0.99	4.03	44.83	1.65	0.93	5.37	59.73	1.58	-0.06	1.34	14.90

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**Sacramento River Basin (cont.)**

RD0827	Total LMA Miles				4.12							
Reclamation District No. 0827 Elkhorn	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			A	Overall LMA Rating			U				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation					1.10		1.10	26.68	1.10		1.10	26.68
Animal Control					0.04		0.04	0.97	0.04		0.04	0.97
Slope Stability	0.01		0.01	0.24	0.02		0.02	0.49	0.01		0.01	0.24
Erosion / Bank Caving	0.01		0.01	0.24	0.01	0.01	0.05	1.21		0.01	0.04	0.97
Cracking												0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.02	0.00	0.02	0.49	1.17	0.01	1.21	29.35	1.15	0.01	1.19	28.86

RD0900	Total LMA Miles				12.96							
Reclamation District No. 0900 West Sacramento	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			M	Overall LMA Rating			A				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.54		1.54	11.88	0.08		0.08	0.62	-1.46		-1.46	-11.26
Encroachments	0.04		0.04	0.31	0.05		0.05	0.39	0.01		0.01	0.08
Animal Control	0.01		0.01	0.08					-0.01		-0.01	-0.08
Slope Stability	0.01		0.01	0.08	0.01		0.01	0.08				0.00
Supplemental												
USACE Erosion Survey	0.23		0.23	1.77	0.42		0.42	3.24	0.19		0.19	1.47
DWR UCIP Field Study												0.00
LMA Totals:	1.83	0.00	1.83	14.12	0.56	0.00	0.56	4.32	-1.27	0.00	-1.27	-9.80

RD0999	Total LMA Miles				32.17							
Reclamation District No. 0999 Netherlands	Fall 2014				Fall 2015				Change			
	Overall LMA Rating			U	Overall LMA Rating			U				
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.42	0.06	0.66	2.05	0.28	0.16	0.92	2.86	-0.14	0.10	0.26	0.81
Trim / Thin Trees	3.27	0.10	3.67	11.41	3.63	0.21	4.47	13.90	0.36	0.11	0.80	2.49
Encroachments	0.33	0.06	0.57	1.77	0.17	0.02	0.25	0.78	-0.16	-0.04	-0.32	-0.99
Animal Control	1.44		1.44	4.48	0.11	0.01	0.15	0.47	-1.33	0.01	-1.29	-4.01
Slope Stability	0.07		0.07	0.22	0.05	0.01	0.09	0.28	-0.02	0.01	0.02	0.06
Erosion / Bank Caving	0.01		0.01	0.03		0.02	0.08	0.25	-0.01	0.02	0.07	0.22
Crown Surface / Depressions / Rutting	3.12		3.12	9.70	6.35	0.10	6.75	20.99	3.23	0.10	3.63	11.29
Repair Gates	0.01		0.01	0.03					-0.01		-0.01	-0.03
Supplemental												
USACE Erosion Survey	0.18	0.01	0.22	0.68	0.89	0.41	2.53	7.87	0.71	0.40	2.31	7.18
DWR UCIP Field Study												0.00
LMA Totals:	8.85	0.23	9.77	30.37	11.48	0.94	15.24	47.38	2.63	0.71	5.47	17.01

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**Sacramento River Basin (cont.)**

RD1000	Total LMA Miles				41.84							
Reclamation District No. 1000 Natomas	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.23		0.23	0.55					-0.23		-0.23	-0.55
Trim / Thin Trees	0.01		0.01	0.02	0.10		0.10	0.24	0.09		0.09	0.22
Encroachments	0.01		0.01	0.02					-0.01		-0.01	-0.02
Animal Control					0.01		0.01	0.02	0.01		0.01	0.02
Slope Stability					0.01		0.01	0.02	0.01		0.01	0.02
Supplemental												
USACE Erosion Survey	0.10		0.10	0.24	0.13		0.13	0.31	0.03		0.03	0.07
LMA Totals:	0.35	0.00	0.35	0.84	0.25	0.00	0.25	0.60	-0.10	0.00	-0.10	-0.24

RD1001	Total LMA Miles				43.74							
Reclamation District No. 1001 Nicolaus	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	2.10		2.10	4.80	2.24		2.24	5.12	0.14		0.14	0.32
Trim / Thin Trees	0.05		0.05	0.11	0.05		0.05	0.11				0.00
Encroachments	0.03		0.03	0.07	0.02		0.02	0.05	-0.01		-0.01	-0.02
Animal Control	0.01		0.01	0.02	0.03		0.03	0.07	0.02		0.02	0.05
Slope Stability	0.04		0.04	0.09	0.13		0.13	0.30	0.09		0.09	0.21
Erosion / Bank Caving	0.01		0.01	0.02	0.05		0.05	0.11	0.04		0.04	0.09
Supplemental												
USACE Erosion Survey	1.92		1.92	4.39	1.85		1.85	4.23	-0.07		-0.07	-0.16
DWR UCIP Field Study												0.00
LMA Totals:	4.16	0.00	4.16	9.51	4.37	0.00	4.37	9.99	0.21	0.00	0.21	0.48

RD1500	Total LMA Miles				53.87							
Reclamation District No. 1500 Sutter Basin	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	2.53		2.53	4.70					-2.53		-2.53	-4.70
Trim / Thin Trees	0.02	0.01	0.06	0.11	0.03	0.01	0.07	0.13	0.01		0.01	0.02
Encroachments	0.07		0.07	0.13	0.14		0.14	0.26	0.07		0.07	0.13
Animal Control	0.03		0.03	0.06	0.05		0.05	0.09	0.02		0.02	0.04
Slope Stability					0.01		0.01	0.02	0.01		0.01	0.02
Erosion / Bank Caving					0.02		0.02	0.04	0.02		0.02	0.04
Underseepage Relief Wells		0.01	0.04	0.07						-0.01	-0.04	-0.07
Supplemental												
USACE Erosion Survey	0.10		0.10	0.19	3.23		3.23	6.00	3.13		3.13	5.81
DWR UCIP Field Study												0.00
LMA Totals:	2.75	0.02	2.83	5.25*	3.48	0.01	3.52	6.53*	0.73	-0.01	0.69	1.28

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

RD1600		Total LMA Miles		14.69									
Reclamation District No. 1600 Mull		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Vegetation		20.90		20.90	142.25	18.86		18.86	128.37	-2.04		-2.04	-13.88
Trim / Thin Trees			0.01	0.04	0.27	0.02		0.02	0.14	0.02	-0.01	-0.02	-0.14
Encroachments						0.02		0.02	0.14	0.02		0.02	0.14
Animal Control						0.03	0.01	0.07	0.48	0.03	0.01	0.07	0.48
Slope Stability		0.03		0.03	0.20	0.14		0.14	0.95	0.11		0.11	0.75
Erosion / Bank Caving		0.78	0.01	0.82	5.58	0.75		0.75	5.11	-0.03	-0.01	-0.07	-0.48
Crown Surface / Depressions / Rutting		1.40		1.40	9.53					-1.40		-1.40	-9.53
Supplemental													
USACE Erosion Survey		0.05		0.05	0.34	0.90		0.90	6.13	0.85		0.85	5.79
DWR UCIP Field Study													0.00
LMA Totals:		23.16	0.02	23.24	158.18	20.72	0.01	20.76	141.30	-2.44	-0.01	-2.48	-16.88

RD1601		Total LMA Miles		2.43									
Reclamation District No. 1601 Twitchell		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		M					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Crown Surface / Depressions / Rutting						0.42		0.42	17.31	0.42		0.42	17.31
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.00	0.00	0.00	0.00	0.42	0.00	0.42	17.31	0.42	0.00	0.42	17.31

RD1660		Total LMA Miles		12.04									
Reclamation District No. 1660 Tisdale		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Encroachments		0.01		0.01	0.08	0.01		0.01	0.08				0.00
Animal Control						0.01		0.01	0.08	0.01		0.01	0.08
Slope Stability		0.05		0.05	0.42	0.05		0.05	0.42				0.00
Supplemental													
USACE Erosion Survey		0.10		0.10	0.83	0.03		0.03	0.25	-0.07		-0.07	-0.58
DWR UCIP Field Study													0.00
LMA Totals:		0.16	0.00	0.16	1.33	0.10	0.00	0.10	0.83	-0.06	0.00	-0.06	-0.50

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.



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**Sacramento River Basin (cont.)**

RD2035	Total LMA Miles				12.15								
Reclamation District No. 2035 Conaway	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		M		Overall LMA Rating		M						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation					0.04		0.04	0.33	0.04		0.04	0.33	
Animal Control					0.01		0.01	0.08	0.01		0.01	0.08	
Cracking					0.01		0.01	0.08	0.01		0.01	0.08	
Crown Surface / Depressions / Rutting					0.06		0.06	0.49	0.06		0.06	0.49	
Supplemental													
USACE Erosion Survey	1.39		1.39	11.44	1.31		1.31	10.78	-0.08		-0.08	-0.66	
DWR UCIP Field Study												0.00	
LMA Totals:	1.39	0.00	1.39	11.44	1.43	0.00	1.43	11.77	0.04	0.00	0.04	0.33	

RD2060	Total LMA Miles				15.65								
Reclamation District No. 2060 Hastings	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		U		Overall LMA Rating		U						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation	7.33		7.33	46.85	8.75		8.75	55.92	1.42		1.42	9.08	
Erosion / Bank Caving	0.05	0.01	0.09	0.58					-0.05	-0.01	-0.09	-0.58	
Repair Gates	0.01		0.01	0.06	0.01		0.01	0.06				0.00	
Supplemental													
USACE Erosion Survey	0.99		0.99	6.33	1.00		1.00	6.39	0.01		0.01	0.06	
DWR UCIP Field Study												0.00	
LMA Totals:	8.38	0.01	8.42	53.81	9.76	0.00	9.76	62.38	1.38	-0.01	1.34	8.56	

RD2068	Total LMA Miles				8.71								
Reclamation District No. 2068 Yolano	Fall 2014				Fall 2015				Change				
	Overall LMA Rating		A		Overall LMA Rating		A						
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	
Earthen Levee													
Vegetation					0.10		0.10	1.15	0.10		0.10	1.15	
Supplemental													
DWR UCIP Field Study												0.00	
LMA Totals:	0.00	0.00	0.00	0.00	0.10	0.00	0.10	1.15	0.10	0.00	0.10	1.15	

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

RD2098	Total LMA Miles				10.91							
Reclamation District No. 2098 Cache and Haas Slough	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.90	1.86	9.34	85.64	3.36	0.52	5.44	49.88	1.46	-1.34	-3.90	-35.76
Slope Stability	0.29	0.01	0.33	3.03	0.15		0.15	1.38	-0.14	-0.01	-0.18	-1.65
Erosion / Bank Caving	0.21		0.21	1.93	0.21		0.21	1.93				0.00
Repair Gates		0.02	0.08	0.73		0.02	0.08	0.73				0.00
Supplemental												
USACE Erosion Survey	0.39		0.39	3.58	0.69		0.69	6.33	0.30		0.30	2.75
DWR UCIP Field Study												0.00
LMA Totals:	2.79	1.89	10.35	94.90	4.41	0.54	6.57	60.24	1.62	-1.35	-3.78	-34.66

RD2103	Total LMA Miles		9.53									
Reclamation District No. 2103 Wheatland Vicinity	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.07		0.07	0.74	0.13		0.13	1.37	0.06		0.06	0.63
Animal Control					0.02	0.01	0.06	0.63	0.02	0.01	0.06	0.63
Crown Surface / Depressions / Rutting	0.01		0.01	0.11					-0.01		-0.01	-0.10
Flood Preparedness & Training	0.10		0.10	1.05	0.10		0.10	1.05				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.18	0.00	0.18	1.89	0.25	0.01	0.29	3.04*	0.07	0.01	0.11	1.15

RD2104	Total LMA Miles		6.85									
Reclamation District No. 2104 Peters Pocket Tract	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	21.10	10.94	64.86	947.09	3.12	11.74	50.08	731.27	-17.98	0.80	-14.78	-215.82
Trim / Thin Trees	0.07		0.07	1.02	0.02		0.02	0.29	-0.05		-0.05	-0.73
Erosion / Bank Caving	0.16		0.16	2.34	0.15	0.01	0.19	2.77	-0.01	0.01	0.03	0.44
Crown Surface / Depressions / Rutting	14.53		14.53	212.17	9.96		9.96	145.44	-4.57		-4.57	-66.73
Repair Gates	0.03	0.01	0.07	1.02	0.02	0.02	0.10	1.46	-0.01	0.01	0.03	0.44
Emergency Supplies & Equipment	0.07		0.07	1.02	0.07		0.07	1.02				0.00
Flood Preparedness & Training	0.07		0.07	1.02	0.07		0.07	1.02				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	36.03	10.95	79.83	#####	13.41	11.77	60.49	883.28	-22.62	0.82	-19.34	-282.40

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

ST0001	Total LMA Miles				25.43							
Sacramento Maintenance Yard Cache Creek	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.15		0.15	0.59	0.20		0.20	0.79	0.05		0.05	0.20
Trim / Thin Trees					0.01		0.01	0.04	0.01		0.01	0.04
Encroachments	0.07		0.07	0.28	0.06		0.06	0.24	-0.01		-0.01	-0.04
Animal Control					0.09		0.09	0.35	0.09		0.09	0.35
Slope Stability					0.04		0.04	0.16	0.04		0.04	0.16
Supplemental												
USACE Erosion Survey	0.21		0.21	0.83	0.24	0.04	0.40	1.57	0.03	0.04	0.19	0.75
DWR UCIP Field Study												0.00
LMA Totals:	0.43	0.00	0.43	1.69	0.64	0.04	0.80	3.15*	0.21	0.04	0.37	1.46

ST0002	Total LMA Miles				21.68							
Sutter Maintenance Yard East Levee Sutter Bypass	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control	0.01		0.01	0.05					-0.01		-0.01	-0.05
Slope Stability					0.04		0.04	0.19	0.04		0.04	0.18
Erosion / Bank Caving		0.01	0.04	0.18						-0.01	-0.04	-0.18
Supplemental												
USACE Erosion Survey	0.07		0.07	0.32	0.03		0.03	0.14	-0.04		-0.04	-0.18
DWR UCIP Field Study												0.00
LMA Totals:	0.08	0.01	0.12	0.55*	0.07	0.00	0.07	0.32	-0.01	-0.01	-0.05	-0.23

ST0003	Total LMA Miles				26.82							
Sutter Maintenance Yard East Levee Sacramento River	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.04		0.04	0.15	0.04		0.04	0.15				0.00
Trim / Thin Trees	0.01		0.01	0.04	0.15		0.15	0.56	0.14		0.14	0.52
Encroachments	0.24		0.24	0.90					-0.24		-0.24	-0.89
Animal Control	0.01		0.01	0.04	0.01		0.01	0.04				0.00
Slope Stability	0.01		0.01	0.04	0.01		0.01	0.04				0.00
Erosion / Bank Caving	0.19		0.19	0.71	0.20	0.02	0.28	1.04	0.01	0.02	0.09	0.34
Supplemental												
USACE Erosion Survey	11.44		11.44	42.65	0.36		0.36	1.34	-11.08		-11.08	-41.31
DWR UCIP Field Study												0.00
LMA Totals:	11.94	0.00	11.94	44.52	0.77	0.02	0.85	3.17*	-11.17	0.02	-11.09	-41.35

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Sacramento River Basin (cont.)**

ST0004		Total LMA Miles		2.01									
Sacramento Maintenance Yard East Levee Yolo Bypass		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Encroachments						0.01		0.01	0.50	0.01		0.01	0.50
Animal Control						0.01		0.01	0.50	0.01		0.01	0.50
LMA Totals:		0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.99	0.02	0.00	0.02	0.99

ST0005		Total LMA Miles		3.39									
Sutter Maintenance Yard Hamilton Bend		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Vegetation						0.01		0.01	0.30	0.01		0.01	0.29
Trim / Thin Trees		1.95		1.95	57.45	1.96		1.96	57.74	0.01		0.01	0.29
Crown Surface / Depressions / Rutting		0.02		0.02	0.59	0.03	0.01	0.07	2.06	0.01	0.01	0.05	1.47
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		1.97	0.00	1.97	58.04	2.00	0.01	2.04	60.10	0.03	0.01	0.07	2.06

ST0006		Total LMA Miles		0.50									
Sutter Maintenance Yard Nelson Bend		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Vegetation		0.55		0.55	110.64	0.06	0.84	3.42	687.99	-0.49	0.84	2.87	577.35
Trim / Thin Trees		0.44		0.44	88.51					-0.44		-0.44	-88.51
LMA Totals:		0.99	0.00	0.99	199.15	0.06	0.84	3.42	687.99	-0.93	0.84	2.43	488.83

ST0007		Total LMA Miles		16.33									
Sacramento Maintenance Yard Putah Creek		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		U		Overall LMA Rating		M					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Vegetation		10.26	0.03	10.38	63.56	0.75	0.11	1.19	7.29	-9.51	0.08	-9.19	-56.27
Trim / Thin Trees		0.01		0.01	0.06	0.08		0.08	0.49	0.07		0.07	0.43
Encroachments		0.18		0.18	1.10	0.18		0.18	1.10				0.00
Animal Control		0.53		0.53	3.25	0.25		0.25	1.53	-0.28		-0.28	-1.71
Supplemental													
USACE Erosion Survey		0.02		0.02	0.12	0.13		0.13	0.80	0.11		0.11	0.67
DWR UCIP Field Study													0.00
LMA Totals:		11.00	0.03	11.12	68.09	1.39	0.11	1.83	11.21	-9.61	0.08	-9.29	-56.89

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Overall LMA Ratings, Compare 2014 & 2015**

**Sacramento River Basin (cont.)**

ST0008		Total LMA Miles		3.52									
Sacramento Maintenance Yard Sacramento Bypass		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Animal Control						0.01		0.01	0.28	0.01		0.01	0.28
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.28	0.01	0.00	0.01	0.28

ST0009		Total LMA Miles		8.94									
Sutter Maintenance Yard Tisdale Bypass		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Erosion / Bank Caving		0.03		0.03	0.34	0.04		0.04	0.45	0.01		0.01	0.11
Supplemental													
DWR UCIP Field Study													0.00
LMA Totals:		0.03	0.00	0.03	0.34	0.04	0.00	0.04	0.45	0.01	0.00	0.01	0.11

ST0010		Total LMA Miles		9.22									
Sutter Maintenance Yard Wadsworth Canal		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		U					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Animal Control		0.02		0.02	0.22	0.01		0.01	0.11	-0.01		-0.01	-0.11
Slope Stability		0.01		0.01	0.11	0.01		0.01	0.11				0.00
Erosion / Bank Caving		0.53		0.53	5.75	0.48	0.01	0.52	5.64	-0.05	0.01	-0.01	-0.11
Supplemental													
USACE Erosion Survey		0.05		0.05	0.54	3.04		3.04	32.96	2.99		2.99	32.41
DWR UCIP Field Study													0.00
LMA Totals:		0.61	0.00	0.61	6.61	3.54	0.01	3.58	38.81	2.93	0.01	2.97	32.20

ST0011		Total LMA Miles		9.01									
Sacramento Maintenance Yard West Levee Yolo Bypass		Fall 2014				Fall 2015				Change			
		Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item		M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee													
Trim / Thin Trees						0.69		0.69	7.66	0.69		0.69	7.66
Structures & Concrete Lined Channels													
Flap Gates						0.01		0.01	0.11	0.01		0.01	0.11
Supplemental													
2015 USACE Erosion Survey, DRAFT						0.16		0.16	1.78	0.16		0.16	1.78
DWR UCIP Field Study													0.00
LMA Totals:		0.00	0.00	0.00	0.00	0.86	0.00	0.86	9.55	0.86	0.00	0.86	9.55

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Overall LMA Ratings, Compare 2014 & 2015**

**Sacramento River Basin (cont.)**

ST0012	Total LMA Miles				12.51							
Sacramento Maintenance Yard Willow Slough Bypass	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control					0.02		0.02	0.16	0.02		0.02	0.16
Erosion / Bank Caving	0.05		0.05	0.40	0.15	0.01	0.19	1.52	0.10	0.01	0.14	1.12
Cracking					0.01		0.01	0.08	0.01		0.01	0.08
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.05	0.00	0.05	0.40	0.18	0.01	0.22	1.76*	0.13	0.01	0.17	1.36

ST0014	Total LMA Miles		0.83									
Sutter Maintenance Yard Murphy Slough at M&T Ranch	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.38		0.38	45.67	0.18		0.18	21.63	-0.20		-0.20	-24.04
LMA Totals:	0.38	0.00	0.38	45.67	0.18	0.00	0.18	21.63	-0.20	0.00	-0.20	-24.04

ST0020	Total LMA Miles		4.79									
Sutter Maintenance Yard East-West Interceptor	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	2.88		2.88	60.11	2.88		2.88	60.11				0.00
Encroachments	0.25		0.25	5.22	0.25		0.25	5.22				0.00
Erosion / Bank Caving	0.43	0.03	0.55	11.48	0.43	0.03	0.55	11.48	0.00			0.00
Rivers, Channels & Designated Floodways												
Erosion / Bank Caving		0.01	0.04	0.83		0.01	0.04	0.83				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	3.56	0.04	3.72	77.65	3.56	0.04	3.72	77.65	0.00	0.00	0.00	0.00

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**Overall LMA Ratings, Compare 2014 & 2015**

**San Joaquin River Basin**

NA0010	Total LMA Miles		191.27									
Lower San Joaquin Levee District	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	58.64	1.91	66.28	34.68	34.13	0.30	35.33	18.47	-24.51	-1.61	-30.95	-16.18
Trim / Thin Trees	0.03		0.03	0.02	0.02	0.01	0.06	0.03	-0.01	0.01	0.03	0.02
Encroachments	1.83		1.83	0.96	0.11		0.11	0.06	-1.72		-1.72	-0.90
Animal Control	2.70		2.70	1.41	2.42	0.07	2.70	1.41	-0.28	0.07		0.00
Slope Stability	1.08		1.08	0.57	0.70		0.70	0.37	-0.38		-0.38	-0.20
Erosion / Bank Caving	0.13	0.01	0.17	0.09	0.13	0.36	1.57	0.82		0.35	1.40	0.73
Crown Surface / Depressions / Rutting	10.46		10.46	5.47	3.69	0.01	3.73	1.95	-6.77	0.01	-6.73	-3.52
Interior Drainage & Piping Systems												
Erosion Areas		0.01	0.04	0.02		0.01	0.04	0.02				0.00
Flap Gates					0.01		0.01	0.01	0.01		0.01	0.01
Rivers, Channels & Designated Floodways												
Encroachments												0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	74.87	1.93	82.59	43.21	41.21	0.76	44.25	23.13	-33.66	-1.17	-38.34	-20.04

NA0011	Total LMA Miles		26.32									
Madera County FCWCA	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	32.73	39.75	191.73	728.40	10.51	31.35	135.91	516.34	-22.22	-8.40	-55.82	-212.07
Trim / Thin Trees	0.43	0.05	0.63	2.39	0.35	0.05	0.55	2.09	-0.08		-0.08	-0.30
Encroachments	0.35	0.03	0.47	1.79	0.34	0.03	0.46	1.75	-0.01		-0.01	-0.04
Animal Control	11.40	5.63	33.92	128.87	9.75	6.42	35.43	134.60	-1.65	0.79	1.51	5.74
Slope Stability	1.22	0.67	3.90	14.82	1.19	0.25	2.19	8.32	-0.03	-0.42	-1.71	-6.50
Erosion / Bank Caving	0.01		0.01	0.04					-0.01		-0.01	-0.04
Crown Surface / Depressions / Rutting	1.63		1.63	6.19	1.52		1.52	5.78	-0.11		-0.11	-0.42
Rivers, Channels & Designated Floodways												
Encroachments	0.01		0.01	0.04	0.01		0.01	0.04				0.00
Supplemental												
DWR Erosion Survey	0.02	0.09	0.38	1.44		0.08	0.32	1.22	-0.02	-0.01	-0.06	-0.23
DWR UCIP Field Study												0.00
LMA Totals:	47.80	46.22	232.68	883.98	23.67	38.18	176.39	670.13	-24.13	-8.04	-56.29	-213.85

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.



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**San Joaquin River Basin (cont.)**

NA0013	Total LMA Miles		6.31									
Merced Streams Group	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	3.21	1.32	8.49	134.61	3.39		3.39	53.75	0.18	-1.32	-5.10	-80.86
Trim / Thin Trees	0.03		0.03	0.48					-0.03		-0.03	-0.48
Animal Control	3.48	0.26	4.52	71.66					-3.48	-0.26	-4.52	-71.66
Slope Stability	0.07		0.07	1.11					-0.07		-0.07	-1.11
Erosion / Bank Caving	0.17		0.17	2.70					-0.17		-0.17	-2.70
Crown Surface / Depressions / Rutting	0.61		0.61	9.67					-0.61		-0.61	-9.67
Repair Gates	0.01		0.01	0.16	0.01		0.01	0.16				0.00
Rivers, Channels & Designated Floodways												
Encroachments		0.01	0.04	0.63						-0.01	-0.04	-0.63
Supplemental												
DWR Erosion Survey	0.01		0.01	0.16					-0.01		-0.01	-0.16
DWR UCIP Field Study												0.00
LMA Totals:	7.59	1.59	13.95	221.18	3.40	0.00	3.40	53.91	-4.19	-1.59	-10.55	-167.27

NA0017	Total LMA Miles		101.04									
San Joaquin County Flood Control and Water Conservation District	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.64		1.64	1.63	4.85	0.01	4.89	4.84	3.21	0.01	3.25	3.22
Trim / Thin Trees	0.28		0.28	0.28	0.24		0.24	0.24	-0.04		-0.04	-0.04
Encroachments	0.81		0.81	0.80	0.66		0.66	0.65	-0.15		-0.15	-0.15
Animal Control	0.62	0.04	0.78	0.77	0.39	0.05	0.59	0.58	-0.23	0.01	-0.19	-0.19
Slope Stability	0.38		0.38	0.38	0.34		0.34	0.34	-0.04		-0.04	-0.04
Erosion / Bank Caving	0.38		0.38	0.38	0.42	0.02	0.50	0.49	0.04	0.02	0.12	0.12
Crown Surface / Depressions / Rutting	0.06		0.06	0.06	0.05		0.05	0.05	-0.01		-0.01	-0.01
Interior Drainage & Piping Systems												
Vegetation & Obstructions		0.01	0.04	0.04		0.01	0.04	0.04				0.00
Concrete Floodwalls												
Monolith Joints	0.17		0.17	0.17	0.13		0.13	0.13	-0.04		-0.04	-0.04
Structures & Concrete Lined Channels												
Security Fencing	0.01		0.01	0.01	0.01		0.01	0.01				0.00
Rivers, Channels & Designated Floodways												
Vegetation & Obstructions	0.01		0.01	0.01	0.01		0.01	0.01				0.00
Supplemental												
DWR Erosion Survey	1.24	0.77	4.32	4.28	1.25	0.79	4.41	4.36	0.01	0.02	0.09	0.09
DWR UCIP Field Study												0.00
LMA Totals:	5.60	0.82	8.88	8.80*	8.35	0.88	11.87	11.75	2.75	0.06	2.99	2.96

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**San Joaquin River Basin (cont.)**

RD0001	Total LMA Miles		1.14									
Reclamation District No. 0001 Union Island	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.21		0.21	18.45					-0.21		-0.21	-18.45
Encroachments	0.02		0.02	1.76					-0.02		-0.02	-1.76
Animal Control	0.04		0.04	3.52		0.01	0.04	3.51	-0.04	0.01		0.00
Slope Stability	0.01		0.01	0.88	0.01		0.01	0.88				0.00
Erosion / Bank Caving	0.01		0.01	0.88					-0.01		-0.01	-0.88
Supplemental												
DWR Erosion Survey	0.01		0.01	0.88	0.01		0.01	0.88				0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.30	0.00	0.30	26.36	0.02	0.01	0.06	5.27*	-0.28	0.01	-0.24	-21.09

RD0017	Total LMA Miles		16.03									
Reclamation District No. 0017 Mossdale	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.03		0.03	0.19	0.03	0.01	0.07	0.44		0.01	0.04	0.25
Trim / Thin Trees	0.02		0.02	0.13	0.01		0.01	0.06	-0.01		-0.01	-0.06
Supplemental												
DWR Erosion Survey	0.06	0.01	0.10	0.62	0.04	0.01	0.08	0.50	-0.02		-0.02	-0.12
DWR UCIP Field Study												0.00
LMA Totals:	0.11	0.01	0.15	0.94*	0.08	0.02	0.16	1.00*	-0.03	0.01	0.01	0.06

RD0404	Total LMA Miles		4.10									
Reclamation District No. 0404 Boggs	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.04		0.04	0.98	0.05		0.05	1.22	0.01		0.01	0.24
Trim / Thin Trees	0.05		0.05	1.22	0.11	0.02	0.19	4.63	0.06	0.02	0.14	3.41
Encroachments	0.01		0.01	0.24	0.01		0.01	0.24				0.00
Animal Control	0.02		0.02	0.49	0.02		0.02	0.49				0.00
Slope Stability	0.01		0.01	0.24	0.01		0.01	0.24				0.00
Erosion / Bank Caving	0.01		0.01	0.24	0.01		0.01	0.24				0.00
Riprap Revetments	0.02		0.02	0.49	0.03		0.03	0.73	0.01		0.01	0.24
Supplemental												
DWR Erosion Survey	0.02	0.10	0.42	10.24	0.02	0.01	0.06	1.46		-0.09	-0.36	-8.77
DWR UCIP Field Study												0.00
LMA Totals:	0.18	0.10	0.58	14.14	0.26	0.03	0.38	9.26*	0.08	-0.07	-0.20	-4.87

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**San Joaquin River Basin (cont.)**

RD0524	Total LMA Miles		6.20									
Reclamation District No. 0524 Middle Roberts Island	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.19	0.10	0.59	9.52	0.18	0.20	0.98	15.81	-0.01	0.10	0.39	6.29
Trim / Thin Trees	0.79	0.19	1.55	25.01	0.19	0.72	3.07	49.53	-0.60	0.53	1.52	24.53
Encroachments	0.14	0.03	0.26	4.20	0.16	0.10	0.56	9.04	0.02	0.07	0.30	4.84
Animal Control	0.34		0.34	5.49	0.52	0.01	0.56	9.04	0.18	0.01	0.22	3.55
Slope Stability	0.22	0.01	0.26	4.20	0.22	0.03	0.34	5.49	0.00	0.02	0.08	1.29
Erosion / Bank Caving	0.11	0.01	0.15	2.42	0.10	0.02	0.18	2.90	-0.01	0.01	0.03	0.48
Crown Surface / Depressions / Rutting	0.05		0.05	0.81	0.05	0.04	0.21	3.39		0.04	0.16	2.58
Operations & Maintenance Manuals		0.25	0.99	15.97		0.25	0.99	15.97				0.00
Emergency Supplies & Equipment	0.06		0.06	0.97	0.06		0.06	0.97				0.00
Flood Preparedness & Training	0.06		0.06	0.97	0.06		0.06	0.97				0.00
Interior Drainage & Piping Systems												
Erosion Areas						0.01	0.04	0.65		0.01	0.04	0.65
Supplemental												
DWR Erosion Survey	0.03	0.41	1.67	26.95	0.03	0.38	1.55	25.01		-0.03	-0.12	-1.94
DWR UCIP Field Study												0.00
LMA Totals:	1.99	1.00	5.99	96.65	1.57	1.76	8.61	138.92	-0.42	0.76	2.62	42.27

RD0544	Total LMA Miles		10.20									
Reclamation District No. 0544 Upper Roberts Island	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	13.18	0.58	15.50	151.94	7.79	1.52	13.87	135.96	-5.39	0.94	-1.63	-15.98
Trim / Thin Trees	0.25	0.01	0.29	2.84	0.43	0.20	1.23	12.06	0.18	0.19	0.94	9.21
Encroachments	0.07		0.07	0.69	0.17	0.01	0.21	2.06	0.10	0.01	0.14	1.37
Animal Control	0.30		0.30	2.94	0.57	0.08	0.89	8.72	0.27	0.08	0.59	5.78
Slope Stability	0.07		0.07	0.69	0.07	0.01	0.11	1.08		0.01	0.04	0.39
Erosion / Bank Caving	0.01	0.01	0.05	0.49	0.02	0.06	0.26	2.55	0.01	0.05	0.21	2.06
Flood Preparedness & Training	0.10		0.10	0.98	0.10		0.10	0.98				0.00
Interior Drainage & Piping Systems												
Erosion Areas		0.01	0.04	0.39		0.01	0.04	0.39				0.00
Rivers, Channels & Designated Floodways												
Erosion / Bank Caving		0.01	0.04	0.39						-0.01	-0.04	-0.39
Encroachments												0.00
Supplemental												
DWR Erosion Survey	0.05	0.02	0.13	1.27	0.04	0.02	0.12	1.18	-0.01		-0.01	-0.10
DWR UCIP Field Study												0.00
LMA Totals:	14.03	0.64	16.59	162.62	9.19	1.91	16.83	164.98	-4.84	1.27	0.24	2.35

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**San Joaquin River Basin (cont.)**

RD1602	Total LMA Miles		6.24									
Reclamation District No. 1602 Del Puerto	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.06		1.06	16.99	5.63		5.63	90.25	4.57		4.57	73.26
Encroachments	0.01		0.01	0.16					-0.01		-0.01	-0.16
Animal Control	0.28		0.28	4.49	0.18	0.09	0.54	8.66	-0.10	0.09	0.26	4.17
Slope Stability	0.04		0.04	0.64	0.03		0.03	0.48	-0.01		-0.01	-0.16
Erosion / Bank Caving	0.01		0.01	0.16					-0.01		-0.01	-0.16
Interior Drainage & Piping Systems												
Concrete Tilting / Settlement	0.01		0.01	0.16		0.01	0.04	0.64	-0.01	0.01	0.03	0.48
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	1.41	0.00	1.41	22.60	5.84	0.10	6.24	100.03	4.43	0.10	4.83	77.43

RD2031	Total LMA Miles		13.05									
Reclamation District No. 2031 Elliot	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.27		0.27	2.07	0.04	0.02	0.12	0.92	-0.23	0.02	-0.15	-1.15
Trim / Thin Trees	0.62		0.62	4.75	0.62		0.62	4.75				0.00
Encroachments	0.01		0.01	0.08					-0.01		-0.01	-0.08
Animal Control	0.03	0.01	0.07	0.54	0.04	0.01	0.08	0.61	0.01		0.01	0.08
Erosion / Bank Caving	0.03		0.03	0.23	0.03	0.03	0.15	1.15		0.03	0.12	0.92
Crown Surface / Depressions / Rutting	0.07		0.07	0.54	0.07		0.07	0.54				0.00
Seepage / Sandboils												0.00
Flood Preparedness & Training					0.13		0.13	1.00	0.13		0.13	1.00
Interior Drainage & Piping Systems												
Flap Gates												0.00
Supplemental												
DWR Erosion Survey	0.04		0.04	0.31	0.04		0.04	0.31				0.00
DWR UCIP Field Study												0.00
LMA Totals:	1.07	0.01	1.11	8.50*	0.97	0.06	1.21	9.27*	-0.10	0.05	0.10	0.77

RD2058	Total LMA Miles		6.58									
Reclamation District No. 2058 Pescadero	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.09		0.09	1.37	0.02		0.02	0.30	-0.07		-0.07	-1.06
Trim / Thin Trees	0.01		0.01	0.15					-0.01		-0.01	-0.15
Erosion / Bank Caving		0.01	0.04	0.61		0.01	0.04	0.61				0.00
Supplemental												
DWR Erosion Survey	0.05		0.05	0.76	0.04		0.04	0.61	-0.01		-0.01	-0.15
DWR UCIP Field Study												0.00
LMA Totals:	0.15	0.01	0.19	2.89*	0.06	0.01	0.10	1.52*	-0.09	0.00	-0.09	-1.37

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**San Joaquin River Basin (cont.)**

RD2062	Total LMA Miles				12.14							
Reclamation District No. 2062 Stewart	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control	0.01		0.01	0.08	0.02		0.02	0.17	0.01		0.01	0.08
Erosion / Bank Caving	0.02		0.02	0.17	0.09		0.09	0.74	0.07		0.07	0.58
Supplemental												
DWR Erosion Survey	0.03	0.20	0.83	6.84	0.03	0.20	0.83	6.84		0.00		0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.06	0.20	0.86	7.08*	0.14	0.20	0.94	7.74*	0.08	0.00	0.08	0.66

RD2063	Total LMA Miles				10.44							
Reclamation District No. 2063 Crows Landing	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Trim / Thin Trees	0.02		0.02	0.19					-0.02		-0.02	-0.19
Encroachments	0.01		0.01	0.10					-0.01		-0.01	-0.10
Animal Control	0.01		0.01	0.10	0.01		0.01	0.10				0.00
Erosion / Bank Caving	0.05		0.05	0.48	0.05		0.05	0.48				0.00
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.09	0.00	0.09	0.86	0.06	0.00	0.06	0.58	-0.03	0.00	-0.03	-0.29

RD2064	Total LMA Miles				11.65							
Reclamation District No. 2064 River Junction	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	6.86		6.86	58.91	5.14		5.14	44.14	-1.72		-1.72	-14.77
Animal Control					0.01		0.01	0.09	0.01		0.01	0.09
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	6.86	0.00	6.86	58.91	5.15	0.00	5.15	44.22	-1.71	0.00	-1.71	-14.68

RD2075	Total LMA Miles				7.45							
Reclamation District No. 2075 McMullin	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.92		0.92	12.35	0.94	0.65	3.54	47.53	0.02	0.65	2.62	35.18
Supplemental												
DWR Erosion Survey	0.01		0.01	0.13	0.01		0.01	0.13				0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.93	0.00	0.93	12.49	0.95	0.65	3.55	47.66	0.02	0.65	2.62	35.18

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

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**San Joaquin River Basin (cont.)**

RD2085	Total LMA Miles		6.28									
Reclamation District No. 2085 Kasson	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		M *					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.28		0.28	4.46	0.01		0.01	0.16	-0.27		-0.27	-4.30
Animal Control					0.01		0.01	0.16	0.01		0.01	0.16
Slope Stability					0.02		0.02	0.32	0.02		0.02	0.32
Erosion / Bank Caving		0.02	0.08	1.27		0.02	0.08	1.27				0.00
Crown Surface / Depressions / Rutting					0.01		0.01	0.16	0.01		0.01	0.16
Supplemental												
DWR Erosion Survey	0.02		0.02	0.32	0.02		0.02	0.32				0.00
DWR UCIP Field Study												0.00
LMA Totals:	0.30	0.02	0.38	6.05*	0.07	0.02	0.15	2.39*	-0.23	0.00	-0.23	-3.66

RD2089	Total LMA Miles		2.86									
Reclamation District No. 2089 Stark	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		U					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	1.60	0.24	2.56	89.58	0.31	1.02	4.39	153.61	-1.29	0.78	1.83	64.03
Trim / Thin Trees		0.01	0.04	1.40		0.01	0.04	1.40				0.00
Encroachments	0.04		0.04	1.40	0.04		0.04	1.40				0.00
Animal Control	0.11	0.12	0.59	20.65	0.11	0.15	0.71	24.84		0.03	0.12	4.20
Slope Stability	0.14		0.14	4.90	0.13		0.13	4.55	-0.01		-0.01	-0.35
Erosion / Bank Caving					0.01		0.01	0.35	0.01		0.01	0.35
Crown Surface / Depressions / Rutting	0.05		0.05	1.75	0.06		0.06	2.10	0.01		0.01	0.35
Supplemental												
DWR Erosion Survey	0.03	0.01	0.07	2.45	0.04	0.01	0.08	2.80	0.01		0.01	0.35
DWR UCIP Field Study												0.00
LMA Totals:	1.97	0.38	3.49	122.12	0.70	1.19	5.46	191.05	-1.27	0.81	1.97	68.93

RD2091	Total LMA Miles		7.51									
Reclamation District No. 2091 Chase	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.04		0.04	0.51					-0.04		-0.04	-0.53
Trim / Thin Trees	0.09		0.09	1.16	0.02		0.02	0.27	-0.07		-0.07	-0.93
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.13	0.00	0.13	1.67	0.02	0.00	0.02	0.27	-0.11	0.00	-0.11	-1.46

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**Flood Control Project Maintenance  
Levee Inspections**

**Fall 2015 Levee Maintenance Deficiency Summary Report**

**Overall LMA Ratings, Compare 2014 & 2015**

**San Joaquin River Basin (cont.)**

RD2092	Total LMA Miles				3.71							
Reclamation District No. 2092 Dos Rios	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control					0.03		0.03	0.81	0.03		0.03	0.81
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.81	0.03	0.00	0.03	0.81

RD2094	Total LMA Miles				3.23							
Reclamation District No. 2094 Wathal	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

RD2095	Total LMA Miles				4.86							
Reclamation District No. 2095 Paradise Cut	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M *		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01	0.01	0.05	1.03	0.01		0.01	0.21		-0.01	-0.04	-0.82
Supplemental												
DWR Erosion Survey	0.10		0.10	2.06	0.07		0.07	1.44	-0.03		-0.03	-0.62
DWR UCIP Field Study												0.00
LMA Totals:	0.11	0.01	0.15	3.09*	0.08	0.00	0.08	1.65	-0.03	-0.01	-0.07	-1.44

RD2096	Total LMA Miles				0.16							
Reclamation District No. 2096 Wetherbee Lake	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		M		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Animal Control	0.03		0.03	18.21					-0.03		-0.03	-18.21
Slope Stability					0.01		0.01	6.07	0.01		0.01	6.07
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.03	0.00	0.03	18.21	0.01	0.00	0.01	6.07	-0.02	0.00	-0.02	-12.14

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.



**Flood Control Project Maintenance  
Levee Inspections**

**Fall 2015 Levee Maintenance Deficiency Summary Report**

**Overall LMA Ratings, Compare 2014 & 2015**

**San Joaquin River Basin (cont.)**

RD2101	Total LMA Miles				3.46							
Reclamation District No. 2101 Blewett	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		U		Overall LMA Rating		M					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.01		0.01	0.29					-0.01		-0.01	-0.29
Trim / Thin Trees	0.01		0.01	0.29	0.01		0.01	0.29				0.00
Animal Control	0.25	0.03	0.37	10.71	0.02	0.02	0.10	2.89	-0.23	-0.01	-0.27	-7.81
Erosion / Bank Caving	0.01		0.01	0.29	0.01		0.01	0.29				0.00
Supplemental												
DWR Erosion Survey		0.10	0.40	11.57		0.08	0.32	9.26		-0.02	-0.08	-2.31
DWR UCIP Field Study												0.00
LMA Totals:	0.28	0.13	0.80	23.15	0.04	0.10	0.44	12.73	-0.24	-0.03	-0.36	-10.42

RD2107	Total LMA Miles		4.15									
Reclamation District No. 2107 Mossdale Island	Fall 2014				Fall 2015				Change			
	Overall LMA Rating		A		Overall LMA Rating		A					
Rated Item	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %	M Miles	U Miles	M+4U Miles	Thresh. %
Earthen Levee												
Vegetation	0.02		0.02	0.48	0.02		0.02	0.48				0.00
Trim / Thin Trees					0.01		0.01	0.24	0.01		0.01	0.24
Slope Stability					0.02		0.02	0.48	0.02		0.02	0.48
Supplemental												
DWR UCIP Field Study												0.00
LMA Totals:	0.02	0.00	0.02	0.48	0.05	0.00	0.05	1.20	0.03	0.00	0.03	0.72

\* Overall LMA Threshold Percent is less than 10.00%; however, U Rated Miles are present, so the Overall LMA Rating is M instead of A.

**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

**Adin Community Service District**

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**Ash Creek**

Overall Unit Rating	Rated Item	Item Rating
A	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

**Dry Creek**

Overall Unit Rating	Rated Item	Item Rating
A	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	N
	Encroachments	A

**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

## DWR Sutter Maintenance Yard

### Big Chico Creek

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

### Lindo Channel & Sandy Gulch

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

### Little Chico Creek

Overall Unit Rating	Rated Item	Item Rating
<b>M *</b>	Vegetation & Obstructions	M *
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

\* Overall channel rating average is less than 0.2, however, U rated issues are present, so the overall rating is M instead of A.

**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

## Fairfield Suisun Sewer District

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### Laurel Creek

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

### Ledgewood Creek

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

### McCoy Creek

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

### Union Avenue Diversion

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

## Madera County FCWCA

### Ash Slough

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	N
	Encroachments	A

### Berenda Slough

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	M
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

### Chowchilla River

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	N
	Encroachments	M

### Fresno River

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	M
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	M
	Encroachments	A

**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

## Merced Streams Group

### Bear Creek

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	M
	Erosion / Bank Caving	M
	Revetments & Other Structural Appurtenances	M
	Encroachments	A

### Black Rascal Creek

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	U
	Shoaling / Sedimentation	M
	Erosion / Bank Caving	M
	Revetments & Other Structural Appurtenances	M
	Encroachments	A

### Burns Creek

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	N
	Encroachments	A

### Mariposa Creek & Duck Slough

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	U
	Shoaling / Sedimentation	M
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	N
	Encroachments	M

### Miles Creek

Overall Unit Rating	Rated Item	Item Rating
<b>M *</b>	Vegetation & Obstructions	M *
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

\* Overall channel rating average is less than 0.2, however, U rated issues are present, so the overall rating is M instead of A.

**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

**Merced Streams Group (cont.)**

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**Owens Creek**

Overall Unit Rating	Rated Item	Item Rating
A	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	M



**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

## Placer County

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### Truckee River

Overall Unit Rating	Rated Item	Item Rating
A	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

## San Joaquin County Flood Control and Water Conservation District

### Duck Creek Diversion Channel

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

### North Littlejohn Creek

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

### South Littlejohn Creek

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	M
	Revetments & Other Structural Appurtenances	A
	Encroachments	M

### South Littlejohn Creek North Branch

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	M
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

**Flood Control Project Maintenance**  
**2015 Channel Summary Report**  
**Overall Unit and Item Ratings**

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**Tehama County Flood Control and Water Conservation District**

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**McClure Creek**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	M
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	N
	Encroachments	M

**Salt Creek**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments & Other Structural Appurtenances	A
	Encroachments	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Butte County Department of Public Works**

**Big Chico Creek Diversion Structure**

Overall Unit Rating	Rated Item	Item Rating
A	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Butte County Department of Public Works (cont.)**

**Lindo Channel Control Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	M
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	M
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Butte County Department of Public Works (cont.)**

**Lindo Channel Diversion Weir**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**City of Sacramento**

**El Camino Avenue Bridge**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A



**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

## DWR Sacramento Maintenance Yard

### Cache Creek Settling Basin Weir And Drainage Structure

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	A
	Flap Gates	A
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	N
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sacramento Maintenance Yard (cont.)**

**Fremont Weir**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

## DWR Sacramento Maintenance Yard (cont.)

### Knights Landing Outfall Structure

Overall Unit Rating	Rated Item	Item Rating
A	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	N
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	A
	Sluice/Slide Gates	A
	Electric Gate Operators	A
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	N
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sacramento Maintenance Yard (cont.)**

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**Paradise Dam**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	N
	Concrete Tilting / Settlement	N
	Concrete Foundations	N
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	M
	Operation & Maintenance Manual	U

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sacramento Maintenance Yard (cont.)**

**Sacramento Weir**

Overall Unit Rating	Rated Item	Item Rating
A	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	N
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	N
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

## DWR Sutter Maintenance Yard

### Butte Slough Drainage Structure

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	M
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	A
	Trash Racks	N
	Flap Gates	A
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	N
	Concrete Tilting / Settlement	N
	Concrete Foundations	N
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Butte Slough Outfall Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A



**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Colusa Weir**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Goose Lake Overflow Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	U

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Highland Canal Diversion Weir And Drainage Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	N
	Encroachments	M
	Culverts: Inlets / Outlets	M
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	A
	Trash Racks	N
	Flap Gates	M
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Little Chico Creek Control And Weir Structures**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	M
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**M&T Ranch Overflow Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	M
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Moulton Weir**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Nelson Bend**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	N
	Concrete Tilting / Settlement	N
	Concrete Foundations	N
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A



**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Sutter Bypass Weir No. 2**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	A
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Tisdale Weir**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Wadsworth Canal Weir No. 4**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	M
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

## Lake County Watershed Protection District

### Clover Creek Diversion Structure

Overall Unit Rating	Rated Item	Item Rating
A	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	N
	Encroachments	A
	Culverts: Inlets / Outlets	M
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	A
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District**

**Ash Slough Drop Structure No. 1**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	M
	Revetments	M
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Ash Slough Drop Structure No. 2**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	M
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	M
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Ash Slough Drop Structure No. 3**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A



**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Ash Slough Drop Structure No. 4**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	M
	Encroachments	U
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Bear Creek Diversion Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	M
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	A
	Manual Gate Operators	A
	Concrete Surfaces	M
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Eastside Bypass Control Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	A
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	A
	Safety	M
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Eastside Bypass Drop Structure No. 1**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	M
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	M
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Eastside Bypass Drop Structure No. 2**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	M
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Fresno River Drainage Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	A
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	M
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	M
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Mariposa Bypass Control Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	A
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	A
	Manual Gate Operators	M
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A



**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Mariposa Bypass Drop Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Owens Creek Control Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	M
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	M
	Concrete Tilting / Settlement	M
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	M
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**Owens Creek Overflow Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**San Joaquin River And Chowchilla Canal Bypass Control Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	A
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	A
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Lower San Joaquin Levee District (cont.)**

**San Joaquin River Structure And Sand Slough Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	M
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	M
	Concrete Surfaces	M
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	M
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Madera County FCWCA**

**Ash And Berenda Slough Control Structures**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	A
	Safety	M
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Madera County FCWCA (cont.)**

**Fresno River Diversion Weir**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	M
	Shoaling / Sedimentation	M
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	U
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A



**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Merced Streams Group**

**Black Rascal Creek Drop Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	M
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	M
	Revetments	N
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Merced Streams Group (cont.)**

**Owens Creek Siphon Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	N
	Encroachments	A
	Culverts: Inlets / Outlets	M
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Reclamation District No. 0999 Netherlands**

**Elk Slough Inlet Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	M
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Plumas County**

**North Fork Feather River Diversion Channel Drop Structure No. 1**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Plumas County (cont.)**

**North Fork Feather River Diversion Channel Drop Structure No. 2**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Plumas County (cont.)**

**North Fork Feather River Diversion Channel Drop Structure No. 3**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Plumas County (cont.)**

**North Fork Feather River Diversion Channel Drop Structure No. 4**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A



**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Plumas County (cont.)**

**North Fork Feather River Diversion Channel Drop Structure No. 5**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Plumas County (cont.)**

**North Fork Feather River Diversion Channel Drop Structure No. 6**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Plumas County (cont.)**

**North Fork Feather River Diversion Channel Drop Structure No. 7**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	N
	Culverts: Breaks / Holes / Cracks	N
	Metal Pipes	N
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	N
	Electric Gate Operators	N
	Manual Gate Operators	N
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	N
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Plumas County (cont.)**

**North Fork Feather River Diversion Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	N
	Trash Racks	A
	Flap Gates	N
	Sluice/Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	A
	Trash Rakes	N
	Other Metallic Items	N
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

**Sacramento County**

**Mayhew Drain Closure Structure**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	N
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	A
	Trash Racks	N
	Flap Gates	M
	Sluice/Slide Gates	A
	Electric Gate Operators	A
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	A
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	U

**Flood Control Project Maintenance**  
**2015 Structure Summary Report**  
**Overall Unit and Item Ratings**

## San Joaquin County Flood Control and Water Conservation District

### Duck Creek Diversion Weir And Control Structure

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Photo Documentation	N
	Vegetation & Obstructions	A
	Shoaling / Sedimentation	A
	Erosion / Bank Caving	A
	Revetments	A
	Encroachments	A
	Culverts: Inlets / Outlets	A
	Culverts: Breaks / Holes / Cracks	A
	Metal Pipes	A
	Trash Racks	N
	Flap Gates	N
	Sluice/Slide Gates	M
	Electric Gate Operators	N
	Manual Gate Operators	A
	Concrete Surfaces	A
	Concrete Tilting / Settlement	A
	Concrete Foundations	A
	Security Fencing	N
	Closure Structures	N
	Trash Rakes	N
	Other Metallic Items	A
	Monolith Joints	A
	Safety	A
	Operation & Maintenance Manual	A

**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

**City of Sacramento**

**Magpie Creek Pumping Plant**

Overall Unit Rating	Rated Item	Item Rating
A	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	A
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A



**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

## Reclamation District No. 2063 Crows Landing

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### Lateral No. 6 Pumping Plant

Overall Unit Rating	Rated Item	Item Rating
A	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	N
	Intake and Discharge Pipes	A

**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard**

**Middle Creek Pumping Plant**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	M
	Communications	A
	Safety	A
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	N
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	N
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A

**Sutter Bypass Pumping Plant No. 1**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	M
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A

**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

**DWR Sutter Maintenance Yard (cont.)**

**Sutter Bypass Pumping Plant No. 2**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A

**Sutter Bypass Pumping Plant No. 3**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A

**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

**Turlock Irrigation District Gomes Lake**

**Gomes Lake Pumping Plant**

Overall Unit Rating	Rated Item	Item Rating
A	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	A
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A

**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

**Sacramento County**

**American River Pumping Plant No. 1 Howe Avenue Storm Drain D - 05**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	A
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	A
	Sluice / Slide Gates	A
	Electric Gate Operators	A
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A

**American River Pumping Plant No. 2 Willhaggin Storm Drain D - 43**

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	A
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	A
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A

**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

## San Joaquin County Flood Control and Water Conservation District

### Mormon Slough Pumping Plant No. 1

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	M
	Intake and Discharge Pipes	A

### Mormon Slough Pumping Plant No. 2

Overall Unit Rating	Rated Item	Item Rating
<b>A</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A

**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

## San Joaquin County Flood Control and Water Conservation District (cont.)

### Mormon Slough Pumping Plant No. 3

Overall Unit Rating	Rated Item	Item Rating
A	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	A
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	A
	Trash Rakes	N
	Sluice / Slide Gates	A
	Electric Gate Operators	N
	Manual Gate Operators	A
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	N
	Security Fencing	A
	Intake and Discharge Pipes	A



**Flood Control Project Maintenance**  
**2015 Pumping Plant Summary Report**  
**Overall Unit and Item Ratings**

**Reclamation District No. 2096 Wetherbee Lake**

**Wetherbee Lake Pumping Plant & Navigation Gate**

Overall Unit Rating	Rated Item	Item Rating
<b>M</b>	Operating Log	A
	Operation & Maintenance Manual	A
	Plant Building	A
	Communications	A
	Safety	M
	Cranes	N
	Pumps	A
	Power	A
	Motors, Engines, Fans & Gear Reducers	A
	Pump Control Systems	A
	Sumps/Wet Well	A
	Trash Racks	M
	Trash Rakes	N
	Sluice / Slide Gates	N
	Electric Gate Operators	A
	Manual Gate Operators	U
	Other Metallic Items	A
	Flap Gates	A
	Closure Structures	A
	Security Fencing	A
	Intake and Discharge Pipes	A

LMA: **NA0011 U02 Madera County FC** Waterway: **RB Ash Slough**  
 Site ID: **NA0011U02RM2.57** Status: **Existing Site**

Latitude: **37.055596** Longitude: **-120.412647** River\_Mile: **2.57** Levee\_Mile: **1.15** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>460</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>14</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>Leaning &amp; visible roots</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>8.9</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>Migration opposite bank</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>5</b>	x2 <b>10</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>2</b>	x3 <b>6</b>

**Total Score (out of 265): 172 Normalized Score (out of 100%): 65**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>3</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Undermining</b>	Survey Date:	<b>9/3/2015</b>

**Comments:**

09/08/2015: No significant change observed.  
 07/22/2014: No significant change observed.  
 08/30/2013: No significant change observed.  
 07/31/2012: Site was visited on 07/24/2012. No significant change observed. Dense vegetation around the site  
 08/09/2011: Site was inspected. No visible change was observed from the previous condition. A fallen tree was seen at the levee toe about 20 feet upstream, and tree root exposed. There has been no report from the district that this site was corrected.  
 11/30/2010: Site was not inspected due to time constraints. There have been no reports from the district that the site was corrected. Continue to monitor site during flood events.  
 08/05/2010: Recommended for annual assessment and monitoring during flood events, per CLRO.  
 2009: Site is recommended as a local maintenance issue, per Critical Levee Repair Office, Critical Erosion Sites Evaluation 2008 Report; site was previously rated "M"  
 9/6/2007: Undercutting of the toe; several trees along the WS slope with roots exposed.



View of the erosion site from the levee crest.



Close view of the site.



Debris at the site.



Close view of the site with the dead tree.

LMA: **NA0013 U02 Merced Streams Gr** Waterway: **LB Black Rascal Diversio**  
 Site ID: **NA0013U02RM1.31** Status: **Repaired Site**

Latitude: **37.322615** Longitude: **-120.395948** River\_Mile: **1.31** Levee\_Mile: **1.31** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>12</b>	WS Berm Width (ft):	<b>23</b>
Crest Width (ft):	<b>18</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clays and Gravels</b>	Bank Soil Type:	<b>Silty Sand and Sandy Silt</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>Dense</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>3:1 or greater</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>No caving</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0** Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Cracking</b>	Survey Date:	<b>9/3/2015</b>

**Comments:**

09/03/2015: The ersion site has been repaired, and vegetation has been removed. Minor erosion is still visible at the lower bank slope near the discharge structure.  
 7/31/2014: Soil has been added near the site and more vegetation is visible.  
 7/16/2013: The site was reported in the 2013 Spring Levee Inspection Reports. The erosion was caused by the water from the discharge line crossing the levee. Above the erosion a concrete discharge structure is present at the levee toe. The site is covered with dense vegetation.



Looking at the repaired erosion site.



The erosion site has been repaired and vegetation has been removed.



The erosion site has been repaired but a minor erosion at the lower bank slope is still visible.



Close view of the minor erosion at the lower bank slope.



LMA: **NA0017 U15 San Joaquin Count** Waterway: **RB Mormon Slough**  
 Site ID: **NA0017U15RM13.87** Status: **Existing Site**

Latitude: **37.96806** Longitude: **-121.123299** River\_Mile: **13.87** Levee\_Mile: **8.94** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>90</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>45</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Good, covers entire slo</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>Slight to Medium</b>
Levee Slope (H:V):	<b>2:1</b>	Bank Slope (H:V):	<b>2.0:1</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>5</b>	x3 <b>15</b>	Bank Slope Veg.:	<b>3</b>	x3 <b>9</b>
Levee Slope (H:V):	<b>2</b>	x4 <b>8</b>	Bank Slope (H:V):	<b>2</b>	x4 <b>8</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **107** Normalized Score (out of 100%): **40**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: Both ends of the erosion site are protected by riprap.



View of the site from the left river bank.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.

LMA: **NA0017 U15 San Joaquin Count** Waterway: **RB Mormon Slough**  
 Site ID: **NA0017U15RM14.49** Status: **Existing Site**

Latitude: **37.969711** Longitude: **-121.116739** River\_Mile: **14.49** Levee\_Mile: **8.43** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>8</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>20</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Good, covers bottom 1/2</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>Medium to Dense</b>
Levee Slope (H:V):	<b>2.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Entire slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>1</b>	x4 <b>4</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>1</b>	x3 <b>3</b>
Levee Slope (H:V):	<b>1</b>	x4 <b>4</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>2</b>	x2 <b>4</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>5</b>	x2 <b>10</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **133** Normalized Score (out of 100%): **50**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>15</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Runoff</b>
Erosion Indicator:	<b>Caving</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed. More vegetation is observed at the site.  
 8/20/2014: No significant change observed.  
 09/12/2013: The erosion has been caused by runoff.



Looking down at the erosion from the levee crest.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.



LMA: **NA0017 U15 San Joaquin Count** Waterway: **RB Mormon Slough**  
 Site ID: **NA0017U15RM22.91** Status: **Existing Site**

Latitude: **38.045818** Longitude: **-121.023955** River\_Mile: **22.91** Levee\_Mile: **0.86** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>4800</b>	WS Berm Width (ft):	<b>10</b>
Crest Width (ft):	<b>12</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Dense</b>	Bank Slope Veg.:	<b>Dense</b>
Levee Slope (H:V):	<b>2:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Frequent &gt;1/2 Slope</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	5	x3 15	WS Berm Width (ft):	4	x3 12
Crest Width (ft):	3	x4 12	WS Burrow Activity:	5	x2 10
Levee Soil Type:	2	x4 8	Bank Soil Type:	2	x4 8
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	0	x3 0	Bank Slope Veg.:	0	x3 0
Levee Slope (H:V):	2	x4 8	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	0	x2 0	Bank Condition:	0	x2 0
Location of Erosion:	1	x2 2	Tree Hazard:	0	x2 0
Site Relative to Bend:	1	x1 1	Radius of Curvature:	0	x1 0
Max Tidal (ft):	0	x2 0	Geomorphologic:	0	x3 0

Total Score (out of 265): **136** Normalized Score (out of 100%): **51**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change has been observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: Site has been revisited. No significant change observed.  
 09/02/2011: No significant change observed on site.  
 11/02/2010: No significant change observed. The mile-long erosion continues to degrade the bank. There are a few trees along the mile-long stretch on the lower bank slope that are affected by the scarp. WS Levee Slope was changed to 2:1. As a result, normalized score increased from 62 to 65.  
 08/05/2010: Recommended for waterside repair, per CLRO; "water velocity is a major factor for accelerating bank slope erosion."  
 8/12/2009: Near-vertical bank erosion; degrading channel is incising the banks; recommend annual assessment and monitoring of critical erosion site, per CLRO CES Evaluation 2008 Report; district is monitoring site for change in condition; site was previously rated "U".  
 2007: Visited site 02/06/2007; possible critical site.



Downstream view of the site.



Close view of the erosion. Note the dense vegetation and tree on site.



Close view of the erosion site. Small trees grow at the lower slope of the bank.



Looking down at the site.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM12.95** Status: **Existing Site**

Latitude: **37.964735** Longitude: **-121.142503** River\_Mile: **12.95** Levee\_Mile: **10.17** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>100</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **152** Normalized Score (out of 100%): **57**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: Dense vegetation on site. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Upstream view of the site from the right river bank.



Close view of the erosion.



Closer view of the erosion.



Front view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM13.53** Status: **Existing Site**

Latitude: **37.966772** Longitude: **-121.133071** River\_Mile: **13.53** Levee\_Mile: **9.59** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>120</b>	WS Berm Width (ft):	<b>6</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Dense</b>	Bank Slope Veg.:	<b>Dense</b>
Levee Slope (H:V):	<b>2.5:1</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>4</b>	x3 <b>12</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>1</b>	x4 <b>4</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **105** Normalized Score (out of 100%): **40**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>15</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: The erosion is on berm. The berm width is estimated. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Upstream view of the erosion.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM13.72** Status: **Existing Site**

Latitude: **37.966922** Longitude: **-121.129533** River\_Mile: **13.72** Levee\_Mile: **9.4** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>80</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>1</b>	x3 <b>3</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>2</b>	x2 <b>4</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **155** Normalized Score (out of 100%): **58**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: The erosion is covered with dense vegetation. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Upstream view of the erosion.



Close view of the erosion.



Close view of the erosion.



Front view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM13.85** Status: **Existing Site**

Latitude: **37.966661** Longitude: **-121.127864** River\_Mile: **13.85** Levee\_Mile: **9.07** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>25</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Frequent &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Entire slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>4</b>	x2 <b>8</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>5</b>	x2 <b>10</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 168 Normalized Score (out of 100%): 63**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>20</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: The erosion might have been caused by river flow combined with runoff. Dense vegetation is presents at the site. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



View of the site from the right river bank.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM13.86** Status: **Existing Site**

Latitude: **37.966615** Longitude: **-121.127328** River\_Mile: **13.86** Levee\_Mile: **8.99** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>12</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>2:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>2</b>	x4 <b>8</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **152** Normalized Score (out of 100%): **57**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: Pocket erosion at the levee toe and slope. The erosion is covered with dense vegetation. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of the erosion.



Close view of the erosion.



Closer view of the erosion.



Closer view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM14.48** Status: **Existing Site**

Latitude: **37.969213** Longitude: **-121.116574** River\_Mile: **14.48** Levee\_Mile: **8.63** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>200</b>	WS Berm Width (ft):	<b>25</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>2:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>1</b>	x3 <b>3</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>2</b>	x4 <b>8</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **119** Normalized Score (out of 100%): **45**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: The erosion occurred on a berm of approximately 25 ft. wide. Site is covered with dense vegetation. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



View of the site from the right river bank.



Front view of the erosion.



Close view of the erosion.



Closer view of the erosion.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM15.57** Status: **Existing Site**

Latitude: **37.978194** Longitude: **-121.101696** River\_Mile: **15.57** Levee\_Mile: **7.38** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>300</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	<u>Score:</u>	<u>Weighted Score:</u>		<u>Score:</u>	<u>Weighted Score:</u>
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **175** **Normalized Score (out of 100%):** **66**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed. Note the site ID changed from NA0017U16RM10.82 to NA0017U16RM15.57 to reflect the correct river mile.  
 09/12/2013: The site is located at immediately downstream of a levee segment protected by broken concrete. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



View of the site from the right river bank.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM16.27** Status: **Existing Site**

Latitude: **37.983279** Longitude: **-121.090843** River\_Mile: **16.27** Levee\_Mile: **6.81** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>1000</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>3</b>	x3 <b>9</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 180 Normalized Score (out of 100%): 68**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>25</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: Site has been surveyed and the erosion has worsened since last year.  
 08/22/2012: Discontinuous scarp or pocket erosions occurred along a long stretch of the river, with an erosion height greater than 25 ft. at certain points. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Downstream view of the site from the right river bank.



Closer view of the erosion.



Front view of the erosion.



Close view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM17.11** Status: **Existing Site**

Latitude: **37.993525** Longitude: **-121.081679** River\_Mile: **17.11** Levee\_Mile: **5.71** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>60</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>45</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Good, covers entire slo</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>Medium</b>
Levee Slope (H:V):	<b>2:1</b>	Bank Slope (H:V):	<b>2.0:1</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Scattered &gt;1/2 Slope</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>5</b>	x3 <b>15</b>	Bank Slope Veg.:	<b>2</b>	x3 <b>6</b>
Levee Slope (H:V):	<b>2</b>	x4 <b>8</b>	Bank Slope (H:V):	<b>2</b>	x4 <b>8</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>2</b>	x2 <b>4</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **98** Normalized Score (out of 100%): **37**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Slide</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: The erosion is near a tree and probably has been made worse by the unstable bank slope.



View of the site from the right river bank.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM17.27** Status: **Existing Site**

Latitude: **37.995216** Longitude: **-121.080159** River\_Mile: **17.27** Levee\_Mile: **5.56** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>120</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>2:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Frequent &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>1</b>	x3 <b>3</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>2</b>	x4 <b>8</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>3</b>	x2 <b>6</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 164** **Normalized Score (out of 100%): 62**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: The erosion seems to be caused by high river flow. Dense vegetation is present at the site. Signs of animal activities are visible. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



View from the right river bank.



View from the right river bank.



Close view of the erosion.



Close view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM17.81** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**37.99772 -121.077807 17.81 5.54 M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>250</b>	WS Berm Width (ft):	<b>3</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>Medium</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>2</b>	x3 <b>6</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 138 Normalized Score (out of 100%): 52**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: The site is located at the opposite river bank of E. Tobacco Road. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Upstream view of the site.



Front view of the site.



Closer view of the erosion.



Close view of the erosion.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM17.99** Status: **Existing Site**

Latitude: **38.003624** Longitude: **-121.072585** River\_Mile: **17.99** Levee\_Mile: **5.03** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>12</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Entire slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	<u>Score:</u>	<u>Weighted Score:</u>		<u>Score:</u>	<u>Weighted Score:</u>
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>4</b>	x4 <b>16</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>5</b>	x2 <b>10</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 187 Normalized Score (out of 100%): 71**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: Site has been surveyed and the pocket erosion has developed toward levee crest.  
 08/22/2012: A pocket erosion at the levee toe and on lower slope. The levee surface at the upper slope also shows signs of erosion due to poor maintenance. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



View from right river bank.



Close view of the erosion.



A close view of the erosion.



Close view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM18.69** Status: **Existing Site**

Latitude: **38.012792** Longitude: **-121.068073** River\_Mile: **18.69** Levee\_Mile: **4.33** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>110</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Frequent &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>1</b>	x3 <b>3</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>4</b>	x4 <b>16</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>3</b>	x2 <b>6</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **166** **Normalized Score (out of 100%):** **63**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>20</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: An irrigation pipe is present at the site, but probably did not cause the erosion. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



View of the erosion site.



Front view of the erosion.



Closer view of the erosion.



Closer view of the erosion.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM19.18** Status: **Existing Site**

Latitude: **38.017715** Longitude: **-121.065011** River\_Mile: **19.18** Levee\_Mile: **3.9** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>100</b>	WS Berm Width (ft):	<b>6</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>2:1</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>4</b>	x3 <b>12</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>2</b>	x4 <b>8</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **135** Normalized Score (out of 100%): **51**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: River-induced erosion occurred on the berm, while the runoff-induced erosion occurred on the levee slope. Site is covered with vegetation. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



View of the site from right river bank.



Closer view of the erosion.



Front view of the erosion at the berm.



Closer view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM19.23** Status: **Repaired Site**

Latitude: **38.018449** Longitude: **-121.06412** River\_Mile: **19.23** Levee\_Mile: **3.84** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>50</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Entire slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0**

Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: This site was repaired prior to this survey.  
 08/22/2012: The erosion is covered with grass and shrubs. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of repaired site.



Front view of repaired site.



A closer view of the repaired site.



Close view of the repaired site.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM19.28** Status: **Repaired Site**

Latitude: **38.018902** Longitude: **-121.063658** River\_Mile: **19.28** Levee\_Mile: **3.78** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>12</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>Medium to Dense</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Entire slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 0 Normalized Score (out of 100%):**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed. Slightly more vegetation is observed at the site.  
 8/20/2014: No significant change observed.  
 9/12/2013: This site has been repaired prior to this survey, but new erosion has developed immediately downstream of the site.  
 08/22/2012: Tow large-size pocket erosions. Site is covered with dense vegetation. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



View of the repaired site.



View of the repaired site.



Front view of the repaired erosion.



A closer view of the site. Note the pocket erosion immediately next to the repaired site.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM19.29** Status: **Existing Site**

Latitude: **38.019642** Longitude: **-121.062917** River\_Mile: **19.29** Levee\_Mile: **3.61** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>25</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>45</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Good, covers entire slo</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>Medium</b>
Levee Slope (H:V):	<b>2.5:1</b>	Bank Slope (H:V):	<b>2.0:1</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Scattered &lt;1/2 Slope</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>5</b>	x3 <b>15</b>	Bank Slope Veg.:	<b>2</b>	x3 <b>6</b>
Levee Slope (H:V):	<b>1</b>	x4 <b>4</b>	Bank Slope (H:V):	<b>2</b>	x4 <b>8</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **92** Normalized Score (out of 100%): **35**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: A pocket erosion was found near the water's edge.



View of the site from the right river bank.



Close view of the erosion.



Close view of the erosion. Note the dense vegetation.



View of the site.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM20** Status: **Existing Site**

Latitude: **38.02667** Longitude: **-121.053031** River\_Mile: **20.00** Levee\_Mile: **3.03** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>300</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>4</b>	x4 <b>16</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 178** **Normalized Score (out of 100%): 67**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>20</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: Site Comprised of series of pocket and scarp erosions. Some of erosions are covered by grass or shrubs. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of the erosion.



Front view of the erosion.



Close view of the erosion.



Close view of the scarp erosion. Note the small tree at the erosion site.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM20.62** Status: **Existing Site**

Latitude: **38.032202** Longitude: **-121.045226** River\_Mile: **20.62** Levee\_Mile: **2.37** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>50</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Frequent &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>4</b>	x4 <b>16</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>3</b>	x2 <b>6</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 169 Normalized Score (out of 100%): 64**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>7</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change has been observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: The erosion was first reported in the 2012 spring levee inspection report. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of the site.



Close view of the erosion. Note the vegetation at the site.



Close view of the erosion.



Close view of the site.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM20.71** Status: **Existing Site**

Latitude: **38.033072** Longitude: **-121.04497** River\_Mile: **20.71** Levee\_Mile: **2.31** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>40</b>	WS Berm Width (ft):	<b>3</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>Slight to Medium</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>3</b>	x3 <b>9</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **138** Normalized Score (out of 100%): **52**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: Site is covered with dense vegetation. There is no levee structure on site.  
 The levee crest width and levee height were not measured or estimated in the field.



Front view of the site.



Front view of the erosion. Site is covered with vegetation and trees.



Closer view of the erosion.



Front view of the site.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM21.05** Status: **Existing Site**

Latitude: **38.036549** Longitude: **-121.040302** River\_Mile: **21.05** Levee\_Mile: **1.94** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>100</b>	WS Berm Width (ft):	<b>5</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>Slight to Medium</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Scattered &gt;1/2 Slope</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>3</b>	x3 <b>9</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>2</b>	x2 <b>4</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **134** Normalized Score (out of 100%): **51**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: Berm width is estimated as 5 ft. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of the erosion



Close view of the erosion.



Front view of the erosion.



Close view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM21.94** Status: **Existing Site**

Latitude: **38.037906** Longitude: **-121.038949** River\_Mile: **21.94** Levee\_Mile: **1.77** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>40</b>	WS Berm Width (ft):	<b>3</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>Medium to Dense</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>1</b>	x3 <b>3</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **132** Normalized Score (out of 100%): **50**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed  
 9/12/2013: No significant change observed.  
 08/22/2012: Site is covered by dense vegetation. Berm width is estimated as 5 ft. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Looking at the erosion from right river bank.



Front view of the erosion.



Front view of the erosion.



Close view of the erosion. Note the dense vegetation.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM21.95** Status: **Existing Site**

Latitude: **38.03808** Longitude: **-121.038676** River\_Mile: **21.95** Levee\_Mile: **1.75** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>30</b>	WS Berm Width (ft):	<b>5</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>Medium</b>
Levee Slope (H:V):	<b>1.5:1</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Scattered &gt;1/2 Slope</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>2</b>	x3 <b>6</b>
Levee Slope (H:V):	<b>3</b>	x4 <b>12</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>2</b>	x2 <b>4</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **125** Normalized Score (out of 100%): **47**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: The erosion is covered by dense vegetation. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of the erosion site.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM22.01** Status: **Existing Site**

Latitude: **38.03911** Longitude: **-121.03784** River\_Mile: **22.01** Levee\_Mile: **1.74** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>50</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>1</b>	x3 <b>3</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>4</b>	x4 <b>16</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>2</b>	x2 <b>4</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **163** **Normalized Score (out of 100%):** **62**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: Site is covered with dense vegetation. A scarp erosion is adjacent to a pocket erosion at the downstream. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of the erosion site from the left river bank.



Front view of the pocket erosion.



Close view of the pocket erosion.



Close view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM22.15** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**38.038751 -121.037347 22.15 1.59 M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>25</b>	WS Berm Width (ft):	<b>10</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>4</b>	x3 <b>12</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>4</b>	x4 <b>16</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>5</b>	x1 <b>5</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 153 Normalized Score (out of 100%): 58**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: The berm is estimated at 10 ft. Dense vegetation on site. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of the erosion.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM22.58** Status: **Existing Site**

Latitude: **38.040757** Longitude: **-121.027786** River\_Mile: **22.58** Levee\_Mile: **1.13** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>20</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clays and Gravels</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>

Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>Large trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>15.9</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>1</b>	x4 <b>4</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>4</b>	x4 <b>16</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>3</b>	x2 <b>6</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **167** Normalized Score (out of 100%): **63**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Loose Soil</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 9/12/2013: No significant change observed.  
 08/22/2012: The erosion is at the outside corner of a river bend, and next to a tree at the levee toe. Irrigation structure presents at the site. There is no levee structure on site. The levee crest width and levee height were not measured or estimated in the field.



Front view of the erosion. The erosion is next to a tree at the levee toe.



Front view of the erosion.



Front view of the erosion and broken concrete protection on the levee slope.



Closer view of the erosion.



LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM22.74** Status: **Existing Site**

Latitude: **38.042833** Longitude: **-121.025776** River\_Mile: **22.74** Levee\_Mile: **0.98** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>100</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor condition or n</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>1:1 or less</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	<u>Score:</u>	<u>Weighted Score:</u>		<u>Score:</u>	<u>Weighted Score:</u>
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>4</b>	x4 <b>16</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 157 Normalized Score (out of 100%): 59**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/12/2015</b>

**Comments:**

8/12/2015: No significant change observed.  
 8/20/2014: No significant change observed.  
 09/12/2013: No significant change observed.  
 08/22/2012: The erosion was surveyed and documented for monitoring purpose. There is no levee structure on the site, only high ground protecting the land behind. The levee crest width and levee height were not measured or estimated in the field.  
 There is a drainage pipe at the site, which might have caused the problem at one pocket erosion.



View of the site from right river bank.



Close view of the erosion.



Close view of the erosion. Note the drainage pipe at the site.



Close view of the site.

LMA: **NA0017 U16 San Joaquin Count** Waterway: **LB Mormon Slough**  
 Site ID: **NA0017U16RM23.35** Status: **Existing Site**

Latitude: **38.048159** Longitude: **-121.016427** River\_Mile: **23.35** Levee\_Mile: **0.3** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft): **1900** WS Berm Width (ft): **0**  
 Crest Width (ft): **30** Burrow Activity: **No signs of activity**  
 Levee Soil Type: **Clayey Sand** Bank Soil Type: **Silts and Clean Sands**  
 Levee Revetment: **Very poor or none** Bank Revetment: **Very poor or none**  
 Levee Slope Veg.: **Slight to Medium** Bank Slope Veg.: **No vegetation**  
 Levee Slope (H:V): **1:1 or less** Bank Slope (H:V): **Near vertical**

Levee Slope Condition: **Very deteriorated** Bank Condition: **Very deteriorated**  
 Location of Erosion: **Entire slope** Tree Hazard: **Young trees**  
 Site Relative to Bend: **Straight Reach** Radius of Curvature:  
 Max Tidal (ft): **Less than 1.0 ft** Geomorphologic: **Migration erosion side**

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	5	x3 15	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	0	x4 0	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	5	x4 20
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	3	x3 9	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	4	x4 16	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	5	x2 10	Bank Condition:	5	x2 10
Location of Erosion:	5	x2 10	Tree Hazard:	1	x2 2
Site Relative to Bend:	1	x1 1	Radius of Curvature:	0	x1 0
Max Tidal (ft):	0	x2 0	Geomorphologic:	3	x3 9

Total Score (out of 265): **200** Normalized Score (out of 100%): **75**

**III. Misc**

Crown Type: **Earthen** Scarp Height (ft): **25**  
 Bank Protection Type: **None** Cause of Erosion: **River Induced**  
 Erosion Indicator: **Scarp** Survey Date: **8/12/2015**

**Comments:**

8/12/2015: The erosion progressed at the site. Newly collapsed material is observed at the bottom of the erosion.  
 8/20/2014: The erosion at the site has worsened. The erosion increased in both length and in height.  
 09/12/2013: Site has been visited and signs of new erosion are visible.  
 08/22/2012: The erosion was surveyed and documented for monitoring purpose. There is no levee structure on the site, only high ground protecting the land behind. The levee crest width and levee height were not measured or estimated in the field.



Front view of the erosion. Looking from the right side of the river.



Close view of the erosion. Signs of new erosion along the site.



Close view of the erosion.



Close view of the erosion.



LMA: **RD0001 U01 Union Island** Waterway: **RB Old River**  
 Site ID: **RD0001U01RM31.4** Status: **Existing Site**

Latitude: **37.822306** Longitude: **-121.375304** River\_Mile: **31.40** Levee\_Mile: **0** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>6</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>17</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium (40-2</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>Frequent &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>2.5</b>
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>3</b>	x2 <b>6</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>2</b>	x2 <b>4</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>3</b>	x1 <b>3</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **152** Normalized Score (out of 100%): **57**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/20/2013: No significant change at this site.  
 08/07/2012: The erosion is at the confluence of Old River and one of its tributary.



Front view of the erosion.



Close view of the erosion.



Close view of the erosion.



Front view of the site. Note the large tree on site.



LMA: RD0017 U02 Mossdale Waterway: RB San Joaquin River  
 Site ID: RD0017U02RM44.32 Status: Existing Site

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
 37.90253 -121.32569 44.32 1.08 U

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	15	WS Berm Width (ft):	0
Crest Width (ft):	18	Burrow Activity:	Signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Silts and Clean Sands
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Slight	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	1:1 or less

Levee Slope Condition:	No caving	Bank Condition:	Very deteriorated
Location of Erosion:	Up to mid slope	Tree Hazard:	No or small trees
Site Relative to Bend:	Straight Reach	Radius of Curvature:	
Max Tidal (ft):	3.0 to 4.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	1	x3	3	WS Berm Width (ft):	5 x3 15
Crest Width (ft):	2	x4	8	WS Burrow Activity:	5 x2 10
Levee Soil Type:	2	x4	8	Bank Soil Type:	5 x4 20
Levee Revetment:	5	x4	20	Bank Revetment:	5 x4 20
Levee Slope Veg.:	4	x3	12	Bank Slope Veg.:	5 x3 15
Levee Slope (H:V):	0	x4	0	Bank Slope (H:V):	4 x4 16
Levee Slope Condition:	0	x2	0	Bank Condition:	5 x2 10
Location of Erosion:	3	x2	6	Tree Hazard:	0 x2 0
Site Relative to Bend:	1	x1	1	Radius of Curvature:	0 x1 0
Max Tidal (ft):	3	x2	6	Geomorphologic:	0 x3 0

Total Score (out of 265): 170 Normalized Score (out of 100%): 64

**III. Misc**

Crown Type:	Gravel	Scarp Height (ft):	10
Bank Protection Type:	None	Cause of Erosion:	River Induced
Erosion Indicator:	Pocket	Survey Date:	6/24/2015

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 08/07/2012: The erosion is nearly vertical, and has developed upward to halfway of the levee slope. The protecting concrete blocks have been washed away. Animal activities are visible.



Front view of the erosion site. Note the concrete blocks and vegetation.



Close view of the erosion.



Close view of the erosion.

Close view of the erosion.

LMA: RD0017 U02 Mossdale Waterway: RB San Joaquin River  
 Site ID: RD0017U02RM44.52 Status: Repaired Site

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
 37.89951 -121.32603 44.52 1.28

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	10	WS Berm Width (ft):	0
Crest Width (ft):	29	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Silts and Clean Sands
Levee Revetment:	Good, covers entire slo	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Slight	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	Near vertical
Levee Slope Condition:	Scattered <1/2 Slope	Bank Condition:	Very deteriorated
Location of Erosion:	Up to lower slope	Tree Hazard:	Large trees
Site Relative to Bend:	Straight Reach	Radius of Curvature:	
Max Tidal (ft):	3.0 to 4.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	0	x3 0	WS Berm Width (ft):	0	x3 0
Crest Width (ft):	0	x4 0	WS Burrow Activity:	0	x2 0
Levee Soil Type:	0	x4 0	Bank Soil Type:	0	x4 0
Levee Revetment:	0	x4 0	Bank Revetment:	0	x4 0
Levee Slope Veg.:	0	x3 0	Bank Slope Veg.:	0	x3 0
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	0	x4 0
Levee Slope Condition:	0	x2 0	Bank Condition:	0	x2 0
Location of Erosion:	0	x2 0	Tree Hazard:	0	x2 0
Site Relative to Bend:	0	x1 0	Radius of Curvature:	0	x1 0
Max Tidal (ft):	0	x2 0	Geomorphologic:	0	x3 0

Total Score (out of 265): 0 Normalized Score (out of 100%):

**III. Misc**

Crown Type:	Gravel	Scarp Height (ft):	4
Bank Protection Type:	None	Cause of Erosion:	River Induced
Erosion Indicator:	Pocket	Survey Date:	6/24/2015

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: The erosion has been repaired. A minor erosion is still visible near the tree.  
 08/13/2013: A mid-size tree is present immediately upstream of the erosion, which could block the view of the site. Some debris is visible.



View from downstream.



Close view of the repaired erosion site.



Close view of the repaired erosion site. Note the tree near the site.

Close view of the repaired erosion site.

LMA: RD0017 U02 Mossdale Waterway: RB San Joaquin River  
 Site ID: RD0017U02RM45.94 Status: Repaired Site

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
 37.88102 -121.33226 45.94 2.66

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	20	WS Berm Width (ft):	8
Crest Width (ft):	40	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Clayey Sand
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	No vegetation	Bank Slope Veg.:	Slight to Medium
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	1.5:1
Levee Slope Condition:	No caving	Bank Condition:	Frequent >1/2 Slope
Location of Erosion:	Below levee toe	Tree Hazard:	No or small trees (0-2" di
Site Relative to Bend:	Straight Reach	Radius of Curvature:	
Max Tidal (ft):	3.0 to 4.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	0	x3 0	WS Berm Width (ft):	0	x3 0
Crest Width (ft):	0	x4 0	WS Burrow Activity:	0	x2 0
Levee Soil Type:	0	x4 0	Bank Soil Type:	0	x4 0
Levee Revetment:	0	x4 0	Bank Revetment:	0	x4 0
Levee Slope Veg.:	0	x3 0	Bank Slope Veg.:	0	x3 0
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	0	x4 0
Levee Slope Condition:	0	x2 0	Bank Condition:	0	x2 0
Location of Erosion:	0	x2 0	Tree Hazard:	0	x2 0
Site Relative to Bend:	0	x1 0	Radius of Curvature:	0	x1 0
Max Tidal (ft):	0	x2 0	Geomorphologic:	0	x3 0

Total Score (out of 265): 0 Normalized Score (out of 100%):

**III. Misc**

Crown Type:	Gravel	Scarp Height (ft):	5
Bank Protection Type:	None	Cause of Erosion:	Poor Maintenance Practice
Erosion Indicator:	Caving	Survey Date:	6/24/2015

**Comments:**

06/24/2015: Erosion has been repaired.  
 6/19/2014: The erosion was probably caused by the irrigation pipe found at the site.



View of the repaired erosion site from the survey boat.



Close view of the repaired erosion site.



Close view of the site.



LMA: RD0017 U02 Mossdale Waterway: RB San Joaquin River  
 Site ID: RD0017U02RM45.95 Status: Existing Site

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
 37.88071 -121.3322 45.95 2.72 **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft): 120 WS Berm Width (ft): 10  
 Crest Width (ft): 40 Burrow Activity: No signs of activity  
 Levee Soil Type: Clayey Sand Bank Soil Type: Clayey Sand  
 Levee Revetment: Very poor or none Bank Revetment: Very poor or none  
 Levee Slope Veg.: No vegetation Bank Slope Veg.: Slight to Medium  
 Levee Slope (H:V): 3:1 or greater Bank Slope (H:V): 1.5:1

Levee Slope Condition: No caving Bank Condition: Frequent <1/2 Slope  
 Location of Erosion: Below levee toe Tree Hazard: No or small trees  
 Site Relative to Bend: Straight Reach Radius of Curvature:  
 Max Tidal (ft): 3.0 to 4.0 ft. Geomorphologic: No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	2	x3 6	WS Berm Width (ft):	4	x3 12
Crest Width (ft):	0	x4 0	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	2	x4 8
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	5	x3 15	Bank Slope Veg.:	3	x3 9
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	3	x4 12
Levee Slope Condition:	0	x2 0	Bank Condition:	0	x2 0
Location of Erosion:	0	x2 0	Tree Hazard:	0	x2 0
Site Relative to Bend:	1	x1 1	Radius of Curvature:	0	x1 0
Max Tidal (ft):	3	x2 6	Geomorphologic:	0	x3 0

Total Score (out of 265): 117 Normalized Score (out of 100%): **44**

**III. Misc**

Crown Type: Gravel Scarp Height (ft): 8  
 Bank Protection Type: None Cause of Erosion: River Induced  
 Erosion Indicator: Scarp Survey Date: 6/24/2015

**Comments:**

06/24/2015: Levee has been cut at the mid slope and a temporary step has been made for unknow purpose. More erosion has been found at the site.  
 6/19/2014: The erosion is in the river bank which has an estimated 10-ft wide berm.



Front view of the erosion site. Note the new cut at the middle levee slope.



Front view of the erosion.



Front view of the erosion.

Close view of the erosion.

LMA: RD0017 U02 Mossdale Waterway: RB San Joaquin River  
 Site ID: RD0017U02RM46.03 Status: Repaired Site

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
 37.879293 -121.332518 46.03 2.78

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	50	WS Berm Width (ft):	0
Crest Width (ft):	40	Burrow Activity:	Signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Silts and Clean Sands
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Slight to Medium (40-2)	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	Near vertical
Levee Slope Condition:	Very deteriorated	Bank Condition:	Very deteriorated
Location of Erosion:	Up to mid slope	Tree Hazard:	No or small trees
Site Relative to Bend:	Outside of bend > 90 deg	Radius of Curvature:	4.4
Max Tidal (ft):	3.0 to 4.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	0	x3 0	WS Berm Width (ft):	0	x3 0
Crest Width (ft):	0	x4 0	WS Burrow Activity:	0	x2 0
Levee Soil Type:	0	x4 0	Bank Soil Type:	0	x4 0
Levee Revetment:	0	x4 0	Bank Revetment:	0	x4 0
Levee Slope Veg.:	0	x3 0	Bank Slope Veg.:	0	x3 0
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	0	x4 0
Levee Slope Condition:	0	x2 0	Bank Condition:	0	x2 0
Location of Erosion:	0	x2 0	Tree Hazard:	0	x2 0
Site Relative to Bend:	0	x1 0	Radius of Curvature:	0	x1 0
Max Tidal (ft):	0	x2 0	Geomorphologic:	0	x3 0

Total Score (out of 265): 0 Normalized Score (out of 100%):

**III. Misc**

Crown Type:	Gravel	Scarp Height (ft):	15
Bank Protection Type:	None	Cause of Erosion:	River Induced
Erosion Indicator:	Scarp	Survey Date:	6/24/2015

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: The erosion has been repaired.  
 08/13/2013: Found during boat survey. There is vegetation at the site.



Front view of the repaired site.



Close view of the repaired site.



Close view of the repaired site.

Close view of the repaired site.

LMA: RD0017 U02 Mossdale Waterway: RB San Joaquin River  
 Site ID: RD0017U02RM46.1 Status: Existing Site

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
 37.87866 -121.3324 46.10 2.81 **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	10	WS Berm Width (ft):	0
Crest Width (ft):	40	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Clayey Sand
Levee Revetment:	Poor, covers entire slo	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Slight	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	Near vertical
Levee Slope Condition:	Scattered <1/2 Slope	Bank Condition:	Very deteriorated
Location of Erosion:	Up to lower slope	Tree Hazard:	No or small trees
Site Relative to Bend:	Straight Reach	Radius of Curvature:	
Max Tidal (ft):	3.0 to 4.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	0	x3 0	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	0	x4 0	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	2	x4 8
Levee Revetment:	3	x4 12	Bank Revetment:	5	x4 20
Levee Slope Veg.:	4	x3 12	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	1	x2 2	Bank Condition:	5	x2 10
Location of Erosion:	2	x2 4	Tree Hazard:	0	x2 0
Site Relative to Bend:	1	x1 1	Radius of Curvature:	0	x1 0
Max Tidal (ft):	3	x2 6	Geomorphologic:	0	x3 0

Total Score (out of 265): 133 Normalized Score (out of 100%): **50**

**III. Misc**

Crown Type:	Gravel	Scarp Height (ft):	3
Bank Protection Type:	None	Cause of Erosion:	Slide
Erosion Indicator:	Pocket	Survey Date:	6/24/2015

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: A pocket erosion was found during the boat survey.



Front view of the erosion.



Front view of the erosion.



Close view of the erosion. The slope protection is poor.

Close view of the erosion.



LMA: RD0017 U02 Mossdale Waterway: RB San Joaquin River  
 Site ID: RD0017U02RM46.89 Status: Existing Site

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
 37.8685 -121.32767 46.89 3.62 [M](#)

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	5	WS Berm Width (ft):	0
Crest Width (ft):	40	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Clayey Sand
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Slight	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	Near vertical

Levee Slope Condition:	Scattered >1/2 Slope	Bank Condition:	Very deteriorated
Location of Erosion:	Up to mid slope	Tree Hazard:	Large trees
Site Relative to Bend:	Straight Reach	Radius of Curvature:	
Max Tidal (ft):	3.0 to 4.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	0	x3 0	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	0	x4 0	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	2	x4 8
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	4	x3 12	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	2	x2 4	Bank Condition:	5	x2 10
Location of Erosion:	3	x2 6	Tree Hazard:	3	x2 6
Site Relative to Bend:	1	x1 1	Radius of Curvature:	0	x1 0
Max Tidal (ft):	3	x2 6	Geomorphologic:	0	x3 0

Total Score (out of 265): 151 Normalized Score (out of 100%): [57](#)

**III. Misc**

Crown Type:	Gravel	Scarp Height (ft):	3
Bank Protection Type:	None	Cause of Erosion:	Poor Maintenance Practice
Erosion Indicator:	Pocket	Survey Date:	6/24/2015

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: The erosion is near a large tree and probably has been caused by the irrigation pipe on the site.



Front view of the erosion. Note the tree and the irrigation pipe.



Close view of the erosion.



Close view of the erosion.

Close view of the erosion.



LMA: **RD0404 U01 Boggs** Waterway: **RB San Joaquin River**  
 Site ID: **RD0404U01RM40.86** Status: **Repaired Site**

Latitude: **37.93948** Longitude: **-121.34273** River\_Mile: **40.86** Levee\_Mile: **0.23** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>280</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>18</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>2.1</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 0 Normalized Score (out of 100%):**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: The erosion has been repaired.  
 6/19/2014: No significant change observed.  
 08/13/2013: The boat survey found the erosion has progressed significantly in size and in number of pocket erosions.  
 08/07/2012: The site has been visited by boat survey. The erosion has developed in size, and more pocket erosions were found.  
 8/23/2011: Pockets erosions observed by last survey seem to have progressed during the last flood season. Continuous monitoring of this site suggested  
 9/07/2010: No significant change observed on site. There is emergent vegetation at the water line. Several pocket erosions lined along the lower slope that stretches from RM 40.86 to RM 41.14.  
 9/30/2009: No major change observed; the site was combined with other existing sites are RM's 40.93, 40.98, and 41.14 as one site; several pocket erosion just above non-uniform toe rip rap; previously rated "U"; bare spots along the upper slope.  
 2008: Possibly caused by wave wash erosion; several pocket erosion along the lower slope; site is inside of a bend.  
 2006: Visited site 09/12/06.



Front view of the repaired site.



Front view of the repaired site.



Close view of the repaired site.

LMA: **RD0404 U01 Boggs** Waterway: **RB San Joaquin River**  
 Site ID: **RD0404U01RM40.98** Status: **Repaired Site**

Latitude: **37.939228** Longitude: **-121.340786** River\_Mile: **40.98** Levee\_Mile: **0.34** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>12</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>20</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0**

Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: The erosion site has been repaired. Minor erosion is visible at the water edge.  
 06/19/2014: No significant change observed.  
 08/13/2013: The pocket erosion is located at immediately upstream of a small oak tree.



Front view of the repaired erosion site.



Front view of the of the repaired erosion site.



Front view of the repaired erosion site.



Close view of the repaired erosion site. Note the minor erosion at the water edge.

LMA: **RD0404 U01 Boggs** Waterway: **RB San Joaquin River**  
 Site ID: **RD0404U01RM41.11** Status: **Existing Site**

Latitude: **37.93919** Longitude: **-121.33828** River\_Mile: **41.11** Levee\_Mile: **0.48** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>18</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>17</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>2</b>	x2 <b>4</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **170** Normalized Score (out of 100%): **64**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 8/7/2012: The erosion is next to a repaired site and approximately 400 feet downstream of a river bend. There are broken concretes at the upper levee slope, but not visible at the levee toe or lower slope. Likely the protection concrete blocks have been washed away.



Close view of the site.



A closer view of the site.



Front view of the site.



LMA: **RD0404 U01 Boggs** Waterway: **RB San Joaquin River**  
 Site ID: **RD0404U01RM41.22** Status: **Repaired Site**

Latitude: **37.939133** Longitude: **-121.3361** River\_Mile: **41.22** Levee\_Mile: **0.61** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>80</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>13</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0** Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: The erosion has been repaired.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 08/07/2012: The site was first discovered by levee inspector in the spring inspection. Levee slope was protected with broken concrete blocks, but those blocks have been washed away during high flows.



Front view of the repaired erosion site.



Close view of the repaired erosion site.



LMA: **RD0404 U01 Boggs** Waterway: **RB San Joaquin River**  
 Site ID: **RD0404U01RM42.02** Status: **Existing Site**

Latitude: **37.93045** Longitude: **-121.32745** River\_Mile: **42.02** Levee\_Mile: **1.46** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>100</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>40</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Poor, covers bottom 1/</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>4</b>	x4 <b>16</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>5</b>	x3 <b>15</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **143** Normalized Score (out of 100%): **54**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: A series of scarp erosions have been found on the lower levee slope and at the levee toe.



Front view of the erosion.



Close view of the erosion. Note the protection on the lower levee slope.



Close view of the erosion. The upstream end of the site is protected by riprap revetment.

Close view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM40.85** Status: **Existing Site**

Latitude: **37.939085** Longitude: **-121.343917** River\_Mile: **40.85** Levee\_Mile: **0.18** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>15</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>3.8</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>2</b>	x1 <b>2</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **174** **Normalized Score (out of 100%):** **66**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: The erosion was discovered during 2013 spring levee inspection. Inspector comment: Erosion is located along the lower level of water-ward slope.



Close view of the erosion.



Front view of the erosion.



Close view of the erosion.



Close view of the erosion.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM40.99** Status: **Existing Site**

Latitude: **37.93887** Longitude: **-121.34046** River\_Mile: **40.99** Levee\_Mile: **0.4** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>20</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>11</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium (40-2)</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>

Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **170** Normalized Score (out of 100%): **64**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Slide</b>
Erosion Indicator:	<b>Caving</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 8/7/2012: The erosion is at the upper levee slope, and likely caused by slope slip. The lower levee slope is covered with dense vegetation.



Front view of the erosion site. Note the vegetation at the levee toe and on the lower slope.



Front view of the site.



Close view of the erosion.



Close view of the erosion.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM41.36** Status: **New Site**

Latitude: **37.937222** Longitude: **-121.335277** River\_Mile: **41.36** Levee\_Mile: **0.74** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>80</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>16</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Poor, covers entire slo</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees (0-2" di</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>3</b>	x4 <b>12</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **144** Normalized Score (out of 100%): **54**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Undermining</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: The ersoion site is immediatley downstream of the RR bridge.



Front view of the erosion.



Close view of the erosion.



Close view of the erosion.



Close view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM41.39** Status: **Existing Site**

Latitude: **37.936821** Longitude: **-121.334582** River\_Mile: **41.39** Levee\_Mile: **0.77** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>35</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>16</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **172** Normalized Score (out of 100%): **65**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 08/07/2012: The site has been visited by boat survey. No significant change observed.  
 08/23/2011: The site is located immediately upstream of a Railroad bridge. Dense vegetation at the water line blocks the view of erosion.



Front view of the erosion site.



Front view of the erosion site. Vegetation is visible.



Front view of the erosion.



Front view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM41.44** Status: **Existing Site**

Latitude: **37.93593** Longitude: **-121.334133** River\_Mile: **41.44** Levee\_Mile: **0.83** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>30</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>25</b>	Burrow Activity:	<b>Obscured by vegetation</b>
Levee Soil Type:	<b>Silts and Clean Sands</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>

Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>4.1</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>1</b>	x4 <b>4</b>	WS Burrow Activity:	<b>3</b>	x2 <b>6</b>
Levee Soil Type:	<b>5</b>	x4 <b>20</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>1</b>	x1 <b>1</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **187** Normalized Score (out of 100%): **71**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: No significant change observed.  
 08/13/2013: Site was discovered during boat survey. The dense vegetation blocks a clear view of the erosion. Size of erosion site was very roughly estimated.



Front view of the erosion. The tree and vegetation block the view of the site.



The erosion is invisible because of the dense vegetation.





LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM41.5** Status: **Existing Site**

Latitude: **37.935576** Longitude: **-121.333202** River\_Mile: **41.50** Levee\_Mile: **0.91** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>15</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>14</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>

Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>6.6</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **184** Normalized Score (out of 100%): **69**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: The erosion site is immediately downstream of the riprap protection.



Front view of the erosion. Note the riprap protection near the site.



A close view of the erosion.



A close view of the erosion.

A close view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM41.58** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**37.93541 -121.33156 41.58 1 U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>19</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>14</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 180 Normalized Score (out of 100%): 68**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 08/07/2012: The erosion was discovered during the boat survey.



Front view of the erosion.



Close view of the erosion.



Close view of the erosion.

Close view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM41.59** Status: **Existing Site**

Latitude: **37.935078** Longitude: **-121.331134** River\_Mile: **41.59** Levee\_Mile: **1** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>20</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>14</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Poor, covers bottom 1/</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>6.6</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>4</b>	x4 <b>16</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>5</b>	x3 <b>15</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>2</b>	x2 <b>4</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 172 Normalized Score (out of 100%): 65**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 08/07/2012: The site has been visited by boat survey. Site has been repaired, but new erosion occurred at the levee slope and immediately upstream of the repaired site.  
 08/23/2011: The site is about 500 ft downstream of bridge. The levee toe seems to be protected, but the protection is being washed away.



Downstream view of the site.



Close view of the erosion.



Front view of the site.

Front view of the erosion.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM41.79** Status: **Existing Site**

Latitude: **37.933347** Longitude: **-121.32911** River\_Mile: **41.79** Levee\_Mile: **1.2** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>400</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>2</b>	x2 <b>4</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **177** **Normalized Score (out of 100%):** **67**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change at this site.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: No significant change observed on site.  
 9/07/2010: No significant change observed on site. Vegetation is visible at the water line.  
 There is an exposed pipe discharge partially hanging at the mid-slope, possibly still used for discharging irrigation/runoff water. There is minimal rip rap protection along the bank, and what's left of it is no longer adequately protecting the bank.  
 9/29/2009: Site consists of a 400-foot long eroding bank with minimal vegetation and protection; the existing rip rap has sloughed, rendering it useless; note that there is an exposed section of a pipe.  
 10/18/2006: There is extensive loss of rip rap on some sections; sewage disposal pond is on the landside of the levee; there is an exposed pipe outlet "hanging" from the upper slope.



Direct view of the site.



Direct view of the site.



Close view of the upstream side of the erosion.

Close view of the site. Note the tree near the erosion site.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM41.92** Status: **Existing Site**

Latitude: **37.931858** Longitude: **-121.3283** River\_Mile: **41.92** Levee\_Mile: **1.3** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>160</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>10</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>4</b>	x4 <b>16</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 184** **Normalized Score (out of 100%): 69**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: New signs of animal activity were found.  
 08/07/2012: The site was first reported in 2012 spring levee inspection report.



Front view of the erosion.



Front view of the erosion.



Front view of the erosion.

Front view of the erosion. Note the drainage pipe on the site.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM42.03** Status: **Existing Site**

Latitude: **37.930575** Longitude: **-121.32809** River\_Mile: **42.03** Levee\_Mile: **1.39** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>6</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>12</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>5</b>	x1 <b>5</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **167** **Normalized Score (out of 100%):** **63**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site was first reported in 2012 spring levee inspection report. The site is located about 750 ft downstream of SR 4 Bridge.



Front view of the erosion.



Front view of the erosion.



Close view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM42.09** Status: **Existing Site**

Latitude: **37.92965** Longitude: **-121.32811** River\_Mile: **42.09** Levee\_Mile: **1.46** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>100</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>12</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Frequent &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>4.6</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>4</b>	x2 <b>8</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>1</b>	x1 <b>1</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **181** **Normalized Score (out of 100%):** **68**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: The site is located approximately 400 ft. downstream SR 4 Bridge. Dense vegetation is visible at the toe.



Front view of the erosion site.



Close view of the erosion.



Close view of the erosion. Note the vegetation at the site.

Close view of the erosion.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM42.2** Status: **Existing Site**

Latitude: **37.92777** Longitude: **-121.32787** River\_Mile: **42.20** Levee\_Mile: **1.61** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>300</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Outside of Bend &lt; 90 deg</b>	Radius of Curvature:	<b>2.2</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>2</b>	x2 <b>4</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>3</b>	x1 <b>3</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 170 Normalized Score (out of 100%): 64**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: : The site has been visited by boat survey. No significant change observed  
 08/23/2011: No significant change observed on site. Trees concerned still in place.  
 09/07/2010: No significant change observed on site. The concern here is the undermining of the levee toe where most of trees are. There are erosion pockets lined along the lower slope and at the base of the trees, exposing tree roots. There is minimal slope protection.  
 09/29/2009: The lower slope is lined with minor erosion pockets; some tree roots are exposed; there is visible undermining of the levee toe; site is immediately upstream of the Highway 4 Bridge; the bridge is possibly causing a scour to occur, eroding the bank.



Front view of the site where undermining has occurred.



Close view of the erosion.



Front view of the erosion. Dense vegetation is visible.



Close view of the erosion at the levee toe.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM42.79** Status: **Existing Site**

Latitude: **37.920992** Longitude: **-121.32137** River\_Mile: **42.79** Levee\_Mile: **2.19** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>15</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>12</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>5</b>	x3 <b>15</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **163** Normalized Score (out of 100%): **62**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>7</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 7/22/2014: The erosion has increased in size.  
 08/13/2013: No significant change observed. Slightly more vegetation was visible.  
 08/07/2012: The site was first reported in 2012 spring levee inspection report.



View from downstream.



Close view of the pocket erosion.



Close view of the pocket erosion. Note the vegetation at the site.

Front view of the erosion.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM42.84** Status: **Existing Site**

Latitude: **37.92065** Longitude: **-121.32037** River\_Mile: **42.84** Levee\_Mile: **2.26** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>150</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>20</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Silts and Clean Sands</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees (0-2" di</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>5</b>	x4 <b>20</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **189** **Normalized Score (out of 100%):** **71**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>15</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Undermining</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: An irrigation pipe is on site.



View from upstream.



Close view of the erosion.



Close view of the erosion.

Close view of the erosion. Note the irrigation pipe.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM42.93** Status: **Repaired Site**

Latitude: **37.919885** Longitude: **-121.31971** River\_Mile: **42.93** Levee\_Mile: **2.32** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>100</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>11</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clays and Gravels</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 0**

**Normalized Score (out of 100%):**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Loose Soil</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: The erosion was repaired.  
 08/13/2013: The length of erosion has progressed downstream, and the site length has increased from 12 ft in length last year to 100 feet in length this year.  
 08/07/2012: The site was first reported in the 2012 spring levee inspection report. The site is located at the inside corner of a river bend.



View from upstream.



Front view of the repaired site.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM43.23** Status: **Repaired Site**

Latitude: **37.91665** Longitude: **-121.32198** River\_Mile: **43.23** Levee\_Mile: **2.65** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>10</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>12</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0**

Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: The erosion was repaired.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site was first reported in 2012 spring levee inspection report.



Upstream view of the repaired site.



Close view of the repaired site.



Closer view of the repaired site.

Close view of the repaired site. Note the vegetation at the site.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM43.52** Status: **Existing Site**

Latitude: **37.91301** Longitude: **-121.32449** River\_Mile: **43.52** Levee\_Mile: **2.96** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>5</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>14</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>5</b>	x3 <b>15</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 170** **Normalized Score (out of 100%): 64**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site was first reported in 2012 spring levee inspection report.



Front view of the erosion.



Close view of the erosion.



Close view of the erosion.

Close view of the erosion. Note the vegetation at the site.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM43.83** Status: **Repaired Site**

Latitude: **37.908544** Longitude: **-121.324894** River\_Mile: **43.83** Levee\_Mile: **3.27** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>400</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>20</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium (40-2)</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 0**

**Normalized Score (out of 100%):**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

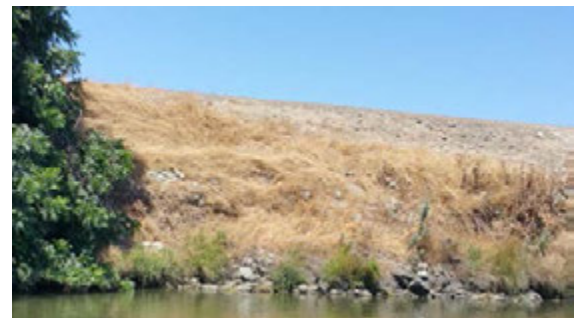
06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: New erosion was found at the levee toe. Trees are present.  
 08/07/2012: The site has been repaired. Protecting riprap revetment has been placed at the levee shoulder and slope, but minor erosions are visible at the levee toe.  
 08/23/2011: Sloughing rip rap is visible on the site



Direct view of the site.



Front view of the site.



Closer view of the erosion.

Close view of the erosion. Note vegetation at site.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM43.86** Status: **Existing Site**

Latitude: **37.90809** Longitude: **-121.32509** River\_Mile: **43.86** Levee\_Mile: **3.3** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>100</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **178** Normalized Score (out of 100%): **67**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: The levee toe seems to have been protected by river rocks and vegetation on site.



View from upstream of the erosion.



Front view of the erosion.



Close view of the erosion. Note river rocks and vegetation at the levee toe.

Close view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM44.13** Status: **Repaired Site**

Latitude: **37.90463** Longitude: **-121.32361** River\_Mile: **44.13** Levee\_Mile: **3.56** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft): **80** WS Berm Width (ft): **0**  
 Crest Width (ft): **18** Burrow Activity: **No signs of activity**  
 Levee Soil Type: **Clayey Sand** Bank Soil Type: **Silts and Clean Sands**  
 Levee Revetment: **Good, covers entire slo** Bank Revetment: **Very poor or none**  
 Levee Slope Veg.: **Slight** Bank Slope Veg.: **No vegetation**  
 Levee Slope (H:V): **3:1 or greater** Bank Slope (H:V): **1.5:1**

Levee Slope Condition: **No caving** Bank Condition: **Very deteriorated**  
 Location of Erosion: **Up to mid slope** Tree Hazard: **No or small trees**  
 Site Relative to Bend: **Outside of bend > 90 deg** Radius of Curvature: **2.4**  
 Max Tidal (ft): **3.0 to 4.0 ft.** Geomorphologic: **No migration**

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	0	x3 0	WS Berm Width (ft):	0	x3 0
Crest Width (ft):	0	x4 0	WS Burrow Activity:	0	x2 0
Levee Soil Type:	0	x4 0	Bank Soil Type:	0	x4 0
Levee Revetment:	0	x4 0	Bank Revetment:	0	x4 0
Levee Slope Veg.:	0	x3 0	Bank Slope Veg.:	0	x3 0
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	0	x4 0
Levee Slope Condition:	0	x2 0	Bank Condition:	0	x2 0
Location of Erosion:	0	x2 0	Tree Hazard:	0	x2 0
Site Relative to Bend:	0	x1 0	Radius of Curvature:	0	x1 0
Max Tidal (ft):	0	x2 0	Geomorphologic:	0	x3 0

Total Score (out of 265): **0** Normalized Score (out of 100%):

**III. Misc**

Crown Type: **Gravel** Scarp Height (ft): **3**  
 Bank Protection Type: **None** Cause of Erosion: **River Induced**  
 Erosion Indicator: **Undermining** Survey Date: **6/24/2015**

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: The previous erosion was repaired. New erosion was found below the repaired levee slope.  
 08/13/2013: No significant change observed.  
 08/07/2012: The levee toe has been cut off along a 150 ft. long river stretch. The erosion is located just upstream of a river bend.



View of the repaired site.  
Note the new erosion at the levee toe.



View of the repaired site.



View of the repaired site.

View of the repaired site.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM45.07** Status: **Existing Site**

Latitude: **37.89223** Longitude: **-121.32793** River\_Mile: **45.07** Levee\_Mile: **4.53** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>51</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>17</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>5</b>	x3 <b>15</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>5</b>	x1 <b>5</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **173** Normalized Score (out of 100%): **65**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>15</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Loose Soil</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The erosion is located at the inside of a river bend. Site is covered with broken concrete blocks and other debris.



Front view of the erosion site.



Close view of the site.



Front view of the site. Note the loosely placed concrete blocks.

Close view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM45.27** Status: **Repaired Site**

Latitude: **37.889809** Longitude: **-121.329342** River\_Mile: **45.27** Levee\_Mile: **4.71** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>12</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>17</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium (40-2</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0**

Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Cracking</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: The erosion was repaired.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: Cracking erosion along the levee bank. Erosion appears to be caused by river flows.



Front view of the repaired site.



Front view of the repaired site.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM45.97** Status: **Existing Site**

Latitude: **37.88032** Longitude: **-121.333266** River\_Mile: **45.97** Levee\_Mile: **5.43** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>4</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>12</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 169** **Normalized Score (out of 100%): 64**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>3</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Caving</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: The erosion seems to be getting worse. More material sloughing visible.  
 08/07/2012: The erosion is underneath an irrigation pipe. The likely cause of the erosion is the pipe leakage.



Close view of the erosion and the pipe.



Front view of the site.



Front view of the site.

Front view of the site.





LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM46.06** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**37.87892 -121.33267 46.06 5.53 M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>15</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>40</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium (40-2</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>Large trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>4.4</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>3</b>	x2 <b>6</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>1</b>	x1 <b>1</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **151** Normalized Score (out of 100%): **57**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: Larger trees are at the levee shoulder, and an irrigation pump station is next to the erosion site.



Front view of the erosion.



Close view of the site.



Close view of the site. Note large trees at the levee shoulder.

Close view of the erosion.

LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM46.12** Status: **Repaired Site**

Latitude: **37.87788** Longitude: **-121.33255** River\_Mile: **46.12** Levee\_Mile: **5.65** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>30</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>18</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Poor, covers entire slo</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>5.0</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 0 Normalized Score (out of 100%):**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>3</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Undermining</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: The erosion was repaired.  
 08/13/2013: The boat survey found no significant change at this site, except slight animal activity was visible at the site.  
 08/07/2012: : The site has been visited by boat survey. No significant change observed  
 08/23/2011: No significant change observed on site.  
 09/07/2010: No significant change observed on site. Erosion site is located beneath Howard Road Bridge. Majority of the existing rip rap has slipped, dragging away levee materials and exposing the underlying soft soil.  
 08/06/2010: Recommend for annual assessment and monitoring during flood events, per CLRO.  
 09/30/2009: No major change observed since the last visit; upper portion of existing revetment has slipped, exposing the degrading bank; note that site # is the same as RM46.30, LM5.69 found in the CLRO CES Evaluation 2008 Report; site was previously rated "M".  
 11/04/2008: Previously repaired using rock revetment; upper portion of the revetment is sliding, causing deformation on the levee slope; site is upstream of Howards Road Bridge.



Front view of the repaired site.



Front view of the repaired site.



Front view of the repaired site.



LMA: **RD0524 U01 Middle Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0524U01RM46.39** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**37.87437 -121.33285 46.39 5.86 U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>15</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>21</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>1</b>	x4 <b>4</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>3</b>	x2 <b>6</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 159 Normalized Score (out of 100%): 60**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Cracking</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The erosion is near a water-intake structure. Pipe leakage likely caused the erosion.



Front view of the site.



Close view of the erosion and the pipe.



Closer view of the erosion.

Closer view of the erosion and vegetation.



LMA: **RD0544 U01 Upper Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0544U01RM47.12** Status: **Repaired Site**

Latitude: **37.86482** Longitude: **-121.3272** River\_Mile: **47.12** Levee\_Mile: **0.43** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>200</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>12</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Good, covers entire slo</b>	Bank Revetment:	<b>Good, covers entire slop</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Outside of Bend &lt; 90 deg</b>	Radius of Curvature:	<b>3.1</b>
Max Tidal (ft):	<b>3.0 to 4.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 0 Normalized Score (out of 100%):**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>Riprap</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Undermining</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: Repaired site. No significant change observed.  
 08/13/2013: Repaired site. No new erosion found at the site.  
 08/07/2012: The site has been visited by boat survey. The site has been repaired with riprap protection. Rotten tree roots and minor erosion are visible immediately upstream of the site  
 08/23/2011: No significant change observed on site.  
 09/07/2010: No significant change observed on site. There are minor pockets of erosion lining the lower slope and undermining of the toe. There are annual grasses and emergent vegetation at the lower slope. Burrow holes were observed along the slope and persist throughout the 200-foot long site.  
 08/05/2010: Recommended for annual assessment and monitoring during flood events, per CLRO.  
 09/30/2009: No major change observed since last visit; despite dense vegetation, the bank continues to erode and slough; the levee toe is being undermined; note the tree on site; the site was previously rated "U".  
 10/21/2008: Undermining of the levee toe; rodent holes in several location; trees with roots partially exposed; sloughing on slope.



Upstream view of the repaired site.



Front view of the repaired site.



Front view of the site.

LMA: **RD0544 U01 Upper Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0544U01RM48.81** Status: **Repaired Site**

Latitude: **37.850534** Longitude: **-121.322285** River\_Mile: **48.81** Levee\_Mile: **2.01** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>10</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>14</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Frequent &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Toe &amp; Slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>2.0 to 3.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0** Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Cracking</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: The erosion was repaired.  
 08/13/2013: No significant change observed.  
 08/07/2012: The erosion is right at the inside of a river bend. Dense vegetation is visible at the site.



Front view of the site.



Close view of the site.



Front view of the erosion.

Front view of the erosion.

LMA: **RD0544 U01 Upper Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0544U01RM49.67** Status: **Existing Site**

Latitude: **37.840697** Longitude: **-121.318252** River\_Mile: **49.67** Levee\_Mile: **2.94** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>15</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>11</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>2.0 to 3.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>5</b>	x1 <b>5</b>
Max Tidal (ft):	<b>2</b>	x2 <b>4</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **166** **Normalized Score (out of 100%):** **63**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>6</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013: Pump has been removed. A larger pocket erosion has been found at the erosion site.  
 08/07/2012: The erosion is immediately upstream of a river bend. Dense vegetation is visible at the erosion site.



Front view of the erosion.



Close view of the site.



Close view of the site.

Front view of the site



LMA: **RD0544 U01 Upper Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0544U01RM51.04** Status: **Existing Site**

Latitude: **37.825248** Longitude: **-121.313856** River\_Mile: **51.04** Levee\_Mile: **4.21** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>30</b>	WS Berm Width (ft):	<b>28</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium (40-2</b>	Bank Slope Veg.:	<b>Dense</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Scattered &lt;1/2 Slope</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>2.0 to 3.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>1</b>	x3 <b>3</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>5</b>	x1 <b>5</b>
Max Tidal (ft):	<b>2</b>	x2 <b>4</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **113** Normalized Score (out of 100%): **43**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Cracking</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 06/19/2014: No significant change observed.  
 08/13/2013: The erosion has been caused by irrigation pipe.



Front view of the site.



Close view of the site.



Close view of the site.

Close view of the site.

LMA: **RD0544 U01 Upper Roberts Isla** Waterway: **LB San Joaquin River**  
 Site ID: **RD0544U01RM51.09** Status: **Repaired Site**

Latitude: **37.82436** Longitude: **-121.31436** River\_Mile: **51.09** Levee\_Mile: **4.32** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>20</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>30</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>2.0 to 3.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0**

Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: The erosion has been repaired.  
 6/19/2014: No significant change observed.  
 08/13/2013: This erosion has been caused by instability of the levee . Larger trees exist downstream of the erosion site.



Front view of the repaired site.



Front view of the repaired erosion site.



Close view of the repaired erosion site.

Close view of the repaired erosion site.

LMA: **RD0544 U02 Upper Roberts Isla** Waterway: **RB Old River**  
 Site ID: **RD0544U02RM32.91** Status: **Existing Site**

Latitude: **37.81776** Longitude: **-121.35085** River\_Mile: **32.91** Levee\_Mile: **2.66** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft): **100** WS Berm Width (ft): **0**  
 Crest Width (ft): **20** Burrow Activity: **No signs of activity**  
 Levee Soil Type: **Clayey Sand** Bank Soil Type: **Silts and Clean Sands**  
 Levee Revetment: **Very poor or none** Bank Revetment: **Very poor or none**  
 Levee Slope Veg.: **Dense** Bank Slope Veg.: **No vegetation**  
 Levee Slope (H:V): **3:1 or greater** Bank Slope (H:V): **Near vertical**

Levee Slope Condition: **Frequent <1/2 Slope** Bank Condition: **Very deteriorated**  
 Location of Erosion: **Up to mid slope** Tree Hazard: **No or small trees**  
 Site Relative to Bend: **Straight Reach** Radius of Curvature: **No migration**  
 Max Tidal (ft): **1.0 to 2.0 ft.** Geomorphologic: **No migration**

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	1	x3 3	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	2	x4 8	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	5	x4 20
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	0	x3 0	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	3	x2 6	Bank Condition:	5	x2 10
Location of Erosion:	3	x2 6	Tree Hazard:	0	x2 0
Site Relative to Bend:	1	x1 1	Radius of Curvature:	0	x1 0
Max Tidal (ft):	1	x2 2	Geomorphologic:	0	x3 0

Total Score (out of 265): **154** Normalized Score (out of 100%): **58**

**III. Misc**

Crown Type: **Earthen** Scarp Height (ft): **6**  
 Bank Protection Type: **None** Cause of Erosion: **River Induced**  
 Erosion Indicator: **Pocket** Survey Date: **6/25/2015**

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 10/11/2013: No significant change observed.  
 08/07/2012: Series of pocket erosion were discovered at the levee toe during the boat survey. The area is covered with vegetation and riprap, but the rip rap has been washed away.



Front view of pocket erosion. Note the vegetation and riprap at the site.



Close view of pocket erosion.



Close view of the erosion.



Close view of the site.



LMA: **RD0544 U02 Upper Roberts Isla** Waterway: **RB Old River**  
 Site ID: **RD0544U02RM33** Status: **New Site**

Latitude: **37.818861** Longitude: **-121.3504** River\_Mile: **33.00** Levee\_Mile: **2.57** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>15</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>20</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Silty Sand and Sandy Silt</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>No or small trees (0-2" di</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>3</b>	x4 <b>12</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **164** **Normalized Score (out of 100%):** **62**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>12</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: The site was discovered during the boat survey. Irrigation pipe leakage caused the soil to sink at the upper levee shoulder. The lower part of the levee is protected by riprap rocks. The irrigation pump was operating at the site.



Front view of the erosion site.



Close view of the erosion.



Close view of the erosion. Vegetation around the site is visible.



Front view of the site. Note the operating irrigation pump.

LMA: **RD0544 U02 Upper Roberts Isla** Waterway: **LB Old River**  
 Site ID: **RD0544U02RM33.21** Status: **Existing Site**

Latitude: **37.821763** Longitude: **-121.347275** River\_Mile: **33.21** Levee\_Mile: **2.34** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>10</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>16</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>

Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>No caving</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>0.6</b>
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>2</b>	x2 <b>4</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>5</b>	x1 <b>5</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **152** Normalized Score (out of 100%): **57**

**III. Misc**

Crown Type:		Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Undermining</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/20/2013: No significant change observed.  
 08/07/2012: The site was first reported in 2012 spring levee inspection report. The data were estimated as the site is underneath a irrigation pump station and inaccessible by boat or land survey. It's possible the pump station played a role in the erosion.



Front view of the erosion site. View is partially blocked by the pump structure and vegetation.



Front view of the site.



Close view of the site.



Front view of the site.



LMA: **RD2031 U01 Elliot** Waterway: **LB Stanislaus River**  
 Site ID: **RD2031U01RM0.48** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**37.70474 -121.15914 0.48 0.48 M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>150</b>	WS Berm Width (ft):	<b>9</b>
Crest Width (ft):	<b>21</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Poor, covers entire slope</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>Slight to Medium</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Frequent &gt;1/2 Slope</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>5.9</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>4</b>	x3 <b>12</b>
Crest Width (ft):	<b>1</b>	x4 <b>4</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>3</b>	x4 <b>12</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>3</b>	x3 <b>9</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 111 Normalized Score (out of 100%): 42**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Loose Soil</b>	Survey Date:	<b>8/28/2015</b>

**Comments:**

08/28/2015: No significant change observed.  
 07/31/2014: No significant change observed.  
 09/10/2013: No significant change observed.  
 07/18/2012: No significant change observed.  
 08/18/2011: No significant change observed on site. Debris that blocks the irrigation outlet is visible.  
 10/19/2010: No significant change observed on site. Sloughing of the bank is occurring adjacent to an irrigation outlet structure. There is moderate to heavy vegetation along the bank that is well established. Broken chunks and slabs of concrete are used as rip rap and line the outside of the irrigation outlet structure. However, much of the rip rap along the slope is sloughing and could possibly lead to future slope instability.  
 08/05/2010: Recommended as a local maintenance issue, per CLRO.  
 08/20/2009: No major change observed since last visit; 1 inch fissure cracks developing on the slope; rip rap is showing signs of sloughing; recommend as local maintenance issue; site was previously rated "U".  
 2008: No change from previous year; irrigation outlet located on site; rip rap placed on river bank.  
 09/06/2007: Near agricultural diversion; only 3' landside height differential.



Direct view of the site.



Looking down at the site.



View of the current condition of the bank slope just above the irrigation outlet.



View of the loose material at the bank top.

LMA: **RD2031 U02 Elliot** Waterway: **RB San Joaquin River**  
 Site ID: **RD2031U02RM78.7** Status: **Not Rated**

Latitude: **37.631716** Longitude: **-121.18937** River\_Mile: **78.70** Levee\_Mile: **4.35** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>200</b>	WS Berm Width (ft):	<b>90</b>
Crest Width (ft):	<b>16</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>No vegetation</b>	Bank Slope Veg.:	<b>Slight to Medium (40-20)</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>3.0</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 0 Normalized Score (out of 100%):**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/19/2015</b>

**Comments:**

08/19/2015: No significant change observed.  
 7/17/2014: The erosion has slightly expanded toward levee toe at two pocket locations.  
 09/10/2013: The site has been visited. The erosion has expanded toward levee crest at two pocket locations.  
 07/18/2012: No significant change observed on the site.  
 08/18/2011: No significant change observed on the site. Dead trees and animal activities are visible. The closest point of the erosion site to the levee toe is about 100 ft.  
 10/19/2010: There is active scouring occurring on the bank due to the nature of the flow and the lack of armor protection. There is also a fallen log immediately downstream of where the erosion has occurred and is protruding outward, possibly creating an eddy and scouring the bank. With the remaining 100-foot wide berm, the levee prism is not yet affected. However, the bank will continue to degrade, and eventually intrude into the levee prism if no protection is put in place. Erosion site is recommended for annual assessment and monitoring during flood events.



Looking downstream.



Looking upstream. Note the pocket erosion.



Close view of the pocket erosion.



Close view of the erosion.





LMA: **RD2058 U01 Pescadero** Waterway: **LB Paradise Cut**  
 Site ID: **RD2058U01RM3.97** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**37.78981 -121.35249 3.97 4.51 M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>200</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>2.5:1</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>Large trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>5.2</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>1</b>	x4 <b>4</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>3</b>	x2 <b>6</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 154 Normalized Score (out of 100%): 58**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/4/2015</b>

**Comments:**

08/04/2015: No significant change observed.  
 08/26/2014: No significant change observed.  
 08/28/2013: No significant change observed.  
 07/26/2012: The site has been visited, and no significant change has been observed.  
 09/02/2011: This site was not visited due to the time limit.  
 09/22/2010: No significant change observed. Minor pocket erosions are lined at the lower bank. Two large Oak and Willow trees are on mid-slope and bench. The remaining bench was re-measured and found to be approximately 10 feet. There was no indication of active erosion on site during the site visit.  
 08/05/2010: Recommended for annual assessment and monitoring of the site during flood events, per CLRO.  
 07/23/2009: No major change observed since last visit; site is a 200-ft. long near-vertical berm erosion; recommend annual assessment and monitoring of the erosion site, per CLRO CES Evaluation 2008 Report; Site # is the same site previously reported as RM4.0,LM4.51; previously rated "U".  
 09/10/2008: Two large trees (2-3' DBH) with partial roots exposed.  
 2007: Visited site 03/13/2007.



Direct view of a pocket erosion site.



Direct view of the erosion near a tree.



Direct view of the erosion near a tree.



Direct view of the erosion near a tree.

LMA: **RD2062 U01 Stewart** Waterway: **LB San Joaquin River**  
 Site ID: **RD2062U01RM54.14** Status: **Repaired Site**

Latitude: **37.80408** Longitude: **-121.31406** River\_Mile: **54.14** Levee\_Mile: **0.91** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>15</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>20</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Silty Sand and Sandy Silt</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Good, covers entire slo</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>2.1</b>
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0** Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/24/2015</b>

**Comments:**

06/24/2015: No significant change observed.  
 6/19/2014: No significant change observed.  
 08/13/2013. This was repaired prior to the boat survey. No new erosion found at the site  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: No significant change observed at the site. There is vegetation on the slope. There is a bridge construction site just upstream of the erosion. The impact of the construction may need to be monitored.  
 09/07/2010: No significant change observed on site. Sloughing of the existing rip rap revetment on the lower slope has developed into an erosion pocket. There is moderate annual grass growth on the slope.  
 08/06/2010: Recommended as local maintenance issue, per CLRO.  
 03/09/2010: Per Michael Moncrief of MBK, site is scheduled for repair this year.  
 2009: Landside ground surface has been raised to the height of the levee crown; sloughing of the existing rip rap revetment on the lower slope that has created a pocket, exposing underlying soil; Site # is the same RM54.34,LM1.08; previously rated "M".  
 2006: Previously marked with stake.



Front view of the repaired site.



Front view of the rip rap.



Front view of the site.





LMA: **RD2062 U03 Stewart** Waterway: **LB Old River**  
 Site ID: **RD2062U03RM29.93** Status: **Existing Site**

Latitude: **37.809673** Longitude: **-121.390321** River\_Mile: **29.93** Levee\_Mile: **0.02** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>450</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 167 Normalized Score (out of 100%): 63**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: Site is at the upstream of a drainage ditch.



Front view of the erosion.



Front view of the erosion.



Close view of the erosion.



Front view of the erosion. Note the dense vegetation.

LMA: **RD2062 U03 Stewart** Waterway: **LB Old River**  
 Site ID: **RD2062U03RM30.02** Status: **Existing Site**

Latitude: **37.810052** Longitude: **-121.388847** River\_Mile: **30.02** Levee\_Mile: **0.1** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>40</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>2</b>	x2 <b>4</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **166** **Normalized Score (out of 100%):** **63**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>3</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: Hard to view the erosion because of the dense vegetation and trees on site.  
 The site is under the bush, close to the tree.



Front view of the site.



Close view of the site.



Close view of the site. Note the vegetation.



View of the site from downstream.



LMA: **RD2062 U03 Stewart** Waterway: **LB Old River**  
 Site ID: **RD2062U03RM30.1** Status: **Existing Site**

Latitude: **37.810468** Longitude: **-121.387492** River\_Mile: **30.10** Levee\_Mile: **0.18** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>20</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>16</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **153** Normalized Score (out of 100%): **58**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: The protection at the levee toe has been washed away.



Direct view of the site.



Front view of the erosion.



Close view of the erosion.



Close view of the erosion.

LMA: **RD2062 U03 Stewart** Waterway: **LB Old River**  
 Site ID: **RD2062U03RM30.19** Status: **Existing Site**

Latitude: **37.810609** Longitude: **-121.385879** River\_Mile: **30.19** Levee\_Mile: **0.27** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>475</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>21</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	<u>Score:</u>	<u>Weighted Score:</u>		<u>Score:</u>	<u>Weighted Score:</u>
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>1</b>	x4 <b>4</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>2</b>	x2 <b>4</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 163 Normalized Score (out of 100%): 62**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: A new pocket erosion at the upper levee slope has been found directly above a large tree. The erosion might have been caused by internal pipe leakage or surface runoff.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: No significant change observed on site. Dense vegetation is visible along the water line.  
 09/07/2010: No significant change observed on site. Much of the upper slope was recently cleared of vegetation by spraying. 4- to 6-foot vertical scarp and pocket erosions are lined along a span of 475 feet. In some sections, the vertical scarp encroaches into the levee prism. There is a lack of berm along this reach, exposing the levee slope to high flow velocities during normal and flood events.  
 08/06/2010: Recommended as local maintenance issue, per CLRO.  
 03/09/2010: As discussed with Michael Moncrief of MBK Engineers, the site will be 'addressed' later this year.  
 09/29/2009: No major change observed since last visit; pocket erosion and a vertical scarp forming; this site was combined with Site RM30.13 and 30.02 with a combined total erosion length of 475 feet; recommended as annual assessment and monitoring of the site, per CLRO CES Evaluation 2008 Report; previously rated "M".



View of the pocket erosion and the tree.



Close view of the pocket erosion.



Front view of the site with dense vegetation.



Front view of the existing erosion at the toe.



LMA: RD2062 U03 Stewart Waterway: LB Old River  
 Site ID: RD2062U03RM30.27 Status: Existing Site

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
 37.811281 -121.384461 30.27 0.35 M

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	16	WS Berm Width (ft):	0
Crest Width (ft):	20	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Silts and Clean Sands
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Medium to Dense	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	Near vertical
Levee Slope Condition:	No caving	Bank Condition:	Very deteriorated
Location of Erosion:	Up to mid slope	Tree Hazard:	No or small trees
Site Relative to Bend:	Immediately Downstream	Radius of Curvature:	2.6
Max Tidal (ft):	1.0 to 2.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	1	x3 3	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	2	x4 8	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	5	x4 20
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	1	x3 3	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	0	x2 0	Bank Condition:	5	x2 10
Location of Erosion:	3	x2 6	Tree Hazard:	0	x2 0
Site Relative to Bend:	2	x1 2	Radius of Curvature:	3	x1 3
Max Tidal (ft):	1	x2 2	Geomorphologic:	0	x3 0

Total Score (out of 265): 155 Normalized Score (out of 100%): 58

**III. Misc**

Crown Type:	Earthen	Scarp Height (ft):	4
Bank Protection Type:	None	Cause of Erosion:	River Induced
Erosion Indicator:	Pocket	Survey Date:	6/25/2015

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: The site is right at the downstream of a river bend.



Front view of the erosion.



Close view of the site.



Front view of the erosion.



Close view of the site. Note the piled concrete debris.

LMA: **RD2062 U03 Stewart** Waterway: **LB Old River**  
 Site ID: **RD2062U03RM30.43** Status: **Existing Site**

Latitude: **37.81307** Longitude: **-121.3831** River\_Mile: **30.43** Levee\_Mile: **0.56** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>30</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>35</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>1.9</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>3</b>	x3 <b>9</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>4</b>	x1 <b>4</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **152** Normalized Score (out of 100%): **57**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>4</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed.  
 08/23/2011: No significant change observed on site.  
 09/07/2010: No significant change observed on site. Much of the placed rip rap revetment has slid. It is no longer adequately protecting the slope.  
 08/06/2010: Recommended as local maintenance issue, per CLRO Report.  
 03/09/2010: As discussed with Michael Moncrief of MBK, site will be 'addressed' this year.  
 09/29/2009: No major change observed since last visit; a section of the rip rap has slipped, exposing a levee section that has eroded; recommended as local maintenance issue, per CLRO CES Evaluation 2008 Report; Site # is the same as RM30.43,LM0.63; previously rated "U".  
 11/05/2008: Site is located inside of a bend; scarp looks to be into the levee prism; piles of concrete chunks placed on the slope, with some of them already starting to slide.



Close view of the site.



Front view of the site. Previously placed rip rap slipped, exposing the underlying soils and creating a pocket.



Front view of the site. Rip rap no longer adequately protecting levee slope.



Front view of the site.



LMA: **RD2062 U03 Stewart** Waterway: **LB Old River**  
 Site ID: **RD2062U03RM31.12** Status: **Existing Site**

Latitude: **37.81929** Longitude: **-121.37888** River\_Mile: **31.12** Levee\_Mile: **1.2** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>30</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to mid slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Outside of Bend &lt; 90 deg</b>	Radius of Curvature:	<b>1.8</b>
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>3</b>	x2 <b>6</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>4</b>	x1 <b>4</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265):** **161** **Normalized Score (out of 100%):** **61**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>2</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Terracetting</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: No significant change observed on site.  
 09/07/2010: No significant change observed on site. Much of the seasonal grass along the slope was cleared. Site consists of an existing scalloped erosion approximately 30 feet long by 5 feet wide at its widest opening. The lateral crack is extended outwards along the middle slope. There is a 1 to 2 feet of differential settlement that could further develop into a shallow slide.  
 08/06/2010: Recommended as local maintenance issue, per CLRO.  
 03/09/2010: As discussed with Michael Moncrief of MBK Engineer, site will be 'addressed' this year.  
 09/28/2009: No major change observed; section of rip rap has slipped, creating a terraced effect; dense vegetation growth; recommended as a local maintenance issue, per CLRO CES Evaluation 2008 Report; Site # is the same as RM31.12, LM1.25; previously rated "U".  
 09/14/2006: 1-2' into prism.



Front view of the site.



Close view of the site.



Front view of the site. Note the crack along the middle of the slope.



Front view of the site.

LMA: **RD2062 U03 Stewart** Waterway: **LB Old River**  
 Site ID: **RD2062U03RM31.28** Status: **Existing Site**

Latitude: **37.82138** Longitude: **-121.3769** River\_Mile: **31.28** Levee\_Mile: **1.42** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>30</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>18</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &gt;1/2 Slope</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>2.7</b>
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>4</b>	x3 <b>12</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>2</b>	x2 <b>4</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>3</b>	x1 <b>3</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 170 Normalized Score (out of 100%): 64**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>2</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>Poor Maintenance Practice</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: No significant change observed on site.  
 09/07/2010: No significant change observed on site. There is a small- to medium sized Oak tree on the mid-slope just above rip rap. Some of the rip rap has collapsed, creating a pocket erosion just above the existing toe rip rap and upstream of the Oak tree.  
 08/06/2010: Recommended as local maintenance issue, per CLRO.  
 03/09/2010: As discussed with Michael Moncrief of MBK Engineer, site will be 'addressed' in 2010.  
 09/29/2009: No major change since last visit; sliding of the rip rap at the base of the lone tree; there is noticeable man-made trail and foot traffic extending from the crown to the toe; much of the broken concrete used as temporary rip rap has slid, exposing portion of the bare levee slope; recommended as local maintenance issue, per CLRO CES Evaluation 2008 Report; Site # is the same as RM31.3, LM1.45; previously rated "M".  
 11/05/2008: Portion of rip rap collapsing.  
 09/14/2006: Portion of rip rap along the slope has collapsed; exposed levee section is starting to erode, exposing roots from the nearby tree.



Front view of the erosion site.



A closer view of the site.



Front view of the site. Note existing broken concrete on the upper slope as well as on the lower slope and at the toe.



Front view of the site.



LMA: **RD2075 U01 McMullin** Waterway: **RB San Joaquin River**  
 Site ID: **RD2075U01RM64.34** Status: **Existing Site**

Latitude: **37.727933** Longitude: **-121.274491** River\_Mile: **64.34** Levee\_Mile: **5.34** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>75</b>	WS Berm Width (ft):	<b>10</b>
Crest Width (ft):	<b>26</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Scattered &lt;1/2 Slope</b>	Bank Condition:	<b>No caving</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	<b>5.0</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>4</b>	x3 <b>12</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>1</b>	x2 <b>2</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>1</b>	x1 <b>1</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 129 Normalized Score (out of 100%): 49**

**III. Misc**

Crown Type:	<b>Paved</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Cracking</b>	Survey Date:	<b>8/28/2015</b>

**Comments:**

08/28/2015: No significant change observed. Loose material is visible at the upper levee slope. The loose soil may have been caused by runoff.  
 08/18/2014: No significant change observed.  
 09/10/2013: No significant change observed.  
 09/13/2012: No significant change observed.  
 08/18/2011: No significant change observed. Some new material added to the water side levee slope, but the added material is loose and seems not helping the levee protection.  
 10/05/2010: No significant change observed. Levee slope has minimal vegetation and lacks rip rap protection. Sandy material found on the lower and middle slope is an undesirable material to have on a levee.  
 08/05/2010: Recommended for annual assessment and monitoring during flood events, per CLRO.  
 08/20/2009: No major change since last visit; site is located in an oxbow; slope surface consists of very sandy material; there is a tree on site leaning and with exposed tree roots; site is recommended as a local maintenance issue, per CLRO CES Evaluation 2008 Report; Eddy Cordoza from the district is aware of the site and is looking for recommendation; site is previously rated "U".  
 08/17/2007: Site is close to an irrigation pump inlet.



Looking upstream at the site.



View of the site.



Looking downstream at the erosion site.



Direct view of the levee slope. Note the loose soil possibly caused by runoff.

LMA: **RD2085 U01 Kasson** Waterway: **LB San Joaquin River**  
 Site ID: **RD2085U01RM66.5** Status: **Existing Site**

Latitude: **37.703094** Longitude: **121.274894** River\_Mile: **66.50** Levee\_Mile: **2.56** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>85</b>	WS Berm Width (ft):	<b>17</b>
Crest Width (ft):	<b>13</b>	Burrow Activity:	<b>Signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Dense</b>	Bank Slope Veg.:	<b>Medium to Dense</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>Large trees</b>
Site Relative to Bend:	<b>Inside of Bend</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>Migration erosion side</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>2</b>	x3 <b>6</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>5</b>	x2 <b>10</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>1</b>	x3 <b>3</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>3</b>	x2 <b>6</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>5</b>	x1 <b>5</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>3</b>	x3 <b>9</b>

Total Score (out of 265): **136** Normalized Score (out of 100%): **51**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>15</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>9/10/2015</b>

**Comments:**

09/10/2015: No significant change observed. Signs of animal activity are present.  
 09/10/2014: No significant change observed.  
 09/20/2013: No significant change in erosion observed. More vegetation at the site.  
 12/04/2012: The erosion has progressed remarkably toward levee, extended to the up- and downstream of the original pocket erosion. Trees and dense bush are present at the site. Animal burrow holes are visible, and possibly can cause seepage.  
 09/22/2010: No significant change observed. There is little visibility due to seasonal grass on the berm and slope.  
 08/18/2009: Site is located on berm; pocket erosion has developed; the site is covered in dense vegetation; there are several relief wells on the landside of the levee; site is Not Rated because berm width is greater than 30 feet; site should be monitored to keep track of erosion progress.



Close view of the erosion.



Close view of the erosion.



Direct view of the erosion. Note dense vegetation at the site.

Close view of the erosion.



LMA: **RD2085 U01 Kasson** Waterway: **LB San Joaquin River**  
 Site ID: **RD2085U01RM67.7** Status: **Not Rated**

Latitude: **37.688545** Longitude: **-121.276298** River\_Mile: **67.70** Levee\_Mile: **3.64** Overall Rating:

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>670</b>	WS Berm Width (ft):	<b>42</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Slight to Medium</b>	Bank Slope Veg.:	<b>Slight</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Outside of Bend &lt; 90 deg</b>	Radius of Curvature:	<b>1.0</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>Migration erosion side</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>0</b>	x3 <b>0</b>	WS Berm Width (ft):	<b>0</b>	x3 <b>0</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>0</b>	x4 <b>0</b>	Bank Soil Type:	<b>0</b>	x4 <b>0</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>0</b>	x3 <b>0</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>0</b>	x4 <b>0</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>0</b>	x1 <b>0</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **0** Normalized Score (out of 100%):

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>17</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/19/2015</b>

**Comments:**

08/19/2015: No significant change observed.  
 7/17/2014: No significant change observed.  
 09/10/2013: No significant change observed.  
 12/04/2012: This site has been documented before, and a cost estimate to repair has been prepared dated 05/09/2010. The fresh cut shows the erosion is developing. The berm width is at least 42 feet. Sticks were placed at three locations along the river bank, with 3 sticks 5 feet apart at each location.



View of the downstream end of the erosion.



Close view of the erosion.



Direct view of the erosion.



Looking upstream.

LMA: RD2089 U01 Stark  
Site ID: RD2089U01RM29.04

Waterway: RB Old River  
Status: Existing Site

Latitude: 37.80558 Longitude: -121.40301 River\_Mile: 29.04 Levee\_Mile: 1.22 Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	30	WS Berm Width (ft):	0
Crest Width (ft):	12	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Silts and Clean Sands
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Medium to Dense	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	Near vertical
Levee Slope Condition:	No caving	Bank Condition:	Very deteriorated
Location of Erosion:	Up to lower slope	Tree Hazard:	Young trees
Site Relative to Bend:	Straight Reach	Radius of Curvature:	
Max Tidal (ft):	1.0 to 2.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	1	x3 3	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	3	x4 12	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	5	x4 20
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	1	x3 3	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	0	x2 0	Bank Condition:	5	x2 10
Location of Erosion:	2	x2 4	Tree Hazard:	1	x2 2
Site Relative to Bend:	1	x1 1	Radius of Curvature:	0	x1 0
Max Tidal (ft):	1	x2 2	Geomorphologic:	0	x3 0

Total Score (out of 265): 155 Normalized Score (out of 100%): **58**

**III. Misc**

Crown Type:	Earthen	Scarp Height (ft):	15
Bank Protection Type:	None	Cause of Erosion:	River Induced
Erosion Indicator:	Pocket	Survey Date:	6/25/2015

**Comments:**

06/25/2015: No significant change observed.  
07/02/2014: No significant change observed.  
08/13/2013: The erosion is around a tree at the levee toe. Dense vegetation is visible.



View of the erosion from the survey boat.



Close view of the site.



Close view of the site. Note the tree and the vegetation.



Front view of the erosion.



LMA: **RD2089 U01 Stark** Waterway: **RB Old River**  
 Site ID: **RD2089U01RM29.61** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**37.80978 -121.39623 29.61 0.66 U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>20</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>15</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to lower slope</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>2.2</b>
Max Tidal (ft):	<b>1.0 to 2.0 ft.</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>3</b>	x4 <b>12</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>1</b>	x3 <b>3</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>2</b>	x2 <b>4</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>3</b>	x1 <b>3</b>
Max Tidal (ft):	<b>1</b>	x2 <b>2</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **160** Normalized Score (out of 100%): **60**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>6/25/2015</b>

**Comments:**

06/25/2015: No significant change observed.  
 07/02/2014: No significant change observed.  
 08/13/2013: No significant change observed.  
 08/07/2012: The site has been visited by boat survey. No significant change observed  
 08/23/2011: The 5-foot vertical scarp shows no significant change from the last year inspection. No new erosion activities observed. Dense white willow trees on site.  
 09/07/2010: It was difficult to view the erosion due to the thick Willow thickets and other vegetation at the water line. At the time of the inspection, there were no signs of repair on site. As noted during the last survey, there is a 5-foot vertical scarp along the lower slope that may be subjected to high flow velocities.  
 08/05/2010: Recommended for repair, per CLRO; "Erosion of this site may be subjective to rapid rates of erosion."  
 09/28/2009: No major change observed; 5-foot vertical scarp is immediately downstream of where berm has tapered; site is recommended as local maintenance issue, per CLRO CES Evaluation 2008 Report; Site # is the same as RM29.6, LM0.60; previously rated "U".  
 11/05/2008: No change observed; rodent holes on lower slope; wide levee crown.



Front view of the site. The scarp is visible on the slope.



Front view of the site. Note the very dense white willow thickets on site.



Front view of the site.



Front view of the site. Note the erosion is invisible because of the dense vegetation.

LMA: RD2089 U01 Stark  
Site ID: RD2089U01RM29.8

Waterway: RB Old River  
Status: Existing Site

Latitude: 37.809394 Longitude: -121.392791 River\_Mile: 29.80 Levee\_Mile: 0.45 Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	4	WS Berm Width (ft):	0
Crest Width (ft):	15	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Silts and Clean Sands
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Dense	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	Near vertical

Levee Slope Condition:	No caving	Bank Condition:	Very deteriorated
Location of Erosion:	Up to upper slope	Tree Hazard:	No or small trees
Site Relative to Bend:	Inside of Bend	Radius of Curvature:	
Max Tidal (ft):	1.0 to 2.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	0	x3 0	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	3	x4 12	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	5	x4 20
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	0	x3 0	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	0	x2 0	Bank Condition:	5	x2 10
Location of Erosion:	4	x2 8	Tree Hazard:	0	x2 0
Site Relative to Bend:	0	x1 0	Radius of Curvature:	5	x1 5
Max Tidal (ft):	1	x2 2	Geomorphologic:	0	x3 0

Total Score (out of 265): 155 Normalized Score (out of 100%): **58**

**III. Misc**

Crown Type:	Earthen	Scarp Height (ft):	2
Bank Protection Type:	None	Cause of Erosion:	Poor Maintenance Practice
Erosion Indicator:	Loose Soil	Survey Date:	6/25/2015

**Comments:**

06/25/2015: No significant change observed.  
07/02/2014: No significant change observed.  
08/13/2013: No significant change observed.  
08/07/2012: The site has been visited by boat survey. No significant change observed  
08/23/2011: The site shows loose material around the pipe crossing. The operation of the pipe might have caused an impact on the levee.



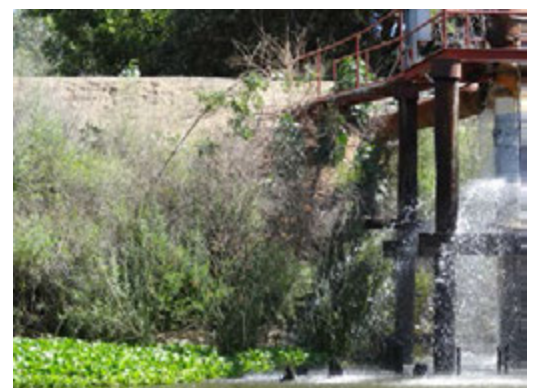
Front view of the site. The irrigation pipe is functioning and leaking water at the site.



Front view of the site.



Close view of the site.



Close view of the site.



LMA: RD2089 U01 Stark  
Site ID: RD2089U01RM29.94

Waterway: RB Old River  
Status: New Site

Latitude: 37.809833 Longitude: -121.390261 River\_Mile: 29.94 Levee\_Mile: 0.59 Overall Rating: [M](#)

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	40	WS Berm Width (ft):	0
Crest Width (ft):	15	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Clayey Sand
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Slight	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	3:1 or greater

Levee Slope Condition:	No caving	Bank Condition:	Very deteriorated
Location of Erosion:	Up to levee toe	Tree Hazard:	Large trees
Site Relative to Bend:	Straight Reach	Radius of Curvature:	
Max Tidal (ft):	1.0 to 2.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	1	x3 3	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	3	x4 12	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	2	x4 8
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	4	x3 12	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	0	x4 0
Levee Slope Condition:	0	x2 0	Bank Condition:	5	x2 10
Location of Erosion:	1	x2 2	Tree Hazard:	3	x2 6
Site Relative to Bend:	1	x1 1	Radius of Curvature:	0	x1 0
Max Tidal (ft):	1	x2 2	Geomorphologic:	0	x3 0

Total Score (out of 265): 134 Normalized Score (out of 100%): [51](#)

**III. Misc**

Crown Type:	Gravel	Scarp Height (ft):	10
Bank Protection Type:	None	Cause of Erosion:	River Induced
Erosion Indicator:	Pocket	Survey Date:	6/25/2015

**Comments:**

06/25/2015: The erosion is below a large oak tree. Vegetation is visible around the eroiosn site.



Front view of the erosion site. Note the large tree above the erosion.



Close view of the erosion.

LMA: RD2089 U02 Stark  
Site ID: RD2089U02RM28.35

Waterway: RB Old River  
Status: Existing Site

Latitude: 37.80996 Longitude: -121.4132 River\_Mile: 28.35 Levee\_Mile: 0.42 Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	60	WS Berm Width (ft):	0
Crest Width (ft):	18	Burrow Activity:	No signs of activity
Levee Soil Type:	Clayey Sand	Bank Soil Type:	Silts and Clean Sands
Levee Revetment:	Very poor or none	Bank Revetment:	Very poor or none
Levee Slope Veg.:	Slight to Medium (40-2	Bank Slope Veg.:	No vegetation
Levee Slope (H:V):	3:1 or greater	Bank Slope (H:V):	Near vertical
Levee Slope Condition:	No caving	Bank Condition:	Very deteriorated
Location of Erosion:	Up to mid slope	Tree Hazard:	Young trees
Site Relative to Bend:	Inside of Bend	Radius of Curvature:	7.0
Max Tidal (ft):	1.0 to 2.0 ft.	Geomorphologic:	No migration

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	1	x3 3	WS Berm Width (ft):	5	x3 15
Crest Width (ft):	2	x4 8	WS Burrow Activity:	0	x2 0
Levee Soil Type:	2	x4 8	Bank Soil Type:	5	x4 20
Levee Revetment:	5	x4 20	Bank Revetment:	5	x4 20
Levee Slope Veg.:	0	x3 0	Bank Slope Veg.:	5	x3 15
Levee Slope (H:V):	0	x4 0	Bank Slope (H:V):	5	x4 20
Levee Slope Condition:	0	x2 0	Bank Condition:	5	x2 10
Location of Erosion:	3	x2 6	Tree Hazard:	1	x2 2
Site Relative to Bend:	0	x1 0	Radius of Curvature:	0	x1 0
Max Tidal (ft):	1	x2 2	Geomorphologic:	0	x3 0

Total Score (out of 265): 149 Normalized Score (out of 100%): **56**

**III. Misc**

Crown Type:	Earthen	Scarp Height (ft):	6
Bank Protection Type:	None	Cause of Erosion:	River Induced
Erosion Indicator:	Pocket	Survey Date:	6/25/2015

**Comments:**

06/25/2015: No significant change observed.  
07/02/2014: No significant change observed.  
08/13/2013: No significant change observed.  
08/07/2012: The site has been visited by boat survey. No significant change observed.  
08/23/2011: No significant change observed on site.  
09/07/2010: Site consists of a jutting rip rap that has created an eddy, scouring the levee slope. Most sections of the toe and lower slope are lined with rip rap. However, the rip rap is sloughing on the mid slope and at the toe, exposing the underlying soils and tree roots. The remaining revetment is no longer adequately protecting the slope. There are 3 Sycamore trees at the toe with exposed tree roots.  
08/05/2010: Recommended for repair, per CLRO.  
09/28/2009: Pocket erosion on lower slope just above the toe rip rap; protruding rip rap upstream is creating an eddy, scouring the levee slope; Site # is the same as RM28.40, LM0.30; previously rated "U"; pictures will be made available during the next survey.  
11/05/2008: Cut into levee profile; riprap slide; rodent holes; pictures do not match GPS and current condition.



View of the site from the survey boat.



View of the site from the survey boat.



View of the site from the survey boat.



View of the site from the survey boat.



LMA: **RD2095 U01 Paradise Cut** Waterway: **LB Paradise Cut**  
 Site ID: **RD2095U01RM6.74** Status: **Existing Site**

Latitude: **37.76363** Longitude: **-121.319** River\_Mile: **6.74** Levee\_Mile: **0.73** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>50</b>	WS Berm Width (ft):	<b>10</b>
Crest Width (ft):	<b>24</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium</b>	Bank Slope Veg.:	<b>Slight to Medium</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>Scattered &gt;1/2 Slope</b>	Bank Condition:	<b>Frequent &lt;1/2 Slope</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Straight Reach</b>	Radius of Curvature:	
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>1</b>	x3 <b>3</b>	WS Berm Width (ft):	<b>4</b>	x3 <b>12</b>
Crest Width (ft):	<b>1</b>	x4 <b>4</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>2</b>	x3 <b>6</b>	Bank Slope Veg.:	<b>3</b>	x3 <b>9</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>2</b>	x2 <b>4</b>	Bank Condition:	<b>0</b>	x2 <b>0</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>1</b>	x1 <b>1</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **113** Normalized Score (out of 100%): **43**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>8</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Pocket</b>	Survey Date:	<b>8/4/2015</b>

**Comments:**

08/04/2015: No significant change observed.  
 08/26/2014: No significant change observed.  
 08/28/2013: No significant change observed.  
 07/18/2012: No significant change observed.  
 09/02/2011: No significant change observed.  
 09/22/2010: No significant change observed. There is now considerable vegetation at the water line and along the lower berm slope. However, the erosion on the lower berm slope is still present and has not been corrected.  
 08/06/2010: Recommended for local maintenance issue, per CLRO.  
 07/29/2009: No major change since last visit; noticeable vegetation growth; erosion is on berm, but if left untreated, it will eventually erode into levee prism; site is recommended for annual assessment and monitoring of the site, per CLRO CES 2008 Report; Site # is the same as RM6.80,LM0.73; previously rated "U".  
 07/22/2008: Downstream of WPRR near siphon pipe & pump; sandy levee; visited by Jeff Van Gilder and LRO in 2008 for repair assessment; scouring downstream of RR crossing, possibly caused by eddy effects.  
 03/13/2007: Site visited on 03/13/2007.



Direct view of the erosion upstream of Railroad bridge.



Looking down at the erosion downstream of the Railroad bridge.



Close view of the erosion downstream of the RR bridge.



Close view of the erosion.

LMA: **RD2095 U02 Paradise Cut** Waterway: **LB San Joaquin River**  
 Site ID: **RD2095U02RM60.62** Status: **Existing Site**

Latitude: **37.740196** Longitude: **-121.297662** River\_Mile: **60.62** Levee\_Mile: **1.78** Overall Rating: **M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>150</b>	WS Berm Width (ft):	<b>25</b>
Crest Width (ft):	<b>60</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Clayey Sand</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>Slight to Medium</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>1:1 or less</b>
Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Below levee toe</b>	Tree Hazard:	<b>No or small trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>5.7</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>1</b>	x3 <b>3</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>2</b>	x4 <b>8</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>1</b>	x3 <b>3</b>	Bank Slope Veg.:	<b>3</b>	x3 <b>9</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>0</b>	x2 <b>0</b>	Tree Hazard:	<b>0</b>	x2 <b>0</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

Total Score (out of 265): **106** Normalized Score (out of 100%): **40**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>10</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/4/2015</b>

**Comments:**

08/04/2015: No significant change observed.  
 7/02/2014: No significant change observed.  
 08/28/2013: No significant change observed.  
 09/13/2012: The site has been visited by land survey. The vegetation on the site shows the erosion has not developed significantly from the last survey.  
 The site was not visited by boat survey due to the limitation of navigable waterway.  
 08/23/2011: No significant change observed.  
 9/22/2010: No significant change observed. There is moderate vegetation growth on the berm. Despite the erosion occurring on the berm, corrective action should be taken before the issue becomes severe.  
 9/29/2009: Site is immediately downstream of a section of existing rip rap; there is a 20-foot berm remaining; berm will continue to erode unless erosion is mitigated; Site# is the same as RM62.6, LM1.87; recommended for annual assessment, per CES Evaluation 2008 Report  
 2006: Visited 10/20/06



Close view of the site.



View of the erosion.



Close view of the site.



Close view of the site.





LMA: **RD2095 U02 Paradise Cut** Waterway: **LB San Joaquin River**  
 Site ID: **RD2095U02RM60.69** Status: **Existing Site**

Latitude: Longitude: River\_Mile: Levee\_Mile: Overall Rating:  
**37.73888 -121.29826 60.69 1.87 M**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>200</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>45</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Good, covers entire slo</b>	Bank Revetment:	<b>Good, covers entire slop</b>
Levee Slope Veg.:	<b>Medium to Dense</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>1:1 or less</b>

Levee Slope Condition:	<b>No caving</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to levee toe</b>	Tree Hazard:	<b>Medium trees</b>
Site Relative to Bend:	<b>Outside of bend &gt; 90 deg</b>	Radius of Curvature:	<b>5.7</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>No migration</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>0</b>	x4 <b>0</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>0</b>	x4 <b>0</b>	Bank Revetment:	<b>0</b>	x4 <b>0</b>
Levee Slope Veg.:	<b>1</b>	x3 <b>3</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>4</b>	x4 <b>16</b>
Levee Slope Condition:	<b>0</b>	x2 <b>0</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>1</b>	x2 <b>2</b>	Tree Hazard:	<b>2</b>	x2 <b>4</b>
Site Relative to Bend:	<b>3</b>	x1 <b>3</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>0</b>	x3 <b>0</b>

**Total Score (out of 265): 102 Normalized Score (out of 100%): 38**

**III. Misc**

Crown Type:	<b>Gravel</b>	Scarp Height (ft):	<b>5</b>
Bank Protection Type:	<b>Riprap</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/4/2015</b>

**Comments:**

08/04/2015: No significant change observed.  
 7/02/2014: No significant change observed.  
 08/28/2013: No significant change observed. Dense vegetation blocks the visual inspection at the site.  
 09/13/2012: The site has been visited by land survey. The erosion is not visible from the levee slope because of dense vegetation at the site. Levee slope is protected by placed rocks. The site was not visited by boat survey due to the limitation of navigable waterway.  
 08/23/2011: Dense vegetation makes it difficult to view the possible erosion. No new development was observed on site.  
 09/23/2010: At the time of the inspection, the erosion site was difficult to view from the levee. The erosion is located on the bank toe, below the existing rip rap. There were no signs of repair on site, nor has the site been reported to be repaired by the district. Images taken from last year indicate that existing rip rap at the bank toe has sloughed exposing the underlying soils. Weakening of the toe could lead to future bank instability.  
 08/05/2010: Recommended for annual assessment and monitoring during flood events, per CLRO.  
 09/29/2009: No major change observed since last visit; sloughing of the rip rap above toe; erosion begins immediately downstream of existing rip rap revetment; roughly 15-foot berm remains; however, it will continue to erode and eventually intrude into the



View of the erosion from the survey boat. The dense vegetation on the site blocks the view of the erosion.



The erosion is not visible from the levee top. The levee slope is protected by riprap rocks.



LMA: **RD2101 U01 Blewett** Waterway: **LB San Joaquin River**  
 Site ID: **RD2101U01RM73.92** Status: **Existing Site**

Latitude: **37.650259** Longitude: **-121.228961** River\_Mile: **73.92** Levee\_Mile: **1.95** Overall Rating: **U**

**I. Site Feature** \*All Levee conditions are on waterside. Max Tidal is maximum tidal fluctuation.

Length (ft):	<b>500</b>	WS Berm Width (ft):	<b>0</b>
Crest Width (ft):	<b>16</b>	Burrow Activity:	<b>No signs of activity</b>
Levee Soil Type:	<b>Clayey Sand</b>	Bank Soil Type:	<b>Silts and Clean Sands</b>
Levee Revetment:	<b>Very poor or none</b>	Bank Revetment:	<b>Very poor or none</b>
Levee Slope Veg.:	<b>Medium to Dense (80-6</b>	Bank Slope Veg.:	<b>No vegetation</b>
Levee Slope (H:V):	<b>3:1 or greater</b>	Bank Slope (H:V):	<b>Near vertical</b>
Levee Slope Condition:	<b>Very deteriorated</b>	Bank Condition:	<b>Very deteriorated</b>
Location of Erosion:	<b>Up to upper slope</b>	Tree Hazard:	<b>Young trees</b>
Site Relative to Bend:	<b>Immediately Downstrea</b>	Radius of Curvature:	<b>7.9</b>
Max Tidal (ft):	<b>Less than 1.0 ft</b>	Geomorphologic:	<b>Migration both sides</b>

**II. Criteria**

	Score:	Weighted Score:		Score:	Weighted Score:
Length (ft):	<b>2</b>	x3 <b>6</b>	WS Berm Width (ft):	<b>5</b>	x3 <b>15</b>
Crest Width (ft):	<b>2</b>	x4 <b>8</b>	WS Burrow Activity:	<b>0</b>	x2 <b>0</b>
Levee Soil Type:	<b>2</b>	x4 <b>8</b>	Bank Soil Type:	<b>5</b>	x4 <b>20</b>
Levee Revetment:	<b>5</b>	x4 <b>20</b>	Bank Revetment:	<b>5</b>	x4 <b>20</b>
Levee Slope Veg.:	<b>0</b>	x3 <b>0</b>	Bank Slope Veg.:	<b>5</b>	x3 <b>15</b>
Levee Slope (H:V):	<b>0</b>	x4 <b>0</b>	Bank Slope (H:V):	<b>5</b>	x4 <b>20</b>
Levee Slope Condition:	<b>5</b>	x2 <b>10</b>	Bank Condition:	<b>5</b>	x2 <b>10</b>
Location of Erosion:	<b>4</b>	x2 <b>8</b>	Tree Hazard:	<b>1</b>	x2 <b>2</b>
Site Relative to Bend:	<b>2</b>	x1 <b>2</b>	Radius of Curvature:	<b>0</b>	x1 <b>0</b>
Max Tidal (ft):	<b>0</b>	x2 <b>0</b>	Geomorphologic:	<b>5</b>	x3 <b>15</b>

**Total Score (out of 265): 179 Normalized Score (out of 100%): 68**

**III. Misc**

Crown Type:	<b>Earthen</b>	Scarp Height (ft):	<b>17</b>
Bank Protection Type:	<b>None</b>	Cause of Erosion:	<b>River Induced</b>
Erosion Indicator:	<b>Scarp</b>	Survey Date:	<b>8/19/2015</b>

**Comments:**

08/19/2015: No significant change observed.  
 07/17/2014: No significant change observed.  
 09/20/2013: Site has been visited. There are signs of further erosion development along the levee slope and toe.  
 07/18/2012: The erosion has further developed toward levee crown. Vegetation has been removed.  
 08/18/2011: The erosion progressed significantly during the past flood season. The levee toe along the erosion site was washed away, and the erosion has cut the levee structure up to the point about 1/3 of the levee slope. The scarp height is approximately 17 feet. Very dense vegetation and trees are visible.  
 10/19/2010: No significant change observed on site. Remaining levee berm topsoil is of silty sand mixture. The erosion is near the downstream transition. An eddy has formed, and has scoured away a 100-foot section of the bank, possibly encroaching into the levee prism. Vegetation on site includes willows, oak, and cotton wood located from the bench to the toe. On the landside are rows of corn crop.  
 08/05/2010: Recommended for Repair, per CLRO.  
 2009: Site recommended as annual assessment and monitoring if critical erosion site, per CLRO CES Evaluation 2008 Report; an eddy has formed, eroding bank and intruding into the levee prism; Site # is the same as RM76.3, LM1.89; previously rated "U".  
 08/30/2007: Recommended for short list of immediate repair sites; silty sand levee



Upstream view of the erosion.



Downstream view of the erosion.



Close view of the erosion.



Close view of the erosion. Levee crest is approximately 8 feet above the erosion.

