Notice of Determination

Form C

To: ☑ Office of Planning and Research
PO Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

☑ County Clerk
County of Tehama

From: Tehama County Public Works
9380 San Benito Avenue
Gerber, CA 96035
(Address)

FILED
AUG 17 2005
MARY ALICE GEORGE
TEHAMA COUNTY CLERK
By _____ Deputy

Subject:
Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Bowman Road @ SF Cottonwood Creek
Project Title

2005062122	Kevin Rosser	530/385-1462/3051
State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	Area Code/Telephone/Extension

Tehama County 11 miles west of Cottonwood, T28N.,R5W.,Sec.32
Project Location (include county)

Project Description:

The proposed action replaces the existing bridge with a new 38'10"-wide, 450-foot-long, three-span cast-in-place prestressed concrete box girder supported on single column bents approximately 250 feet upstream of the existing bridge. Approximately 300 feet of rock slope protection will be placed to protect the stream bank.

This is to advise that the Tehama County Board of Supervisors ☑ Lead Agency ☐ Responsible Agency has approved the above described project on 8/16/2005 (Date) and has made the following determinations regarding the above described project:

1. The project [☐will ☑will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☑ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☑were ☐were not] made a condition of the approval of the project.
4. A statement of Overriding Considerations [☐was ☑was not] adopted for this project.
5. Findings [☑were ☐were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval is available to the General Public at:
Tehama County Public Works, 9380 San Benito Avenue, Gerber, CA 96035

Kevin Rosser	08/16/05	Environmental Planner
Signature (Public Agency)	*Date*	*Title*

Date received for filing at OPR:

January 2004

MINUTE ORDER
BOARD OF SUPERVISORS
COUNTY OF TEHAMA, STATE OF CALIFORNIA

R E G U L A R A G E N D A

TEHAMA COUNTY PUBLIC WORKS DEPARTMENT / ROADS & BRIDGES – Adoption of the Findings and Mitigated Negative Declaration for the Bowman Road @ SF Cottonwood Creek Bridge Reconstruction Project

Acting Public Works Director Gerald Brownfield gave a brief overview of this project that came before the Board in 2003 for designation of this site as the preferred alignment for the project. Environmental Planner Kevin Rosser gave a background as to the environmental processes that have transpired to date on the project. He advised that cultural resources are being addressed and he noted that human remains proving to be that of a Paskenta Band Nomlaki Indian were found at the site which will now require the first three feet of soil excavated from the site to be sifted.

Area resident Lori Pritchett advised that those human remains were found on her property. She stated that she feels environmental issues are being white-washed and that a full Environmental Impact Report (EIR) needs to be prepared on this project as there are salmon and bald eagles that will be impacted by the project.

Mr. Rosser explained the difference between an EIR and a Mitigated Negative Declaration and he stated that he feels a Mitigated Negative Declaration better addresses environmental concerns and provides for better protection of environmental issues.

Supervisor Turner voiced his concerns with the cost and time constraints of this project.

Following additional comments, a motion was made by Supervisor Avilla, seconded by Supervisor Turner and carried by the unanimous vote of the Board members present to adopt the following findings relative to the Bowman Road @ SF Cottonwood Creek Bridge Replacement Project:

1) That the Bowman Road Bridge Replacement @ South Fork Cottonwood Creek Project is consistent with the County's General Plan.

2) That all comments received on the Mitigated Negative Declaration filed on the Bowman Road Bridge Replacement @ South Fork Cottonwood Creek Project have been considered and responded to.

3) That Native American representatives have coordinated with Far Western, Inc. (Tehama County's Archeological Consultant) regarding cultural resources.

4) That Archeological Phase I (inventory) and Phase II (evaluation) studies have been performed in conformance with CEQA. Furthermore, that the County has enough information to know specifically how the proposed project will impact cultural resources in the project area. And, finally, that the County will adopt and carry out a Phase III Mitigation Plan (data recovery excavations) to be prepared by the County's Archeological Consultant (Far Western, Inc.) prior to construction.

5) That said project will not have a significant effect on fish and wildlife or their habitat.

6) That said project will not have a significant effect on the environment.

A motion was made by Supervisor Avilla, seconded by Supervisor Turner and carried by the unanimous vote of the Board members present to adopt the Mitigated Negative Declaration prepared on the Bowman Road Bridge Replacement @ South Fork Cottonwood Creek Project as meeting the requirements of CEQA and its guidelines.

STATE OF CALIFORNIA)
) ss
COUNTY OF TEHAMA)

I, MARY ALICE GEORGE, County Clerk and ex-officio Clerk of the Board of Supervisors of the County of Tehama, State of California, hereby certify the above and foregoing to be a full, true and correct copy of an order adopted by said Board of Supervisors on the 16th day of August, 2005.

DATED: August 17, 2005

MARY ALICE GEORGE, County Clerk and
Ex-officio Clerk of the Board of Supervisors
of the County of Tehama, State of California

by _____
Deputy

STATE OF CALIFORNIA - THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME
ENVIRONMENTAL FILING FEE CASH RECEIPT
DFG 753.5a (8-03)

254769

Lead Agency: County of Tehama Date: 6/22/25

County / State Agency of Filing: Tehama County Clerk Document No.:

Project Title: Bowman & SF Cottonwood Creek Bridge Replacement

Project Applicant Name: Tehama County Public Works Phone Number:

Project Applicant Address: 9380 San Benito Ave, Gerber, CA 96035

Project Applicant *(check appropriate box):* Local Public Agency [✓] School District [ ] Other Special District [ ]
State Agency [ ] Private Entity [ ]

CHECK APPLICABLE FEES:

( ) Environmental Impact Report	$850.00	$
(✓) Negative Declaration	$1,250.00	$ 1250.-
( ) Application Fee Water Diversion *(State Water Resources Control Board Only)*	$850.00	$
( ) Projects Subject to Certified Regulatory Programs	$850.00	$
( ) County Administrative Fee	$25.00	$
( ) Project that is exempt from fees		
	TOTAL RECEIVED	$ 1250.-

Signature and title of person receiving payment: Dee Ross Asst C/K

WHITE-PROJECT APPLICANT YELLOW-DFG/FASB PINK-LEAD AGENCY GOLDENROD-STATE AGENCY OF FILING

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

To: County Clerk, County of Tehama
633 Washington
Red Bluff, CA 96080

To: Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

From: County of Tehama Public Works
9380 San Benito Ave
Gerber, CA 96035

Subject: Public notice as required by Pub. Res. Code sec. 21092.3, the review period is hereby requested for the period **June 24th – July 25th, 2005.**

Project Title and locations: Bowman @ SF Cottonwood Creek Bridge Replacement Project

Project Description:

The existing bridge was built in 1920 as a two-span steel-riveted Warren pony truss. A third 74.5-foot steel pony truss span was added to the bridge in 1942, extending the total bridge length to approximately 230 feet.

In the general vicinity of the bridge, Bowman Road is on an east-west alignment connecting the rural areas west of the town of Cottonwood. The functional classification for Bowman Road is Rural Minor Arterial. Immediately adjacent to the existing bridge on the west approach is a sharp curve posted at 15 mph. Vehicles approaching the bridge must be on the lookout for oncoming traffic since the existing bridge provides only one lane of traffic. The projected 2021 Average Daily Traffic (ADT) at this location is 1,773.

The proposed bridge over the South Fork Cottonwood Creek would be located approximately 250 feet upstream of the existing bridge . The proposed action places a curve and superelevation on the proposed bridge and replaces the existing bridge with a new 38'10"-wide, 450-foot-long, three-span cast-in-place prestressed concrete box girder supported on single column bents. Approximately 300 feet of rock slope protection will be placed to protect the stream bank.

Along the easterly approach, the alignment extends approximately 525 feet beyond the end of the new bridge. Along the westerly approach, it extends approximately 700 feet beyond the end of the new bridge. Both existing substandard curves to the west of the bridge are eliminated with this alignment.

- A Public Meeting was held on September 11, 2003; a Public Hearing is scheduled for August 2, 2005.
- Copies of the proposed Mitigated Negative Declaration are available for review at the Tehama County Public Works Department.
- No Toxic sites are present within any of the project locations.

This is to advise that the Tehama County Public Works has approved the above-described project and has made the following determinations regarding the above-described project.

1. The Project ☒ will not have a significant effect on the environment.
2. ☒ A Mitigated Negative Declaration will be prepared for this project pursuant to the provisions of CEQA.

   The proposed Mitigated Negative Declaration and record of project approval may be examined at: Tehama County Public Works, 9380 San Benito Ave., Gerber, CA 96035.
3. Mitigation measures ☒ were, ☐ were not, made a condition of the approval of the project.
4. A statement of Overriding Considerations ☐ was, ☒ was not, adopted for this project.

Date Received for filing _____

Kevin Kassa
Signature

Environmental Planner
Title

FILED

JUN 22 2005

MARY ALICE GEORGE
TEHAMA COUNTY CLERK
By _____ Deputy

P:\315381 Bowman @SF Cottonwood\Environmental\CEQA\Notice of Intent.doc

TEHAMA COUNTY PUBLIC WORKS
INTITIAL STUDY

Environmental Checklist Form

1. Project title: Bowman @ SF Cottonwood Creek
2. Lead agency name and address:
   Tehama County Public Works
   9380 San Benito Avenue
   Gerber, CA 96035

3. Contact person and phone number: Kevin Rosser, (530) 385-1462
4. Project location: The project is located in northwest Tehama County (**Figure 1**), approximately 11 miles west of Cottonwood, nine miles west of Interstate 5, and 4.3 miles north of State Route 36 (Beegum Road) (Figure 1) *Mitchell Gulch*, USGS 7.5' quadrangle Section 32, Township 28 North, Range 5 West).

5. Project sponsor's name and address:
Gerald Brownfield, P.E., Acting Director of Public Works, Tehama County Public Works Department
9380 San Benito Avenue
Gerber, CA 96035

6. General plan designation: North I-5 Planning Area 7. Zoning: UA-AP and U-A

8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

The existing bridge was built in 1920 as a two-span steel-riveted Warren pony truss. A third 74.5-foot steel pony truss span was added to the bridge in 1942, extending the total bridge length to approximately 230 feet.

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The proposed bridge over the South Fork Cottonwood Creek would be located approximately 250 feet upstream of the existing bridge . The proposed action places a curve and superelevation on the proposed bridge and replaces the existing bridge with a new 38'10"-wide, 450-foot-long, three-span cast-in-place prestressed concrete box girder supported on single column bents. Approximately 300 feet of rock slope protection will be placed to protect the stream bank.

Along the easterly approach, the alignment extends approximately 525 feet beyond the end of the new bridge. Along the westerly approach, it extends approximately 700 feet beyond the end of the new bridge. Both existing substandard curves to the west of the bridge are eliminated with this alignment.

- A Public Meeting was held on September 11, 2003 a Public Hearing is scheduled for August 2nd, 2005.
- Copies of the proposed Negative Declaration are available for review at the Tehama County Public Works Department.
- No Toxic sites are present within any of the project locations

The County Board of Supervisors approved the preferred alignment August 19th, 2003 during their regular meeting time.

An Environmental Study Limits (ESL) map was created that defines the extent of land that was surveyed for sensitive species. The ESL boundary generally follows 250 feet beyond any land disturbing activities. For archeological resources only the area that will be directly affected by the project (i.e. by land clearing, grading, construction activities, and Right of Way take) was surveyed.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

Permits for this project include a Streambed Alteration Agreement from the California Department of Fish and Game, a waiver of waste discharge from the California Regional Water Quality Control Board, United States Army Corps of Engineers Nationwide Permit #14 Linear Crossings.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a Potentially Significant Impact as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☒ Cultural Resources	☐ Geology /Soils
☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality	☐ Land Use / Planning
☐ Mineral Resources	☐ Noise	☐ Population / Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities / Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a Potentially significant impact or Potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Kevin Rosser _____

Signature Date

Kevin Rosser _____

Printed name

For EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except No Impact answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A No Impact answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A No Impact answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose 2 Final Text - October 26, 1998.sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. Potentially Significant Impact is appropriate if there is substantial evidence that an effect may be significant. If there are one or more Potentially Significant Impact entries when the determination is made, an EIR is required.

4) Negative Declaration: Less Than Significant With Mitigation Incorporated applies where the incorporation of mitigation measures has reduced an effect from Potentially Significant Impact to a Less Than Significant Impact. The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, Earlier Analyses may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are Less than Significant with Mitigation Measures Incorporated, describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

    a) the significance criteria or threshold, if any, used to evaluate each question; and
    b) the mitigation measure identified, if any, to reduce the impact to less than significance

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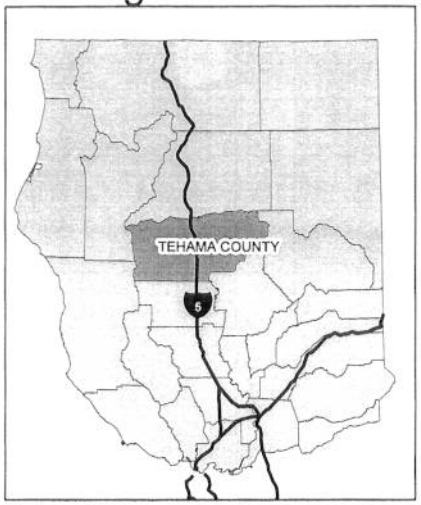
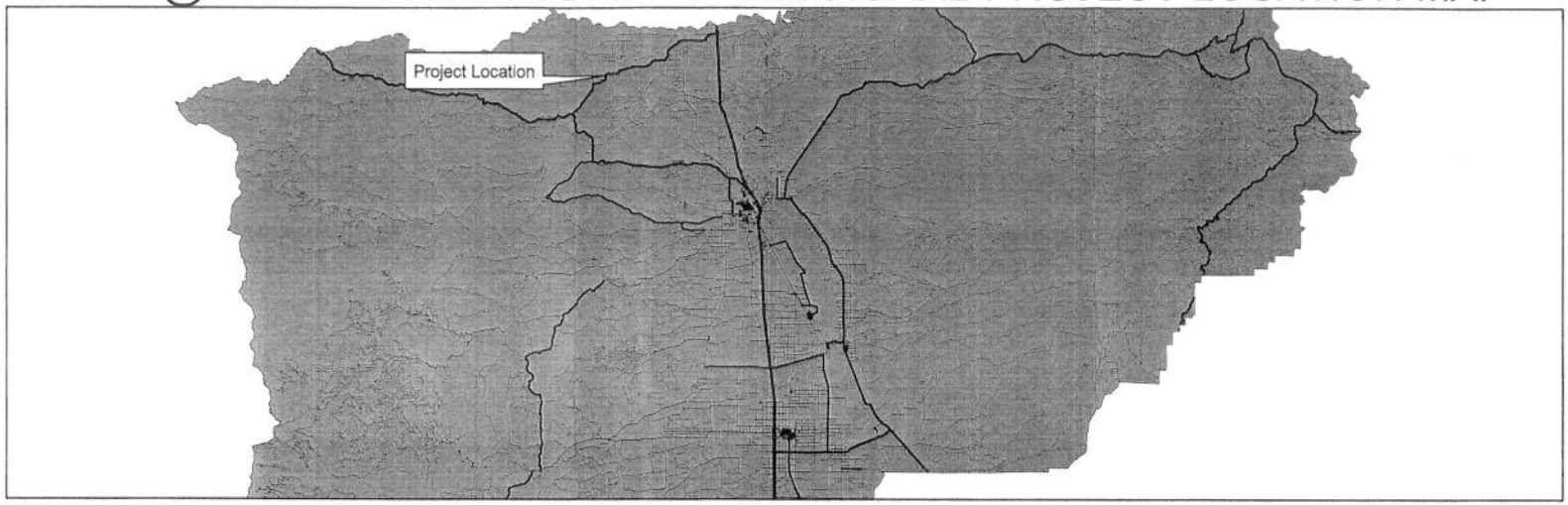
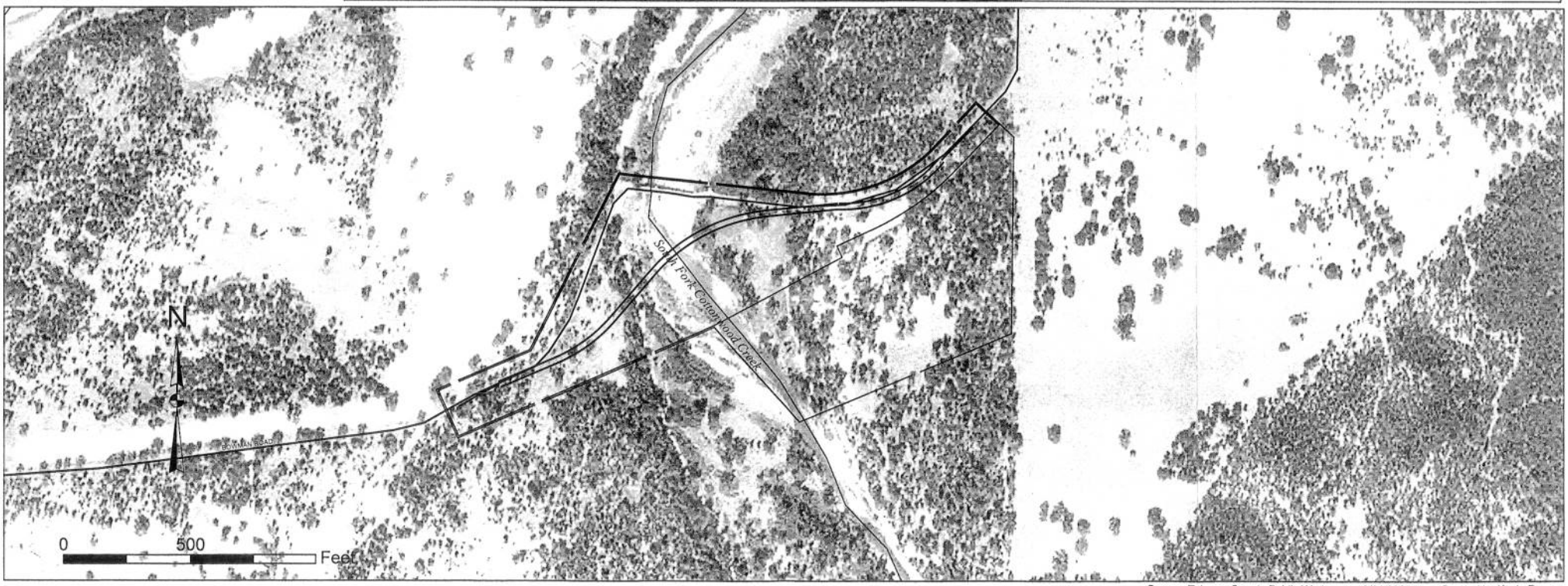
Figure 1. BOWMAN ROAD @ SF COTTONWOOD CREEK REGIONAL-PROJECT LOCATION MAP







Source: Tehama County Public Works 3/31/2005 Created by Kevin Rosser

Issues: I. AESTHETICS *Would the project:*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista? *No scenic vistas are identified in the area.*	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? *Large outcroppings of rock and historic buildings are not within the projects limits.*	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings? *Project changes the alignment of an existing road.*	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? *Bowman Road changes directions several times along this segment of roadway; there are no receptors of light or glare around the project area..*	☐	☐	☐	☒

I. AESTHETICS Discussion:

Aesthetic effects relate to obstruction of scenic vistas or views, creation of a negative aesthetic effect, and creation of light or glare. The issue of aesthetics can be extremely subjective, however, there are accepted standards that the majority of the public can agree on, particularly when related to road construction. Standards address view obstructions, needless removal of trees, "scarring" from grading, landscaping, sign clutter and street lighting. Another important criterion for visual impacts is visual consistency. Project design should be consistent with natural surroundings and adjacent land uses. For example, a residential development might contrast visually with an industrial facility. Such incompatibilities can be partially mitigated through such measures as fences, and landscaping, to soften the harshness of the contrasts. However, in a largely undeveloped area, such as the projects site area, it is more practical and effective to prevent offensive visual contrasts through a combination of fencing and landscaping. Furthermore, future area development can undertake measures to screen the roadway, to the extent feasible, through site planning and design.

Issues: II. AGRICULTURE RESOURCES: *Would the project:*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? *The soil in the area classified Perkins Gravelly Loam is Prime and Unique per USDA-NRCS, approximately 0.1 acre will be converted.*	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? *Government Code 51290 et. seq. allows a public agency to locate a public improvement in Williamson Act contract land.*	☐	☐	☐	☒

c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

No connectors are planned along this segment of road beyond what is currently approved

II. AGRICULTURE RESOURCES Discussion:

A review of the Soil Survey of Tehama County, California (U.S. Department of Agriculture, 1967) was performed to determine what soil units had been mapped within the project area. The National Resource Conservation Service – Red Bluff Field Office and California Department of Conservation were contacted to request information on important farmlands within the project area. A copy of the study is on file with the Tehama County Public Works Department.

Project Area Soils

A total of four (4) different soil mapping units were identified for the project area according to the Soil Survey of Tehama County, California (U.S. Department of Agriculture, 1967). These soil mapping units were compared against the soil types included in the Soil Candidate Listing for Prime Farmland and Farmland of Statewide Importance, Tehama County (California Department of Conservation, 1995). Table 1 lists each of these soil types and provides the associated designation for each soil.

TABLE 1 – PROJECT AREA SOILS

Soil Mapping Unit	Designation[1]
Perkins Gravelly Loam (PkA)	Prime and Unique Farmland
Cortina Complex (Cz)	No Designation
Newville Gravelly Loam (NrE)	No Designation
Riverwash	No Designation

Notes:

1 Designations made by the U.S. Department of Agriculture, Natural Resources Conservation Service. Designations indicate that soils met the criteria for prime farmland and farmland of statewide importance.

Important farmland designations

The U.S. Department of Agriculture and the California Department of Conservation have become involved with analyzing farmland losses. In 1975, the U.S. Department of Agriculture, Natural Resources Conservation Service (formerly the Soil Conservation Service) (USDA-NRCS) initiated a mapping program to generate agricultural resource maps based on soil quality and land use across the nation. In 1982, California created the Farmland Mapping and Monitoring Program (FMMP) within the Department of Conservation to carry on the mapping activity from USDA-NRCS on a continuing basis (State of California, 1996). The FMMP maps "Important Farmlands" based on the following parameters: 1) qualifying soil types; and 2) if current land uses consist of irrigated agriculture. The nine categories developed by the FMMP are:

- **Prime Farmland** – This category of land possesses the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture holding capacity needed to produce sustained high yields of crops when treated and managed, according to current farming methods. Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. The maps are updated every two years.
- **Farmland of Statewide Importance** – Although similar to Prime Farmland, this category of land has minor shortcomings such as greater slopes or less ability to hold and store moisture. This land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date.

- **Unique Farmland** – This land type has lesser quality soils and is used for the production of specific high economic value crops at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture holding capacity needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. Unique farmland is typically irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones. Examples of crops on unique farmlands include oranges, rice, grapes, and cut flowers.

- **Farmland of Local Importance** – This land is considered important to the local agricultural economy, as determined by each county's board of supervisors and local advisory committees. Examples for Santa Cruz County include Christmas tree farms and nurseries. Monterey County currently does not have any farmlands designated as Farmland of Local Importance.

- **Grazing Land** – Land on which existing vegetation, either grown naturally or through management, is suitable for grazing or browsing of livestock.

- **Urban and Built-up Land** – Land which is used for residential, industrial, commercial, construction, institutional, public administrative purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are designated as Urban and Built-up Land if they are part of the surrounding urban area.

- **Other Land** – Land which is not included in any other mapping category. Examples include roadway systems outside of Urban and Built-up Lands; government-owned lands not available for agricultural use; lands not suitable for livestock grazing; strip mines, borrow pits, and gravel pits; confined livestock facilities of ten or more acres (unless designated as Farmland of Local Importance; and a variety of rural land uses.

- **Water** – Areas with an extent of 40 acres or more that are completely inundated with water.

Lands Committed to Nonagricultural Use – This land is permanently committed by local elected officials to nonagricultural development by virtue of decisions that cannot be reversed simply by a majority vote of a city council or county board of supervisors. These lands must be designated in an adopted, local general plan for future nonagricultural development.

A Farmland Rating Form (AD-1006) was submitted to the NRCS – Red Bluff Field Office. Following a review of the project information, the NRCS determined designation of prime farmland.

Existing Agricultural Uses

The majority of the lands located within the project ESL are currently devoted to ranching. No irrigated agricultural operations are located within the project ESL.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a.) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
This project complies with the Northern Sacramento Valley Air Basin 1997 Air Quality Attainment Plan.				
b.) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
This project does not create an air quality violation.				
c.) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone	☐	☐	☐	☒

precursors)?

No emissions will result because of this project that conflict with ambient air quality standards. Each alignment has the potential to decrease emissions by removing the existing stop-start at bridge crossing..

d.) Expose sensitive receptors to substantial pollutant concentrations? ☐ ☐ ☐ ☒

No receptors beyond what is already affected by existing alignment

e.) Create objectionable odors affecting a substantial number of people? ☐ ☐ ☐ ☒

No odors will result because of this project.

III. AIR QUALITY Discussion

Tehama County is not a federal non-attainment area and therefore is required only to evaluate CO impacts for an individual transportation project. A full application of the CO Protocol is not needed for this project for NEPA purposes. A local analysis is all that is required in cases where the project comes from an RTP for which a CEQA review has already been performed and is applicable for this project

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐

Issue covered in below discussion.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐

Issue covered in below discussion.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐

Issue covered in below discussion.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐

Issue covered in below discussion.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

No local policies are established which affect this project.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

No habitat conservation plans exist for this area of Tehama County.

IV. BIOLOGICAL RESOURCES Discussion

North State Resources was contracted to perform biological studies of the project area. A literature search was performed by querying the California Natural Diversity Database, the California Native Plant Society's (CNPS) inventory, and the United States Fish and Wildlife Service Sacramento Field Office. In addition field surveys were conducted by North State Resources including a special status plant survey, an assessment for special status habitat, and a jurisdictional delineation of wetlands (North State Resources, 2004).

Short-term vegetation impacts arise from construction activities that result in the temporary removal of vegetation, alteration of habitat, generation of fugitive dust, etc. Long-term impacts result when vegetation is permanently destroyed (directly or indirectly), when land is cleared for construction, when listed species are threatened, and when the integrity of a plant community is destroyed. Short-term wildlife impacts during construction occur when physical damage, dust, and noise disrupt wildlife species; alter habitat; and displace wildlife. Long-term impacts occur when wildlife is destroyed or permanently displaced or when habitat is permanently altered.

The following significance criteria were used for evaluating impacts on biological resources:

- Loss of occupied habitat, individuals, or populations of a listed (state or federal) plant or wildlife species;
- Loss of occupied habitat, individuals, or populations of a plant or wildlife species designated as a state or federal species of concern;
- Loss of individuals or populations of species occurring on List 1B or List 2 of the CNPS inventory;
- Loss of greater than 0 acres of a sensitive plant community type as defined by CDFG, or other communities of recognized importance;
- Loss of greater than 0 acres of a jurisdictional wetland, as defined by the Corps (Section 404 of the Clean Water Act); and
- Loss and/or abandonment of active raptor nests.

Blue Oak Woodland

Construction of the project would require thinning/removal of blue oak woodland habitat. Based on the relative abundance of this habitat type within the Tehama County, blue oak woodland is not designated as a sensitive habitat. In addition, Tehama County currently does not have an oak tree preservation ordinance. **Impacts to blue oak woodland are considered less than significant for the project build alternative and no mitigation is required.**

Sensitive Natural Communities

Sensitive natural communities include communities that are rare, are adversely affected by minimal disturbance, or serve as habitat for special-status species. The sensitive natural communities in the project ESL include wetlands and other waters of the U.S., including the SF Cottonwood Creek channel. Impacts to the wetland/waters of the U.S. communities, including riparian communities, vernal pools, and vernal swales, are discussed later in this chapter under the "Jurisdictional Wetlands" section.

Aquatic Habitat/Water Quality

Erosion and Sedimentation

Activities related to the construction of the new bridge and road approaches will result in the localized loss of vegetation and general disturbance to the soil. Removal of vegetation and soil can accelerate erosion processes within the project study area and increase the potential for sediment to enter the SF of Cottonwood Creek. The turbidity of a waterbody is related to the concentration of suspended solids. Aquatic organisms are generally not directly affected by suspended solids and turbidity unless they reach extremely high levels (i.e., levels of

suspended solids reaching 25 mg/L). At these high levels, suspended solids can adversely affect the physiology of aquatic organisms and may suppress photosynthetic activity at the base of food webs, impacting aquatic organisms either directly or indirectly. **Increased sediment input into these waterways could result in significant adverse impacts to the aquatic environment and mitigation is required.** The implementation of mitigation measures discussed in, Mitigation Measures will reduce these impacts to a less than significant level.

Special-Status Species
Plants

A comprehensive plant survey for all of these species was conducted by North State Resources, in the spring and early summer of 2003. Based upon the results of the special status plant survey and floristic inventory conducted by North State Resources biologists, no impacts to special status plant species are anticipated as a result of project development because no special status species were observed. **No impacts to special-status plant species would occur and no mitigation is required.**

Valley Elderberry Longhorn Beetle

Suitable habitat for valley elderberry longhorn beetle is located within the project ESL. All elderberry shrubs with stems of sufficient size to provide suitable habitat for valley elderberry longhorn beetle are located within the project ESL and, consequently, construction of a new roadway along the alternate route would result in the direct loss of these shrubs. The proposed project is likely to impact the elderberry shrubs and there is potential for construction equipment and traffic to damage shrubs if they are not adequately protected. In addition, dust generated during construction activities could also impact elderberry shrubs if an adequate buffer between the shrubs and construction zone is not maintained. **Construction activities proposed within the project ESL could potentially result in significant adverse impacts to valley elderberry longhorn beetle habitat and mitigation is required.** The implementation of mitigation measures discussed in, Mitigation Measures, will reduce this impact to a less than significant level.

Fish

There are no anticipated direct impacts to anadromous fisheries since in-stream construction activities are proposed during the period when the SF of Cottonwood Creek is dry within the project ESL. The National Oceanic and Atmospheric Administration National Marines Fisheries Office concurred "is not likely to adversely affect" Central Valley steelhead, Sacramento River winter run Chinook salmon, Cnetral Valley spring-run Chinook salmon, or designated critical habitat for winter-run Chinook salmon. **Construction activities proposed within the project ESL would not result in significant adverse impacts to special-status fish species and no mitigation is required.**

Birds
Potential habitat (foraging and / or nesting) for several special-status birds occurs within the project area plant communities. Species potentially affected by the proposed project are listed below:

- Bald Eagle (foraging)

Bald Eagle

Requires large, old-growth trees or snags in remote, mixed stands near open bodies of water. Adults tend to use the same breeding areas year after year and often use the same nest, though a breeding area may include one or more alternate nests. Usually does not begin nesting if human disturbance is evident.. This species is afforded full protection under the Endangered Species Act, it is considered unlawful to take, possess, or destroy the nest or eggs of any birds pursuant to Section 3503.5 of the Fish and Game Code of California and the Migratory Bird Treaty Act (16 U.S.C. 703-711).

While conducting a wildlife survey, a bald eagle was observed soaring over SF Cottonwood Creek. However, no nesting habitat exists in the study area and the nearest nest is outside the ¼ mile buffer from the project. **Impacts to bald eagle habitat as a result of the proposed project are expected to be less than significant**

and no mitigation is required. The implementation of mitigation measures discussed in, Mitigation Measures, will reduce this impact to a less than significant level.

Mammals

Annual grassland habitat within the project ESL provides suitable foraging habitat for the following special-status bat species: small-footed myotis bat; long-eared myotis bat; fringed myotis bat; long-legged myotis bat; and Yuma myotis bat. All of these species are federal species of concern. In addition, Yuma myotis bat is also designated as a species of special concern by CDFG. As previously discussed under the vegetation impacts discussion, the permanent loss of annual grassland habitat due to roadway construction would not be considered significant based on the relative abundance of annual grassland habitat both within the project vicinity, as well as Tehama County overall. Similarly, this loss of annual grassland habitat is not expected to result in a loss of foraging habitat that would significantly affect these special-status bat species. No suitable bat roosting habitat was observed within the project ESL. No other special-status mammals are expected to occur in the project area. **Impacts to special-status mammal species as a result of the proposed project are expected to be less than significant and no mitigation is required.**

Non-Listed Wildlife Species

Construction of the new bridge and road approaches will result in short-term disturbance to and displacement of terrestrial and aquatic wildlife. Construction will also likely cause the mortality of small, less mobile animals, such as rodents and reptiles. Potential permanent impacts of the proposed project are increased mortality of wildlife due to vehicular traffic and loss of annual grassland habitat. Due to the regional abundance of common wildlife species, temporary disturbance to common wildlife will be less than significant. In addition, no designated wildlife corridors intersect with the project ESL. **Impacts to common wildlife species are less than significant, and no mitigation is required.**

Jurisdictional Wetlands

Jurisdictional waters of the United States are present within the ESL. A wetland delineation will be verified by the Army Corps of Engineers prior to obtaining Section 401/404 permitting. **The loss of jurisdictional wetlands due to construction of the proposed project would be considered a significant impact.** Implementation of mitigation measures discussed in, Mitigation Measures, will reduce this impact to a less than significant level.

V. CULTURAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in ¤15064.5? *See below discussion*	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to ¤15064.5? *See below discussion*	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? *See below discussion*	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries? *See below discussion*	☐	☒	☐	☐

V. CULTURAL RESOURCES Discussion

Cultural resource concerns were addressed by Far Western Anthropological Research Group, Inc (prehistoric archaeology), JRP Historical Consulting (Architectural studies), and Foothill Resources (Historical archaeology). All work followed the guidelines set forth in the California Environmental Quality Act and Section 106 of the National Historic Preservation Act. All work also followed guidelines

set forth by Caltrans in their 2004 Guidance for Consultants Environmental Handbook and is in conformity with currently accepted professional standards.

Research included a records search, Native American consultations, as well as fieldwork designed to determine the presence or absence of cultural resources in the project area.

COORDINATION AND PUBLIC PARTICIPATION

The following sources were consulted to obtain information concerning previously identified sites or other historic properties located within or adjacent to the study area: the local Native American community, Tehama County Genealogical and Historical Society (TCGHS), and the Northeast Center of the California Historical Resources Information System at California State University, Chico (NE/CHRIS).

Contacts were made by letter to the following groups: TCGHS, Paskenta Band of Nomlaki Indians, Paskenta Band of Indians, Groundstone Rancheria of Wintun-Wailaki, Round Valley Reservation, and the Native American Heritage Commission (NAHC).

The review of archaeological records conducted at NE/CHRIS involved a review of maps and records for archaeological sites in this portion of Tehama County and also included a review of the following documents: National Register of Historic Places - Listed Properties and Determined Eligible Properties (1988 - Computer Listings 1966 through 7/00 by National Park Service), the California Register of Historical Resources (2000), California Points of Historical Interest (1992), California Historical Landmarks (1996), and the NE/CHRIS Historic Property Data File for Tehama County.

In order to protect sites from unauthorized excavation, looting, or vandalism, a Lead Agency should not publicize the location of known archaeological resources beyond what is necessary. Records in the Information Centers are exempt from the California Public Records Act (Government Code Section 6250 et seq.). Government Code Section 6254.19 states that "nothing in this chapter requires disclosure of records that relate to archaeological sites information maintained by the Department of Parks and Recreation, the State Historical Resources Commission, or the State Lands Commission." Along this line, Government Code Section 6254 explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission."

VI. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
The nearest fault line exists 5 miles form the project known as the Coast Ranges Sierran Block Boundary Zone.				
ii) Strong seismic ground shaking?	☐	☐	☐	☒
This area is not historically subject to strong seismic ground shaking.				
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
This area is not historically subject to strong ground shaking.				
iv) Landslides?	☐	☐	☐	☒
The project does not take place in an area known for landslides.				
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
Project does not increase natural soil erosion.				
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
The project will not result in unstable soils, create on or off-site landslides nor will it create lateral spreading, subsidence, liquefaction or collapse of the surrounding soil formations.				
d) Be located on expansive soil, as defined in Table 18- 1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
Soils will be tested and treated prior to construction if required				
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
This project does not include wastewater disposal systems such as septic or sewers.				

VII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
No hazardous materials will be transported or disposed of as a result of this project. Use of hazardous materials will be confined to project construction only and be applicable to local, state, and federal laws.				
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
No hazardous materials will be released as a result of this project.				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
No schools exist or are proposed within a quarter-mile away of this project.				
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
No hazardous materials are positively known to exist within the boundaries of this project.				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
There are no airports within 2 miles of the project.				
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
A private airstrip is not within the vicinity of this project.				
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
This project does not interfere nor impair an adopted emergency plan.				
Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☒	☐	☐
The project proponents will carry on site a suitable amount of fire extinguishing devices to adequately contain a fire caused by machinery or equipment being used during the projects operation. The proponent shall have the ability to contact local fire district dispatch.				

VII. HAZARDS AND HAZARDOUS MATERIALS

Lawrence and Associates performed a search for known hazardous wastes; none were found (Lawrence and Associates, 2002). A copy of the document is available at Tehama County Public Works.

VIII. HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
Water quality and waste discharge is not an issue with road construction.				
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
This project does not utilize a well, therefore will have no effect upon the areas groundwater supply or recharge zone.				
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
The project does not change the course of the existing channel no substantial erosion will be the result of this project.				
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
This project will not result in flooding on- or off-site.				
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
No, this project will not result in a change to the existing stormwater drainage system nor provide substantial sources of polluted runoff.				
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
The project takes place while the stream channel is dry, equipment is not operating in any live streamchannel, fuel and maintenance is not performed in the streamchannel, the streamchannel will be returned to a natural slope; no degradation of water quality will occur as the result of this project.				
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
Housing is not a part of this project.				
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
Bridge will be constructed to convey the base 100-year flood (Q_{100})				
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
A levee or dam does not exist on this streamchannel.				
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
These events are not known to occur in this area.				

VIII. HYDROLOGY AND WATER QUALITY

Norman Braithwaite, P.E., Norman S. Braithwaite, Inc. conducted a *Design Hydraulic Study* for this project (Braithwaite, 2004). The bridge will be constructed with 2' of freeboard above the 50 year Water Surface Elevation (WSE_{50}) as recommended by *Hydraulic Design Criteria* established by Caltrans. This report is available for inspection at Tehama County Public Works Department.

IX. LAND USE AND PLANNING *Would the project:*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community? *This project does not involve a change to existing land use planning.*	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? *This project does not conflict with and policy or plan known to exist in this area of the County of Tehama.*	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan? *This project does not conflict with any habitat conservation plan or natural community plan know to exist for this area.*	☐	☐	☐	☒

X. MINERAL RESOURCES *Would the project:*				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? *No loss of value will occur due to this project.*	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? *No local, general, specific, or other land use plan delineate resources in this area.*	☐	☐	☐	☒

XI. NOISE *Would the project result in:*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? *The projects operation is limited to M-F and the daylight hours. The equipment operating does not pose a significant effect to the noise level in this area.*	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? *Only temporary impacts for road and bridge construction.*	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? *Placing asphalt on a gravel road will lower road noise.*	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? *Only temporary impacts for road and bridge construction.*	☐	☐	☐	☒

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
N/A.				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
N/A				
XII. POPULATION AND HOUSING *This project does not involve population increases or housing*	☐	☐	☐	☒
XIII. PUBLIC SERVICES *This project does not increase the need of Public Services.*	☐	☐	☐	☒
XIV. RECREATION *This project does not affect the use of or need for recreation.*	☐	☐	☐	☒
XV. TRANSPORTATION/TRAFFIC This project does not affect, change, or alter existing transportation or traffic needs. *Public works has estimated, due to local growth, this roadway will receive 1,733 vehicles Average Daily Traffic regardless.*	☐	☐	☐	☒
XVI. UTILITIES AND SERVICE SYSTEMS Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? *This project does not include treatment requirements*	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? *This project does not require the need for water or wastewater treatment.*	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? *Best Management Practices (BMP) will be required during construction. This project does not require drainage facilities beyond existing facilities.*	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? *Water required for this project is brought to the site.*	☐	☐	☐	☒

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
c.) Does the project have impacts that are individually limited, but cumulatively considerable? (Cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
d.) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

MITIGATION MEASURES

1. All work in the stream channel shall be confined each year to the following period: April 15-October 15; unless specific approval by the resource agencies allow otherwise.

2. Vegetation

Since no significant impacts were identified for upland vegetation, no mitigation is required. Mitigation measures to address impacts to wetland communities are provided later.

3. Aquatic Habitat / Water Quality

Erosion and Sedimentation

Type D erosion control measures shall be implemented during construction of the proposed project in non-riparian upland areas. These measures shall conform to the provisions in Section 20-3 of the Caltrans Standard Specifications and the special provisions included in the contract for the project.

Erosion control work shall consist of one application of erosion control materials within non-riparian upland areas to embankment slopes, excavation slopes, and other areas designated by the project Engineer. These materials shall consist of fiber, seed, commercial fertilizer, and water. These materials shall conform to Section 20-2 of the Caltrans Standard Specifications and the specifications discussed below. Commercial fertilizer used for non-riparian upland areas shall conform to the provisions in Section 20-2.02 of the Caltrans Standard Specifications.

4. Special-Status Species

Plants

Since the proposed project would not result in a significant impact to a special-status plant species, no mitigation is required.

Valley Elderberry Longhorn Beetle

Suitable habitat for the valley elderberry longhorn beetle (federally-threatened species) is present within the project ESL. The following measures are based on the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (USFWS, 1999) shall be implemented to reduce potential impacts to this species to a less than significant level.

- Prior to the start of construction activities within the project ESL, exclusionary fencing shall be erected around the elderberry shrubs (avoidance area) within 100 feet of the selected project alignment. Fencing should be erected at least 100 feet from the dripline of each elderberry shrub. The exclusionary fencing shall be periodically inspected throughout each period of construction and be repaired as necessary.

- Removal of elderberry shrubs will be transplanted to another location per the Biological Opinion given by the U.S. Fish and Wildlife Service.

- Prior to construction, a Worker Environmental Awareness Program for construction workers shall be conducted by a qualified biologist. The program shall provide all workers with information on their responsibilities with regard to sensitive biological resources, specifically the status of the federally-threatened longhorn beetle and the need to protect its elderberry host plant.

Birds

Bald Eagle

Bald eagles could occur within the project area. The following measures shall be implemented to reduce potential impacts to this species to a less than significant level (*Note: this mitigation can be combined with mitigation measures for other special-status species as appropriate)*:

- If construction activities take place during the bald eagle's nesting season (March through August), the County shall retain a qualified biologist to conduct a pre-construction survey no

more than two weeks before the start of construction for any given segment of the proposed road and report whether or not there are nesting bald eagles within 1,320 feet of the ROW (access permitting). For areas within the 1,320-foot buffer that can not be walked due to site access restrictions, a binocular assessment will be made to determine if bald eagles are nesting in the vicinity. If no nesting bald eagles are observed within the 1,320-foot buffer area then no additional mitigation is required. If there are nesting bald eagles present within the 1,320-foot buffer areas, construction will be delayed until the CDFG has been consulted to determine suitable avoidance measures. A potential avoidance measure may include delaying all construction activity within 1,320 feet of an active bald eagles nest until the adult and/or juvenile hawks are no longer using the nest as the center of their activity.

Mammals

Since no significant impacts to special-status mammal species were identified, no mitigation measures are required.

5. Non-Listed Wildlife Species

Since no impacts to non-listed wildlife species were identified, no mitigation measures are required.

6. Jurisdictional Wetlands

Permanent filling of jurisdictional wetlands associated with the proposed construction of the SF Cottonwood Creek Bridge Replacement Project would require mitigation. Mitigation to address potential temporary impacts to jurisdictional wetlands is provided earlier in this chapter under the aquatic habitat / water quality section. Mitigation to address permanent impact will ensure that no net-loss of wetlands, on an acreage basis, occurs. Between 2 to 3 acres of wetlands (depending upon the wetland type) would need to be created for each acre of lost wetland, depending upon the final recommendation made by the ACOE and CDFG. Any mitigation for loss of wetlands would likely be accomplished by payment of in lieu fees:

The project would most likely proceed under a nationwide permit pursuant to Section 404 of the Clean Water Act. Water quality certification from the Regional Water Quality Control Board would also be required pursuant to Section 401 of the Clean Water Act. In addition, CDFG has jurisdiction in streams pursuant to Section 1602 of the State Fish & Game Code, and construction in channel bottoms would require a Streambed Alteration Agreement between the County and the CDFG. Terms of these permits and agreements could include additional provisions.

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Butte, Colusa, Glenn, Shasta, Sutter, Tehama and Yuba Counties. *1997 Air Quality Attainment Plan, Northern Sacramento Valley Air Basin.*

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U.S. Department of Agriculture, Soil Conservation Service. 1967. *Soil Survey of Tehama County Area, California.* United States Department of Agriculture, SCS.

Biological Assessment

Bowman Road at South Fork Cottonwood Creek Bridge (No. 08C-0009) Replacement Project

Tehama, California
Mitchell Gulch, California 7.5-Minute U.S. Geological Survey Quadrangle
Township 29 North, Range 5 West, Section 32
Township 28 North, Range 5 West, Section 5
02-TEH-0-CR
02-453954L

May 2009

STATE OF CALIFORNIA
Department of Transportation

Prepared By: _____ Date: _____
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Preface

In 2004, North, North State Resources, Inc. (NSR) prepared and submitted to the California Department of Transportation (Caltrans) the *Bowman Road at South Fork Cottonwood Creek Bridge (Bridge No. 08C-0009) Replacement Project Biological Assessment* for the Tehama County Public Works Department (County). The biological assessment (BA) was reviewed and approved by the U.S. Fish and Wildlife Service and a Biological Opinion (BO) was issued in April 2004 (Appendix A). However, the County subsequently altered the proposed project footprint to avoid impacts to sensitive cultural resources. As a result, the BA has been updated as appropriate.

The overall findings and conclusions of the BA remain unchanged with the following exceptions:

- The number of elderberry stems with a basal diameter of 1 inch or greater that would be removed by proposed project activities has increased from 5 to 6.
- One elderberry stem with a basal diameter of 1 inch or greater would be subject to direct disturbance within the 20-foot core avoidance area, but would not be removed, and would require compensatory mitigation.

Summary of Findings, Conclusions and Determinations

The County is proposing to replace the existing bridge over the South Fork of Cottonwood Creek on Bowman Road (Bridge No. 08C-0009) and make improvements to the current roadway configuration. After a seismic assessment was conducted as part of the Local Bridge Seismic Safety Retrofit Program, the bridge was determined to be structurally and seismically deficient. Based on this evaluation, the County and Caltrans concur that the existing bridge should be replaced. The County is proposing to replace this bridge with a structure capable of meeting all Caltrans Local Programs Manual and Highway Bridge Replacement and Rehabilitation Program (HBRR) requirements.

Section 9 of the Federal Endangered Species Act (FESA) (1973) prohibits acts of disturbance that result in the "take" of threatened or endangered plant and/or animal species. Take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Plant and animal species of concern and/other special habitats having the potential to occur in the action area were determined, in part, using several database searches (i.e., California Natural Diversity Data Base [CNDDB]), review of a species list provided by the U.S. Fish and Wildlife Service (USFWS), and personal communication with biologists familiar with the project area and vicinity.

In the project area, species that may be affected by project implementation include the valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), which is listed as threatened under FESA. A separate Biological Evaluation/Essential Fish Habitat Assessment (BE/EFHA) was prepared and submitted to NOAA-National Marine Fisheries Service to address potential project impacts to the federally listed Central Valley steelhead (*Oncorhynchus mykiss irideus*), winter run evolutionarily significant unit (ESU) chinook salmon (*Oncorhynchus tshawytscha*) and its critical habitat, spring run ESU chinook salmon (*O. tshawytscha*), and essential fish habitat (EFH) for chinook salmon.

The project proposed herein has been designed to avoid and minimize adverse effects to the VELB and its habitat to the maximum extent practicable. In designing the project, the County considered the boundaries of waters of the United States; boundaries of a sensitive cultural resources site; the existing topographic, hydrologic, and biologic conditions at the site; market conditions; local planning policies; and local, state, and federal environmental regulatory requirements. Mitigation measures have been developed to reduce effects to biological resources, including wetlands, to a less than significant level. The measures will

- compensate for the direct loss of potential VELB habitat, consistent with the requirements stipulated in the March 11, 1997 *Formal Programmatic Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle within the Jurisdiction of the Sacramento Field Office, California* and associated *1999 Conservation Guidelines for Valley Elderberry Longhorn Beetle* (Appendix B);
- protect sensitive habitats, as practicable. Riparian wetland vegetation, greater than 6 inches in diameter, removed as a result of temporary detour construction will be replaced;
- control fugitive dust during construction;
- control erosion and sedimentation; and
- prevent spills of hazardous material.

It is determined that the proposed Bowman Road at South Fork Cottonwood Creek Bridge Replacement Project is likely to adversely affect the VELB but will have no effect on designated critical habitat. These determinations are based on the following: 1) protocol-level surveys of suitable habitat in the project area, 2) area of potential impact maps, 3) conversations with biologists familiar with the area, and 4) adherence to Conservation Measures and Mitigation Measures that would prevent or minimize potential adverse effects to VELB resulting from construction activities, and which are consistent with the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999).

Six elderberry stems with a basal diameter of 1 inch or greater would be removed as part of the proposed Project and 1 elderberry stem would be directly impacted (disturbance within the 20-foot core avoidance area) and require compensatory mitigation. Consistent with the USFWS *Guidelines*, the County proposes to transplant the 6 elderberry shrubs that would be removed by proposed project construction activities and plant 12 replacement elderberry seedlings/cuttings and 9 native plant species at the Mill Creek Conservation Area or a USFWS approved mitigation bank. All other elderberry shrubs within 100 feet of proposed construction activities will be protected per the *Guidelines*. Thus, potentially adverse impacts are expected to be adequately compensated by the Conservation Measures and Mitigation Measures described above.

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List of Abbreviated Terms

BA	Biological Assessment
BE/EFHA	Biological Evaluation/Essential Fish Habitat Assessment
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CNDDB	California Natural Diversity Database
County	Tehama County Public Works Department
Corps	U.S. Army Corps of Engineers
EFH	Essential Fish Habitat
EFHA	Essential Fish Habitat Assessment
ESU	Evolutionarily Significant Unit
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
GPS	Global Positioning System
HBRR	Highway Bridge Replacement and Rehabilitation Program
mph	miles per hour
NOAA - Fisheries	National Oceanic and Atmospheric Administration - Fisheries
NSR	North State Resources, Inc.
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	valley elderberry longhorn beetle

Chapter 1. Introduction

This Biological Assessment (BA) has been prepared for the Tehama County Public Works Department (County) in accordance with legal requirements set forth under Section 7 of the Federal Endangered Species Act (FESA) (16 United States Code [USC] 1536[c]). The purpose of this BA is to evaluate the potential effects that implementation of the proposed Bowman Road at South Fork Cottonwood Creek Bridge (Bridge No. 08C-0009) Replacement Project (project), Tehama County, California, may have on federally listed species. Federally listed species consist of all organisms determined by the U.S. Fish and Wildlife Service (USFWS) to be endangered, threatened, or candidates for endangered or threatened status. Implementation of the FESA for federally listed anadromous fish species is coordinated by the National Oceanic and Atmospheric Administration (NOAA) – Fisheries. A separate Biological Evaluation/Essential Fish Habitat Assessment (BE/EFHA) was prepared to evaluate potential effects on federally listed anadromous fish species and was submitted to NOAA-Fisheries.

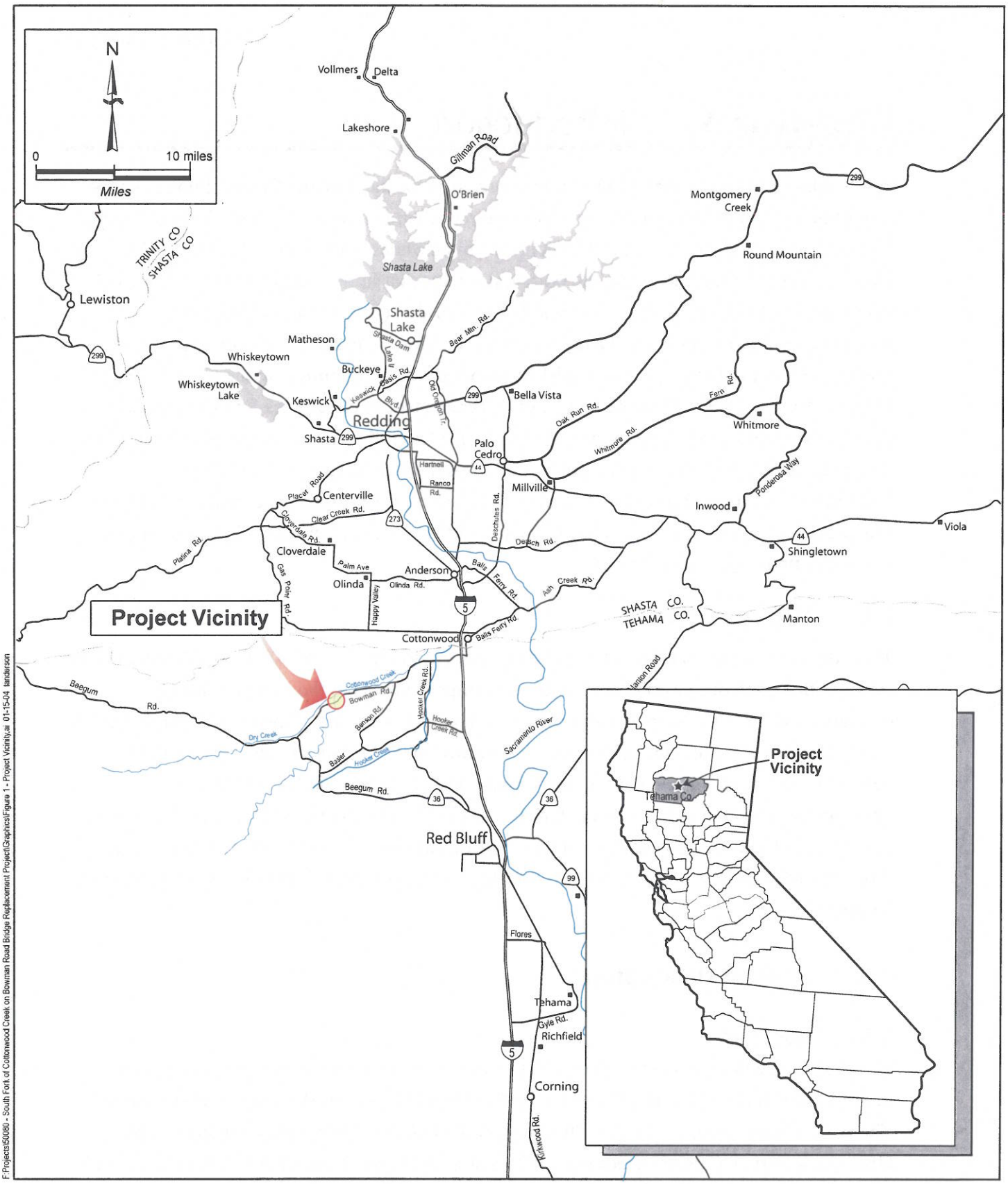
1.1. Project History

The County proposes to replace the existing bridge (Bridge No. 08C-0009) on Bowman Road over South Fork Cottonwood Creek and make improvements to the current roadway configuration. After a seismic assessment was conducted as part of the Local Bridge Seismic Safety Retrofit Program, the bridge was determined to be structurally and seismically deficient. Based on this evaluation, the County and the California Department of Transportation (Caltrans) concurred that the existing bridge should be replaced. The County is proposing to replace this bridge with a structure capable of meeting the Caltrans Local Programs Manual and Highway Bridge Replacement and Rehabilitation Program (HBRR) requirements.

1.2. Project Description

1.2.1. Location

The project site is located approximately 11 miles west of the town of Cottonwood, nine miles west of Interstate 5, and 4.3 miles north of State Route 36 (Beegum Road) (Figure 1). The project study area is located within the *Mitchell Gulch, California* 7.5-minute U.S. Geological Survey (USGS) quadrangle (Township 29 North, Range 5 West, Section 32 and Township 28 North, Range 5 West, Section 5, Mount Diablo Base & Meridian).



F:\Projects\50080 - South Fork of Cottonwood Creek on Bowman Road Bridge Replacement Project\Graphics\Figure 1 - Project Vicinity.ai 01-15-04 tanderson

Bowman Road at South Fork Cottonwood Creek Bridge Replacement Project

North State Resources, Inc.

Figure 1
Project Vicinity

1.2.2. Proposed Project Action Area

The project action area, which is the area subject to federal action (Figure 2), encompasses 19.83 acres and includes a portion of the active South Fork Cottonwood Creek channel.

1.2.3. Existing Facility Conditions

The existing bridge was built in 1920 as a two-span steel-riveted Warren pony truss. The two 74.5-foot spans provided a total bridge length of approximately 153 feet and a total width of approximately 16.5 feet. A third 74.5-foot steel pony truss span was added to the bridge in 1942, extending the total bridge length to approximately 230 feet. In 1954, the bridge was posted for a 10 mile per hour (mph) speed limit for vehicles over 10 tons, and a load limit of 17 tons. After some repairs were made to the bridge in 1972, the bridge was declared adequate for legal loads and the speed and load postings were rescinded. The existing east abutment (Abutment 1) and both piers consist of reinforced concrete. Abutment 4 is a bent type consisting of driven steel piles and sheet piling.

In the general vicinity of the bridge, Bowman Road is on an east-west alignment connecting the rural areas west of the town of Cottonwood. The functional classification for Bowman Road is Rural Minor Arterial. Immediately adjacent to the existing bridge on the west approach is a sharp curve posted at 15 mph. Vehicles approaching the bridge must be on the lookout for oncoming traffic since the existing bridge provides only one lane of traffic. The projected 2021 Average Daily Traffic at this location is 1,773.

1.2.4. Proprosed Project Action

1.2.4.1. Replacement of Existing Three-Span Bridge with a Three-Span Structure

The proposed bridge over South Fork Cottonwood Creek would be located approximately 250 feet upstream of the existing bridge (Figure 2). The proposed action would replace the existing bridge with a new 38'10"- wide, 460-foot-long, three-span cast-in-place prestressed concrete box girder supported on single column bents. Approximately 300 feet of rock slope protection would be placed to protect the stream bank.

From the westerly approach, this alignment begins with a 1,400-foot radius curve to the left clipping the steep bank adjacent to the existing northerly roadway shoulder. Then the alignment reverses with a 1,680-foot radius curve towards the creek and the proposed bridge crossing approximately 250 feet upstream from the existing bridge. The project ends with another reverse 1,060-foot radius curve to conform to existing roadway. Along the easterly approach, the alignment extends approximately 1,270 feet beyond the end of the new bridge. Along the westerly approach, it extends approximately 815 feet beyond the end of the new bridge. Both existing substandard curves to the west of the bridge are eliminated with this

alignment and the full approach roadway length would likely be funded by the HBRR program.

Construction of the proposed bridge on this alignment allows traffic to move on the existing alignment during the majority of the construction. However, for construction at the project conforms, traffic handling will involve extended lane closures. Following completion of construction, the old bridge would be removed and demolished. Flexibility would be allowed in the contract allowing the contractor to select a preferred method of demolition; however, blasting would not be permitted.

Restrictions would be placed on the contractor to assure that any sensitive areas, especially the live creek channel, would be protected. Removal techniques and containment systems would be used to meet applicable permit requirements.

1.2.4.2. CONSTRUCTION CRITERIA AND METHODS

Construction specifications would be in accordance with Caltrans Standard Specifications (which are in force at the time the construction contract is awarded) and Standard Special Provisions.

In-Stream Construction

Falsework would be required in the channel for cast-in-place concrete construction. The allowable time the falsework could remain in the channel is subject to the Fish and Game Streambed Alteration Agreement (typically, in-stream construction is allowed from June 15 through October 31). Falsework would be removed following completion of construction and prior to October 31. In-stream areas temporarily impacted by construction would be returned to pre-construction condition.

Foundation System and Dewatering Activities

Foundations at the abutments of each end of the bridge are likely to consist of driven steel piles (70-ton). Large diameter cast in drilled hole piles have been selected due to channel scour concern. This methodology does not normally require dewatering; under unusual circumstances, the contractor may fill the drilled hole with a mineral slurry seal, which would be recovered later. Any water in the drilled hole is lifted through displacement of the concrete pour using a tremi tube and would naturally seep back into the strata as the concrete slurry rises. The tremi tube is placed at the base of the hole and is raised as the concrete rises. This minor amount of water may not require dewatering (depends on site conditions during construction).

The project will meet Caltrans' Best Management Practices regarding the dewatering-infiltration pond method, as outlined in the Storm Water Quality Handbook,

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North State Resources, Inc.

Sediment/Desilting Basin [SC-2]. Any dewatering activities proposed by the contractor shall comply with the NOAA - Fisheries Water Drafting Specifications.

Traffic Control/Detour

Traffic would remain on the existing alignment during construction of the new bridge and roadway alignment. The proposed bridge is far enough away from the existing bridge so that construction of the bridge should not interrupt or conflict with existing roadway operation. However, due to significant fill heights over the existing roadway, construction of approach roadways would require reduction of existing roadway traffic to one lane for extended periods.

The shortest detour, which would utilize Luce-Griswold, Evergreen, and Farquhar Roads, is deemed unacceptable due to a distance of approximately 25 miles. Therefore, traffic handling during construction would be accomplished by either 24-hour flagging or a temporary signal system. For the project location, the availability of electricity (presence of overhead electrical lines) promotes the use of a temporary signal system, which would be incorporated into the project. Once the new alignment is completed and traffic is moved to the new alignment and bridge structure, the existing bridge would be removed.

Contractor Staging Areas/Construction Access Routes

The County will obtain temporary construction easements for access during the bridge and roadway construction work. Staging areas will be limited to the relatively flat areas southeast and southwest of the existing bridge. Construction of temporary access roads into these areas may be necessary.

Air Pollution and Dust Control

Air pollution control will conform to Caltrans Standard Specifications, which state that the contractor shall comply with all applicable air pollution control rules, regulations, ordinances, and statutes.

Fill Import and Export

The project requires 33,758 cubic yards of import material from a Surface Mining and Reclamation Act approved site. This material would be required for the roadway approaches and bridge abutments and would be located outside of the ordinary high water channel of South Fork Cottonwood Creek. Approximately 300 feet of rock slope protection would be placed to protect the roadway approach fill.

Water Pollution Prevention

The contractor shall also implement water pollution control measures that conform to Section 7-1.01G of Caltrans Standard Specifications. Some of these key water pollution control measures are listed below:

- The Contractor shall exercise every reasonable precaution to protect South Fork Cottonwood Creek from pollution with fuels, oils, bitumens (petroleum-based substances found in asphalt and tar), calcium chloride, and other harmful materials and shall conduct and schedule operations to avoid or minimize muddying and silting of South Fork Cottonwood Creek. Care shall be exercised to preserve roadside vegetation beyond the limits of construction.
- Water pollution control work is intended to provide prevention, control, and abatement of water pollution to South Fork Cottonwood Creek, and shall consist of constructing those facilities that may be shown on the plans, or in the special provisions, or directed by the Engineer.
- The Contractor shall provide temporary water pollution control measures, including but not limited to, dikes, basins, ditches, and applying straw and seed, which become necessary as a result of the Contractor's operations. The Contractor shall coordinate water pollution control work with all other work done on the contract.
- Before starting any work on the project, the Contractor shall submit, for acceptance by the Engineer, a program to control water pollution effectively during construction of the project. The program shall show the schedule for the erosion control work included in the contract and for all water pollution control measures that the Contractor proposes to take in connection with construction of the project to minimize the effects of the operations upon adjacent streams and other bodies of water. The Contractor shall not perform any clearing and grubbing or earthwork on the project, other than that specifically authorized in writing by the Engineer, until the program has been accepted.
- If the measures being taken by the Contractor are inadequate to control water pollution effectively, the Engineer may direct the Contractor to revise the operations and the water pollution control program. The directions will be in writing and will specify the items of work for which the Contractor's water pollution control measures are inadequate. No further work shall be performed on those items until the water pollution control measures are adequate and, if also required, a revised water pollution control program has been accepted.
- The Engineer will notify the Contractor of the acceptance or rejection of any submitted or revised water pollution control program in not more than 5 working days.
- Unless otherwise approved by the Engineer in writing, the Contractor shall not expose a total area of erodible earth material, which may cause water pollution, exceeding 83,720 square yards for each separate location, operation, or spread of equipment before either temporary or permanent erosion control measures are accomplished.
- Where erosion that will cause water pollution is probable due to the nature of the material or the season of the year, the Contractor's operations shall be so scheduled that

permanent erosion control features will be installed concurrently with or immediately following grading operations.

- Nothing in the terms of the contract nor in the provisions in Section 7-1.01G shall relieve the Contractor of the responsibility for compliance with Sections 5650 and 12015 of California Fish & Game Code, or other applicable statutes relating to prevention or abatement of water pollution.

The Contractor shall also conform to the following provisions:

- Where working areas encroach on live streams, barriers adequate to prevent the flow of muddy water into streams shall be constructed and maintained between working areas and streams, and during construction of the barriers, muddying of streams shall be held to a minimum.
- Mechanized equipment shall not be operated in the live stream channel.
- Water containing mud or silt from aggregate washing or other operations shall be treated by filtration, or retention in a settling pond, or ponds, adequate to prevent muddy water from entering live streams.
- Oily or greasy substances originating from the Contractor's operations shall not be allowed to enter or be placed in a location where there may be a potential for stream contamination.
- Portland cement or fresh Portland cement concrete shall not be allowed to enter flowing water of streams.
- Material derived from roadway work shall not be deposited in a live stream channel where it could be washed away by high stream flows.
- Where there is possible migration of anadromous fish in streams affected by construction on the project, the Contractor shall conduct work operations to allow free passage of the migratory fish.

1.2.5. Conservation Measures

In addition to the protective measures incorporated into the project description, conservation measures will be incorporated into the project to minimize potential effects on federally listed species, as well as other biological resources. This section describes those conservation measures proposed to minimize the anticipated temporary and permanent effects associated with construction of the proposed action.

1.2.5.1. Conservation Measure #1 - Erosion and Sedimentation Control

Type D erosion control measures (i.e., hydroseeding) shall be implemented during construction of the proposed project in non-riparian upland areas. These measures shall

conform to the provisions in Section 20-3 of the Caltrans Standard Specifications and the special provisions included in the contract for the project.

Erosion control work shall consist of one application of erosion control materials within non-riparian upland areas to embankment slopes, excavation slopes, and other areas designated by the project Engineer. These materials shall consist of fiber, seed, commercial fertilizer, and water. These materials shall conform to Section 20-2 of the Caltrans Standard Specifications and the specifications discussed below. Commercial fertilizer used for non-riparian upland areas shall conform to the provisions in Section 20-2.02 of the Caltrans Standard Specifications.

Additional erosion control measures that shall be implemented by the County include:

- Activities that increase the erosion potential within the action area shall be restricted to the relatively dry summer and early fall period to the maximum extent practicable to minimize the potential for rainfall events to transport sediment to South Fork Cottonwood Creek and other surface water features. If these activities must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures must be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.
- Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County.
- When construction has been completed, weed-free mulch shall be applied to disturbed areas within 10 days in order to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain forecasted by the National Weather Service during the next 24 hours, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.
- Filter fences and catch basins shall be placed below all construction activities at the edge of South Fork Cottonwood Creek and other surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities.
- Spoil sites shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated to reduce the potential for erosion.

- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated.

1.2.5.2. CONSERVATION MEASURE #2 - PREVENTION OF ACCIDENTAL SPILLS

Construction specifications shall include the following measures to reduce potential impacts associated with accidental spills of pollutants (e.g., fuel, oil, and grease) to vegetation and aquatic habitat resources within the project study area:

- A spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.
- Equipment and materials shall be stored away from surface water features, including South Fork Cottonwood Creek.
- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials into a surface water feature. Maintenance and fueling shall be conducted in an area at least 150 feet away from South Fork Cottonwood Creek.

1.2.5.3. RIPARIAN HABITAT

A Riparian Habitat Mitigation and Monitoring Plan (Mitigation Plan) has been prepared for the proposed project to meet project-related mitigation measures for biological resources, specifically the loss of foothill valley riparian vegetation/SRA habitat along South Fork Cottonwood Creek. Exclusionary fencing shall be installed along the boundaries of all riparian areas where construction access would have to occur to ensure that impacts to SRA vegetation outside of the construction area are minimized. Where loss of riparian/SRA vegetation occurs, these areas shall be replanted using riparian species that have been recorded along South Fork Cottonwood Creek in the project area, including Fremont cottonwood (*Populus fremontii*); mulefat (*Baccharis salicifoloia*); sandbar willow (*Salix exigua*); red willow (*Salix laevigata*), and valley oak (*Quercus lobata*).

The riparian habitat mitigation area is comprised entirely of on-site locations located within the project study limits and within County right-of-way. Specifically, mitigation for any permanent loss of vegetation will occur within the area associated with the piers and abutments from the old, existing bridge. After the new bridge has been constructed, the old bridge, abutments, and piers will be removed and the area will be re-sloped and restored. If temporary access routes are constructed to provide access to the relatively flat areas southeast

and southwest of the existing bridge, mitigation for those temporary effects will occur within the areas disturbed. Mitigation is proposed to occur on-site, within the approximately 0.19-acre mitigation area, at a 3:1 ratio per mature woody riparian tree (trees equal or greater to 6-inch diameter at breast height) removed during construction. Thus, no permanent net loss of SRA features will occur as a result of the project. Plant spacing intervals will be determined as appropriate based on site conditions following construction. Non-native species removed during project construction will be replaced with native riparian species.

1.3. Summary of Consultation to Date

- Kerri Mikkelsen Rose (North State Resources, Inc. [NSR]) contacted Cecilia Brown (USFWS) to discuss the potential for federally listed species to occur at the project site – August 2, 2002.
- A request for a list of listed, proposed, and candidate plant and animal species that may occur in Tehama County and that may be affected by the project was made in writing to the USFWS. The USFWS responded to the request via letter correspondence on August 9, 2002 (Letter Reference Number 1-1-02-SP-2758).
- On June 4, 2003, K. Brown of the USFWS responded to the submission of the California red-legged frog habitat for the proposed project with an email stating that field surveys would not be required (Appendix D).
- On April 22, 2004, a biological opinion was issued by the USFWS in response to the request to initiate formal consultation on the effects of the proposed project on the threatened VELB (Appendix A).
- On May 1, 2009, an official species list for the *Mitchell Gulch,, California* 7.5-minute USGS quadrangle was obtained electronically from the USFWS (Appendix C).

1.4. Document Preparation History

- Wirt Lanning, Project Manager, NSR
- Ginger M. Bolen, Environmental Analyst/Wildlife Biologist, NSR
- Kurt Bainbridge, Biologist, NSR
- Teri Mooney, GIS Specialist, NSR

Chapter 2. Study Methods

2.1. Listed and Proposed Species Potentially in the Action Area

Plant and animal species of concern and/or other special habitats having the potential to occur within the project action area were determined, in part, using several database searches and review of an official list of federally listed species obtained from the USFWS (2009). The official USFWS list contains listed, proposed, and candidate species having the potential to occur within the *Mitchell Gulch, California* USGS 7.5-minute quadrangle and within Tehama County (Appendix C).

Table 1 summarizes federally listed species (excluding anadromous fish) having the potential to occur in Tehama County, as identified by the USFWS (2009). Based on site surveys, literature review, and conversations with local species experts, each federally listed species was evaluated and a determination was made as to whether suitable habitat for the species was present or absent within the project action area. A detailed species account of federally listed species having the potential to occur in the project action area will receive discussion beyond the following table. For the purpose of this BA, which has been prepared to facilitate formal consultation with the USFWS under Section 7 of FESA, only the valley elderberry longhorn beetle (VELB) will be discussed in further detail in Chapter 4. A separate BE/EFHA was prepared for Central Valley steelhead, Chinook salmon, winter-run ESU Chinook salmon, and spring-run ESU Chinook salmon to facilitate informal Section 7 consultation with NOAA – Fisheries.

Table 1. Listed Species Potentially Occurring or Known to Occur in the Action Area

Common Name Scientific Name	Federal/ State Status[1]	General Habitat	Habitat Present/ Absent[2]	Rationale
Hoover's spurge *Chamaesyce hooveri*	T/--	Drying beds of vernal pools in valley grasslands, usually larger, deeper pools where there is little cover by other plants.	A	Suitable vernal pool habitat is not present. Critical habitat has been designated, but does not occur within or immediately adjacent to the action area.
Hairy Orcutt grass *Orcuttia pilosa*	E/E	Shorelines and bottoms of dried vernal pools in valley grasslands, often on clay.	A	Suitable vernal pool habitat is not present. Critical habitat has been designated, but does not occur within or immediately adjacent to the action area.

Common Name Scientific Name	Federal/ State Status[1]	General Habitat	Habitat Present/ Absent[2]	Rationale
Slender Orcutt grass *Orcuttia tenuis*	T/E	Bottom of vernal pools associated with valley grassland, blue oak woodland, and lower montane conifer forest.	A	Suitable vernal pool habitat is not present. Critical habitat has been designated, but does not occur within or immediately adjacent to the action area.
Greene's tuctoria *Tuctoria greenei*	E/R	Bottom of dried vernal pools in grasslands.	A	Suitable vernal pool habitat is not present. Critical habitat has been designated, but does not occur within or immediately adjacent to the action area.
Butte County meadowfoam *Limnanthes floccosa ssp. californica*	E/E	Swales, vernal pool depressions in swales and occasionally around edges of isolated vernal pools. Annual grasslands with mima mound topography, large cobbles present.	A	Suitable vernal pool habitat is not present. Critical habitat has been designated, but does not occur within or immediately adjacent to the action area.
Conservancy fairy shrimp *Branchinecta conservatio*	E/--	Vernal pools / swales and ponded seasonal wetlands. Known to occur in Colusa, Napa, Tehama, Solano, Ventura, and Merced counties.	A	Suitable vernal pool habitat is not present. Critical habitat has been designated, but does not occur within or immediately adjacent to the action area.
Vernal pool fairy shrimp *Branchinecta lynchi*	T/--	Vernal pools, swales, and ephemeral freshwater habitats. Not known to occur in riverine waters, marine waters, or trapped or "perched" above this layer.	A	Suitable vernal pool habitat is not present. Critical habitat has been designated, but does not occur within or immediately adjacent to the action area.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/--	Elderberry trees or shrubs associated with riparian forests which occur along rivers and streams	HP	Suitable habitat is present within the project action area. Scattered elderberry shrubs are located northeast and southwest of the existing bridge.
Vernal pool tadpole shrimp *Lepidurus packardi*	E/--	Vernal pools, swales, and ephemeral freshwater habitats.	A	Suitable vernal habitat is not present. Critical habitat has been designated, but does not occur within or immediately adjacent to the action area.
Giant garter snake *Thamnophis gigas*	T/T	Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley.	A	Project is outside the current, known range for the species. Suitable habitat is not present.

Common Name Scientific Name	Federal/ State Status[1]	General Habitat	Habitat Present/ Absent[2]	Rationale
California red-legged frog *Rana aurora draytonii*	T/SC	Require aquatic habitat for breeding but also use a variety of other habitat types including riparian and upland areas. Adults often utilize dense, shrubby or emergent vegetation closely associated with deep-water pools with fringes of cattails and dense stands of overhanging vegetation such as willows.	HP	The action area is outside the current known range for this species, although suitable habitat is present. A California red-legged frog habitat assessment was prepared for this project and was submitted to the USFWS. The USFWS determined that surveys were not necessary (Appendix D).
Mountain yellow-legged frog *Rana muscosa*	C/SC	Inhabits lakes, ponds, springs, and streams typically between 4,500 and 12,000 feet.	A	The project area is outside the species' known range. Suitable habitat is not present.
Delta smelt *Hypomesus transpacificus*	T/T	Estuarine systems in the Sacramento-San Joaquin Delta.	A	The project area is outside the species' known range. Suitable habitat is not present.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	C/E	Nesting habitat is dense cottonwood/willow riparian forest. In northern California, occurs only along the upper Sacramento Valley portion of the Sacramento River.	A	Suitable dense riparian habitat is not present.
Northern spotted owl *Strix occidentalis caurina*	T/SC	In northern California, resides in dense, old growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats	A	Suitable habitat is not present.
Fisher *Martes pennanti*	C/SC	Associated with mature and late successional forests. Generally found in stands with high canopy closure, large trees and snags, large woody debris, large hardwoods, and multiple canopy layers.	A	Suitable habitat is not present.

[1]Status: Federal Endangered (FE); Federal Threatened (FT); Federal Candidate (FC), State Endangered (SE); State Threatened (ST); State Species of Special Concern (SC)

[2]Absent [A] - No habitat present and no further work needed.
Habitat Present [HP] - Habitat is, or may be present. The species may be present.
Present [P] - Species is present

2.2. Studies Required

2.2.1. Literature Search

Plant and animal species of concern and/or other special habitats having the potential to occur in the project action area were determined, in part, using several database searches and review of a species list provided by the USFWS (2009). The CDFG's California Natural

Diversity Database (CNDDB) (California Department of Fish and Game 2008) and the California Native Plant Society (CNPS) Electronic Inventory was also queried for federally and/or state listed plant, wildlife, and fish species that have been observed in the project vicinity (Table 1). The database search was performed for the *Mitchell Gulch, California* USGS 7.5-minute quadrangle. Based on site surveys, literature review, and conversations with local species experts, each federally listed species was evaluated and a determination was made as to whether suitable habitat for the species was present or absent in the action area.

2.2.2. Field Surveys

Habitat Assessment. An assessment of on-site habitat conditions at the project site was conducted by a North State Resource's biologist on April 19, May 31, and August 23, 2002. This assessment included reconnaissance-level surveys and focused surveys for sensitive species and their habitat; a biological characterization of special-status plant, wildlife, and fisheries habitat; and comprehensive vegetation mapping.

Wetland Delineation. On August 23, 2002, NSR wetland scientists conducted a delineation of Corps jurisdictional waters of the United States within the project action area. This delineation was performed according to methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987).

California Red-Legged Frog Assessment. A California red-legged frog habitat assessment was conducted by NSR biologists in August 2002. The CNDDB and telephone interviews with Cecilia Brown (USFWS), Mike Berry (CDFG), Bob Williams (CDFG), Charlie Brown (CDFG), Mark Jennings (Rana Resources), and Daniel Whitley (Caltrans) helped identify the locations of previously recorded California red-legged frog sightings.

Valley Elderberry Longhorn Beetle Survey. In August 2002 and October 2003, a NSR biologist conducted a protocol-level survey for the VELB within the action area. In November 2008, protocol-level VELB surveys were conducted within the revised action area. The surveys were conducted according to USFWS guidelines (U.S. Fish and Wildlife Service 1999). Elderberry shrubs with one or more stems measuring one inch or greater in diameter (at ground level) were closely examined for beetle exit holes. NSR biologists conducted the protocol-level surveys according to the following standards:

- The survey team included biologists familiar with VELB habitat and life history.
- The survey team identified and recorded the location and dripline of each elderberry shrub patch with basal stem diameters greater than or equal to 1.0 inch in the action area. Elderberries within these patches were further divided into individual shrubs or groups of clustered individual shrubs for purposes of identification and mapping.

- The surveyors measured and classified each elderberry stem into one of four categories: less than 1 inch, 1-3 inches, 3-5 inches, and greater than 5 inches. The average height of each elderberry shrub patch was also recorded.
- Each elderberry stem (greater than 1 inch) was visually inspected for any sign of VELB exit holes. Any stem that was greater than one inch and had an exit hole was documented.

2.3. Personnel and Survey Dates

Following is a list of personnel and tasks performed during site visits to the project area:

Wirt Lanning, Project Manager/Senior Environmental Analyst, NSR

- Overall Project Management
- Technical Review

Colby Boggs, Botanist, NSR

- Botanical Surveys, April 19, 2002 and May 31, 2002

Julian Colescott, Wildlife Biologist, NSR

- Reconnaissance-Level Surveys and Vegetation Mapping, August 23, 2002,
- Protocol-Level VELB surveys, August 23, 2002 and October 30, 2003
- Wetland Delineation, August 23, 2002

Kerri Mikkelsen Rose, Environmental Scientist/Environmental Analyst, NSR

- Red-legged Frog Habitat Assessment, August 23, 2002

Kurt Bainbridge, Wildlife Biologist, NSR

- Protocol-Level VELB surveys, November 26, 2008

2.4. Agency Coordination and Professional Contacts

The following individuals and agencies provided information relevant to this BA:

- Mike Berry — Fisheries Biologist, CDFG, Redding, CA
- Cecilia Brown — Biologist, USFWS, Sacramento, CA
- Candace Miller — NEPA Liaison, Caltrans, Redding, CA
- Sharon Stacey — District Biologist, Caltrans, Redding, CA
- Bob Williams — Environmental Scientist, CDFG, Redding, CA

2.5. Limitations That May Influence Results

All field studies were conducted in accordance with applicable protocols. Therefore, no limitations that may influence the results of field studies associated with this project are known to have occurred.

Chapter 3. Results: Environmental Setting

3.1. Description of Existing Biological and Physical Conditions

3.1.1. Environmental Setting

The project region lies at the northern end of the Sacramento Valley within the historic floodplain of the Sacramento River and at the western edge of the Cascade and Sierra Nevada Range transition zone. Major natural vegetation of the Sacramento Valley Bioregion consists of oak woodlands, riparian forests, vernal pools, freshwater marshes, and grasslands. The climate within the project area is Mediterranean with cool, wet winters and hot, dry summers. Except during periods of drought, rainfall is frequent in winter, but snowfall is unusual because temperatures, particularly in the daytime, normally remain well above freezing. Approximately 21 inches of rain falls annually, mostly between November 1 and April 30. The project area, which typically exhibits a nine-month growing season from February 1 through October 31, can be categorized as thermic. Most herbaceous growth occurs during spring, ceasing as soil moisture depletes in early summer. The average January high is 53 °F, while the average July high is 100 °F. The year-round average high is 76 °F.

3.1.2. Topography

The project site topography is composed of flat to gently rolling oak woodlands, a low terrace associated with the South Fork Cottonwood Creek channel, and the South Fork Cottonwood Creek floodplain. Slopes are nearly level except in the western portion of the project area, which contains moderately steep hillslopes. Elevations within the project action area range between approximately 520 feet to 540 feet above mean sea level.

3.1.3. Ownership

Land ownership consists of private parcels on which the County maintains prescriptive easements.

3.1.4. Current/Recent Land Use

The current and recent land uses associated with the project area include public roadway and rural residential development. The majority of land within the project action area consists of undeveloped oak woodland.

Other current and recent land uses in the project vicinity include gravel mining, timber harvesting, and ranching. Cottonwood Creek has supplied the region with gravel for the past 80 years. Two major gravel mines continue to operate along the mainstem of Cottonwood

Creek, over 12 miles downstream from the project action area. The Shea Mine is located immediately downstream of Interstate 5, and the Cottonwood Creek Sand and Gravel Mines are located approximately 600 feet upstream of Interstate 5.

3.1.5. Hydrological Setting

The main hydrologic feature within the action area is South Fork Cottonwood Creek, which is 56.8 miles long. South Fork Cottonwood Creek feeds into Middle Fork Cottonwood Creek approximately 8.5 miles downstream of the project site, which in turn confluences with the Sacramento River an additional 9 miles downstream. Average annual flow at the project site is 213 cubic feet per second (cfs) (CH2M Hill 2001). Dry Creek confluences with South Fork Cottonwood Creek approximately 0.8 mile downstream of the project site.

South Fork Cottonwood Creek in the project area is a braided alluvial stream with coarse-grained, non-cohesive gravel bed and banks (CH2M Hill 2001). The relatively straight, braided channel is confined within a sinuous high-flow channel surrounded by terraces. Bridges and local outcrops of the Tehama Formation create constrictions in the floodplain. For much of the year, the riverine feature is dry or has only a trickle of water flowing through, but during storm events, the feature fills with runoff. Deeper side pools provide a source of perennial water throughout the project area. The boundary of the riverine feature typically coincides with the normal high water mark of the creek.

3.1.6. Vegetation and Wildlife Habitat in the Action Area

Five plant community types occur within the action area. These consist of blue oak – gray pine, valley oak woodland, valley foothill riparian (riparian wetland), riverine, and developed areas. Following are brief descriptions of the characteristics of the five plant community types present.

Blue Oak – Gray Pine. Blue oak – gray pine habitat is the dominant upland habitat type in the action area. This habitat is characterized as an open to moderate canopied woodland with an open to dense understory. Dominant tree species include gray pine (*Pinus sabiniana*), blue oak (*Quercus douglasii*), and interior live oak (*Quercus wislizenii*). Dominant shrub and herbaceous species include whiteleaf manzanita (*Arctostaphylos viscida*), poison oak (*Toxicodendron diversilobum*), blue dicks (*Dichelostemma capitatum*), wild oat (*Avena fatua*), soft chess (*Bromus hordeaceus*), and buck brush (*Ceanothus cuneatus*).

Valley Oak Woodland. Valley oak woodland habitat in the action area is confined to narrow bands of open woodland along the terraces of the South Fork Cottonwood Creek. The oak woodland has an open understory comprised of non-native annual grassland and scattered small trees, shrubs and forbs. Dominant tree and shrub species include valley oak *(Quercus lobata*), interior live oak (*Quercus wislizenii*), blue elderberry (*Sambucus mexicana*),

California wild grape (*Vitis californica*), blackberry (*Rubus discolor*), skunkbrush (*Rhus trilobata*) and poison oak (*Toxicodendron diversilobum*). Common herbaceous species include ripgut grass (*Bromus diandrus*), mugwort (*Artemisia douglasiana*) hedge parsley (*Torilis arvensis*), Klamathweed (*Hypericum perforatum*), yellow star thistle (*Centaurea solstitialis*), medusa head (*Taeniatherum caput-medusae*), and spring vetch (*Vicia sativa*).

Valley Foothill Riparian. The valley foothill riparian plant community occurs as linear stringers and small islands of vegetation along portions of South Fork Cottonwood Creek floodplain. Dominant species include sandbar willow (*Salix exigua*), red willow (*Salix laevigata*), rabbit's foot (*Polypogon monspeliensis*), Oregon false goldenaster (*Heterotheca oregona*), common vervain (*Verbena lasiostachys*), mulefat (*Baccharis salicifolia*), sweetclover (*Melilotus officinalis*), and cocklebur (*Xanthium strumarium*).

Riverine. Riverine habitat within the action area is limited to the open areas associated with the active flow channel of the South Fork Cottonwood Creek, which is an intermittent stream. During the wet winter months, the channel is flooded and flowing; during the remainder of the year, the channel is dry. This habitat type occurs in close proximity to riparian wetland vegetation associated with the floodplain of the South Fork Cottonwood Creek.

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1. Federally-Listed/Proposed Plant Species

As discussed in Chapter 2, 5 federally listed plant are included on the Tehama County listed, proposed, and candidate species list provided by the USFWS (2009). However, suitable habitat is not present within the action area for any of these species.

4.2. Federally-Listed or Proposed Animal Species Occurrences

4.2.1. Valley Elderberry Longhorn Beetle

The VELB is a medium-sized wood-boring beetle that is about 2 centimeters in length. The VELB life cycle is spent inside the elderberry shrub (*Sambucus mexicana* or *Sambucus racemosa* var. *microbotrys*). Just after mating, females lay their eggs in the crevices of the elderberry bark. The VELB spend their larval stages (1-2 years) within the stems of the shrub, and they burrow out just before pupation (typically late March through June) and spend their adult lives feeding on the elderberry foliage and mating.

Suitable habitat for VELB consists predominantly of riparian forest with dominant plant species that include cottonwood, sycamore, valley oak, and willow, with an understory of elderberry shrubs (U.S. Fish and Wildlife Service 1991).

The range of the VELB extends throughout California's Central Valley and associated foothills, from about the 3,000-foot-elevation contour on the east and the watershed of the Central Valley on the west (U.S. Fish and Wildlife Service 1999). There were no occurrences of VELB recorded for the *Mitchell Gulch* quadrangle (California Department of Fish and Game 2008). The nearest records are from the Sacramento River area on the *Red Bluff East* quadrangle, over twelve miles southeast of the project area.

4.2.1.1. Survey Results

Protocol-level surveys for VELB were conducted within the entire action area on August 23, 2002 and October 30, 2003. An additional protocol-level survey for VELB was conducted within the revised action area on November 26, 2008. During the 2008 survey, access was denied to private lands containing Shrub 11. Thus, updated information for Shrub 11 could not be obtained.

The VELB surveys documented the presence of 11 elderberry shrubs with 45 stems equal to or greater than 1-inch-diameter at ground level. The results of the surveys are included in Table 2, and their locations are depicted in Figure 3. No VELB individuals or exit bore holes were observed during the protocol-level surveys

Table 2. Valley Elderberry Longhorn Beetle Habitat Assessment Results

Location/General Description	Total No. of Stems and Size Class	No. of Stems With Exit Holes	Approximate Shrub Clump Size/Height/ Length/Width (feet)	Associated Habitat	Comments
1. Large shrub on northeast corner of intersection of Bowman Road and South Fork Cottonwood Creek (approximately 165 ft east of the creek).	2 stems 1-3" 3 stems 3-5" 1 stem >5"	0	12x20x18	Valley foothill riparian	Many dead stems. Shrub engulfed by grape vines
2. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem 1-3" 1 stem 3-5"	0	15x19x13	Valley oak woodland	N/A
3. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem 1-3"	0	7x5x4	Valley oak woodland	Shrub engulfed by grape vines.
4. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem >5"	0	10x12x10	Valley oak woodland	Base of shrub shows signs of decay. Shrub engulfed by grape vines
5. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem 1-3"	0	7x5x4	Valley oak woodland	Shrub engulfed by grape vines.
6. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem >5"	0	15x12x10	Valley oak woodland	N/A
7. Young shrub located on the southeast corner of intersection of Bowman Road and South Fork Cottonwood Creek. Approximately 20 ft east of Shrub #9	2 stems 1-3"	0	8x9x7	Valley oak woodland	N/A
8. Live shrub located on the north side of Bowman Road and approximately 375 ft east of South Fork Cottonwood Creek.	1 stems 1-3"	0	12x12x8	Valley oak woodland	Shrub is directly next to, and on the north side of, a large valley oak. Several dead stems present.

Location/General Description	Total No. of Stems and Size Class	No. of Stems With Exit Holes	Approximate Shrub Clump Size/Height/ Length/Width (feet)	Associated Habitat	Comments
9. Young shrub located on the southeast corner of intersection of Bowman Road and South Fork Cottonwood Creek.	2 stems 1-3"	0	8x8x5	Valley oak woodland	N/A
10. Young shrub located 250 ft from South Fork Cottonwood Creek on the south side of bowman road. Shrub located just off the road	1 stem 1-3"	0	7x5x5	Valley Oak Woodland	N/A
11. Live shrubs, located on south side of Bowman Road between side channel and main stem of S.F. Cottonwood Creek	27 stems 1-3"	0	45x15x15	Valley foothill riparian	Located in dense willow thicket

4.2.1.2. CRITICAL HABITAT

The USFWS formally listed the VELB as *threatened* on August 8, 1980 (45 FR 52803 52807). Critical habitat was also designated at this time (45 FR 52803 52807). Designated critical habitat includes two areas along the American River in Sacramento County, California. The project action area is not within designated critical habitat for the VELB.

4.2.1.3. CURRENT MANAGEMENT DIRECTION

Management plans created by the USFWS are the primary management directions established for the protection of the VELB. In 1999, the USFWS issued guidelines to assist project applicants in developing measures to avoid and minimize adverse effects on the VELB, *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999). These guidelines describe the species life history, provide survey guidelines, and establish mitigation measures to reduce project impacts to the federally threatened species. Mitigation measures include methods for avoidance, protection, restoration, and maintenance; transplanting and planting guidelines; conservation area guidelines; monitoring guidelines; and success criteria. The mitigation measures included in this BA are based on the guidelines provided by the USFWS.

To expedite state and local federal-aid (i.e., FHWA) transportation improvement project consultations with the USFWS, the USFWS has also issued the *Formal Programmatic Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California* (1996). This Biological Opinion covers projects with small effects on the VELB or its host plant,

elderberry, in or along the margins of the Sacramento and San Joaquin valleys and includes all or a portion of 31 California counties, including Tehama County. All projects implemented under this programmatic consultation must meet the following four criteria, or will be determined by the USFWS to have effects similar in nature to these criteria.

- No designated critical habitat will be affected;
- Twenty-five or fewer elderberry plants, each with at least one stem measuring 1.0 inch or greater in diameter at ground level, exist in the action area (action area is defined as all areas to be affected directly or indirectly by the action);
- Between 1 and 200 elderberry stems measuring 1.0 inch or greater in diameter at ground level exist in the action area; and
- Less than 250 linear feet of undeveloped watercourse exists in the action area, measured down the centerline. An undeveloped watercourse is one without human-made levees, channelization, rip-rap, or other artificial alteration, and may be either permanent or seasonal. This requirement may be waived if no elderberry plants occur in the vicinity of the watercourse(s).

On July 25, 2002 FHWA issued a "Revised Policy on VELB Effects and Compensation" (HAD-CA, Revised VELB Policy, Document # S39109) that recognizes that the 1999 *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* will be implemented for all federally-funded transportation projects that have an effect on the VELB.

4.2.1.4. Avoidance and Minimization Efforts

The project proposed has been designed to minimize adverse effects to VELB to the maximum extent practicable. Implementation of Conservation Measures # 1 and #2 will prevent or minimize impacts to VELB resulting from erosion and sedimentation and accidental spills. Adherence to Caltrans Standard Specifications will prevent or minimize impacts to VELB resulting from dust. Implementation of Conservation Measure #3 will avoid or replace lost riparian habitat so that no net less occurs because of the proposed project. Further, the following avoidance and minimization measures shall be implemented:

- Prior to construction, a Worker Environmental Awareness Program for construction workers shall be conducted by a qualified biologist. The program shall provide all workers with information on their responsibilities with regard to sensitive biological resources, specifically the status of the federally threatened VELB and the need to protect its elderberry host plant.

Removal of the existing bridge and roadway approaches shall occur outside of the VELB active season (mid-March to mid-May; U.S. Fish and Wildlife Service 1984);

DETAIL

SEE DETAIL

S.F. Cottonwood Creek

1
7
8
9
10
2-6
11

Legend

- Limits of Action Area (19.83 acres)
- Elderberry Shrub Location
- Cut and fill
- Edge of pavement
- Right-of-way

N

0 150 300

Feet

G:\Projects\27012_Bowman_Bridge_Replacement\GIS\Working_Mxds\27012_Fig_VELB_Locations.mxd 04-30-09 edouglas

North State Resources, Inc.

South Fork of Cottonwood Creek on Bowman Road Bridge Replacement Project

Figure 3
Elderberry Shrub Locations

- Measures to protect buffer areas will be instituted prior to construction and will include fencing and signs. Fencing shall be placed greater than 20 feet outward from the dripline around existing elderberry shrubs. Signs shall be erected and attached to the fencing stating the following: "This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs shall be placed in clearly visible locations and shall be readable from a distance of 20 feet.
- No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant shall be used within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.
- Any damage to the buffer area during construction shall be restored following construction. Restoration shall include erosion control and re-vegetation with appropriate native plants, including elderberry, as appropriate

Implementation of the Mitigation Measures described below will mitigate for direct and indirect impacts to potential VELB habitat resulting from construction activities, consistent with the 1997 Programmatic Biological Opinion.

4.2.1.5. PROJECT EFFECTS

The VELB is found exclusively on elderberry shrubs. Thus, protection of this species is based on protection of the elderberry shrub. The USFWS has adopted conservation guidelines (1999) for avoidance of impacts to VELB. Complete avoidance (i.e., no adverse effects) may be assumed when a 100-foot (or wider) buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level. Avoidance of direct effects is assumed when a 20-foot (or wider) buffer (core avoidance area) is established and maintained. The following discussion identifies those Project activities that may adversely affect this species and identifies the conservation measures incorporated into the Project to reduce these impacts.

Direct Take of the Species/Loss of Occupied Habitat

The proposed Project will result in the direct take of elderberry shrubs (with a basal diameter of 1 inch or greater) at Locations 2-6.

Disturbance of the Species/Occupied Habitat

Direct impacts to elderberry shrubs are assumed when ground disturbance takes place within 20 feet of the driplines of elderberry plants (that support stems with a diameter at ground level of 1 inch or greater) due to the potential for soil compaction and/or root damage as a result of heavy equipment, increased airborne dust and impairment of dispersal activities, and alteration of local hydrology.

Construction equipment and personnel will be required to work within the 20-foot core avoidance areas of the shrub at Location 10. As the effected stems are not within the permanent impact zone, transplantation is not recommended. However, direct impacts to their core area will be compensated through the implementation of the Mitigation Measures for VELB described below.

Indirect Impacts

Elderberry shrubs at Locations 1, 7–9, and 11 occur within 100 feet but greater than 20 feet from areas where ground disturbance is proposed to occur. These shrubs and beetles (if they occur) may be indirectly impacted by sedimentation, erosion, and dust. Indirect impacts could also result from encroachment into the 100-foot buffer zone if construction activities result in changes, such as alteration of drainage patterns, which might affect the long-term viability of the elderberry shrubs.

Accidental Spills

Construction activities typically include the refueling of construction equipment on location. As a result, minor fuel and oil spills may occur, with a risk of larger releases. Without rapid containment and clean up, these materials could be potentially toxic to elderberry shrubs and/or the VELB, depending on the location of the spill in proximity to these resources. Oils, fuels, and other contaminants could have deleterious effects on all biota present within close proximity to construction activities. Implementation of the Conservation Measures would limit the potential for this impact by requiring that the contractor maintain spill containment booms at the site, and maintain construction equipment to avoid mechanical breakdown and potential for fluid leaks.

Habitat species composition of both plants and animals could be significantly affected by accidental contaminant spills. Changes in riparian vegetation and changes in predator/prey dynamics are likely indirect effects relevant to VELB. Implementation of the Conservation Measures would limit the potential for this impact by requiring that the contractor maintain spill containment booms at the site, and maintain construction equipment to avoid mechanical breakdown and the potential for fluid leaks.

4.2.1.6. MODIFICATIONS TO THE PROJECT TO MITIGATE EFFECTS

In order to minimize and mitigate for potential impacts to the valley elderberry longhorn beetle, the measures outlined in the USFWS conservation guidelines (1999) will be implemented (Appendix B). Mitigation ratios are summarized in Table 3. The total number of seedlings to be planted is based on the analysis of direct and indirect effects as described above. In addition to the planting of replacement elderberry seedlings, the USFWS

Guidelines also require the planting of associated native plants within the conservation area to enhance the overall habitat.

Table 3. Elderberry Shrub Mitigation

Directly Impacted Shrubs				Mitigation			
Location	Max diameter of stems at ground level (inches)	Exit Holes on Shrub		Elderberry Seedling Multiplier[1]	Elderberry Seedlings To be Planted	Associated Native Plant Multiplier[2]	Native Plants Species To Be Planted
		Y/N	Stem Quantity				
Non-riparian	1- 3	No	4	1	4	1	4
		Yes	0	2	0	2	0
Non-riparian	>3 < 5	No	1	2	2	1	1
		Yes	0	4	0	2	0
Non-riparian	≥ 5	No	2	3	6	1	2
		Yes	0	6	0	2	0
Riparian	1- 3	No	0	2	0	1	0
		Yes	0	4	0	2	0
Riparian	>3 < 5	No	0	3	0	1	0
		Yes	0	6	0	2	0
Riparian	≥ 5	No	0	4	0	1	0
		Yes	0	8	0	2	0
TOTAL					12		7

[1]Ratios in the *Elderberry Seedling Multiplier* column correspond to the number of cutting or seedlings to be planted per elderberry stem (1.0 inch or greater at ground level) affected by the project.
[2]Ratios in the *Associated Native Plant Multiplier* column correspond to the number of associated native species to be planted per elderberry (seedling or cutting) planted.

Measures to protect elderberry core avoidance areas (i.e., area within 20 feet of the dripline) during construction will be instituted prior to construction and will include fencing and signs. Fencing shall be placed greater than 20 feet outward from the dripline of the shrub to be avoided. Signs shall be erected and attached to the fencing stating the following: "This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs shall be placed in clearly visible locations and shall be readable from a distance of 20 feet.

No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant shall be used within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.

Compensatory plantings will occur at the Mill Creek Conservation Area, located east of the Sacramento River, east of River Road and north of Tehama Vina Road (see Appendix E) or a

USFWS approved mitigation bank. The conservation area must provide at least 1,800 square feet for each transplanted elderberry plant and up to 10 plantings (i.e., elderberry seedlings and/or native plantings). Thus, given that 6 elderberry plants will be transplanted (Locations 2–6) and 19 additional plantings (12 new elderberry plantings and 7 associated plantings) will be required to adequately mitigate for project-related impacts, 0.25 acres of the conservation area will be devoted to providing the required mitigation plantings (i.e., elderberry plantings and associated native species) for this project.

The condition of the conservation area and associated condition of the elderberry and native plantings shall be monitored over a period of ten (10) consecutive years or for seven (7) years over a 15-year period. Monitoring reports will either be submitted every year, assuming 10 consecutive years, or on years 1, 2, 3, 5, 7, 10, and 15 for the 15-year period. The conservation plan must state which monitoring schedule will be followed. No change in the monitoring schedule will be accepted once the Project has been initiated. If conservation plantings are done in stages, each stage of planting will have a different start date for the required monitoring time.

A minimum survival rate of at least 60 percent of the elderberry plants and 60 percent of the associated native plants must be maintained throughout the monitoring period. Within one year of discovery that survival has dropped below 60 percent for either set of plantings, failed plantings must be replaced to raise the survival rate above this level. The USFWS will make any determinations regarding the County's replacement responsibilities arising from circumstances beyond the County's control (e.g., plants damaged or killed as a result of severe flooding or vandalism).

Native plantings shall be monitored according to the same survival criteria used for the elderberry seedlings (see above). Stock of saplings, cuttings, and seedlings shall be obtained from local sources. If the parent stock is obtained from a distance greater than one mile from the conservation area, approval by the USFWS of the native plant donor sites must be obtained prior to initiation of the revegetation work.

Specific items for managing the conservation area include long-term protection; weed control; pesticide and toxicant control; litter control; fencing; and signs (see Appendix B for more detail).

4.2.1.7. CUMULATIVE EFFECTS (FESA)

No other past, present, or reasonably foreseeable projects have been identified within this reach of South Fork Cottonwood Creek. Cumulative effects related to loss of occupied or suitable habitat are not anticipated.

Chapter 5. Conclusions and Determination

5.1. Conclusions

Potential impacts to the VELB and its habitat were analyzed. Construction activities may result in a temporary increase in erosion/sedimentation, dust, and potential for accidental spills. With implementation of the Conservation Measures, none of these impacts would adversely affect the VELB or their habitat. However, 6 elderberry stems with a basal diameter of 1 inch or greater would be removed as a part of the proposed Project and 1 elderberry stem would be directly impacted (disturbance within the 20-foot core avoidance area) and require compensatory mitigation. Consistent with the USFWS *Guidelines*, the County proposes to transplant the 6 elderberry shrubs that would be removed by the proposed project construction activities and plant 12 replacement elderberry seedlings/cuttings and 7 native plant species at the Mill Creek Conservation Area or a USFWS approved mitigation bank. All other elderberry shrubs within 100 feet of proposed construction activities will be protected per the *Guidelines*. Thus, potentially adverse impacts are expected to be adequately compensated by the Conservation Measures and Mitigation Measures described above.

5.2. Determination

With implementation of the proposed Conservation Measures and Mitigation Measures, it is determined that the proposed Bowman Road at South Fork Cottonwood Creek Bridge Replacement Project:

- "is likely to adversely affect" the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*); and
- will have "no effect" on designated critical habitat for the VELB

These determinations are based on the following: 1) protocol-level surveys of suitable habitat in the project area; 2) area of potential impact maps; 3) conversations with biologists familiar with the area, and 4) adherence to Conservation Measures and Mitigation Measures that would prevent or minimize potential adverse effects to VELB resulting from construction activities, and which are consistent with the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service1999).

Chapter 6. References

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CH2M Hill. 2001. Cottonwood Creek Watershed Assessment. December 18, 2002.

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U.S. Fish and Wildlife Service. 1984. Valley elderberry longhorn beetle recovery plan. Portland, Oregon.

U.S. Fish and Wildlife Service. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle. U.S. Fish and Wildlife Service.

Appendix A Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-04-I-1362

APR 22 2004

Mr. Gene K. Fong
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
California Division
650 Capitol Mall, Suite 4-100
Sacramento, California 95814

Post-it® Fax Note 7671	Date 5-4-04	# of pages ▶ 5
To Wirt	From KEVIN	
Co./Dept. NSR	Co. TCPW	
Phone #	Phone # 385-1462	
Fax # 222-4958	Fax #	

Subject: Inclusion of the Bowman Road Bridge Replacement Project, Tehama County, California (Federal Highway Administration File # 04-TEH-0-CR, Document #P48604) Under the Valley Elderberry Longhorn Beetle Programmatic Consultation (Service File 1-1-96-F-156)

Dear Mr. Fong:

This document has been prepared in response to your March 29, 2004, request to initiate formal consultation with the U.S. Fish and Wildlife Service (Service) on the effects of the proposed Bowman Road Bridge Replacement Project (project), Tehama County, California, on the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle). The Service received your request on March 30, 2004. After reviewing information included with your request, the Service has determined it is appropriate to append the proposed project to the March 11, 1997, *Formal Programmatic Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California* (Programmatic Consultation). This response has been prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act).

The findings and recommendations in this consultation are based on: (1) a February 2004, *Biological Assessment for Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus), Bowman Road at South Fork Cottonwood Creek Bridge (Bridge No. 08C-0009) Replacement Project*, prepared by North State Resources, Inc.; (2) a March 29, 2004, letter from Gene K. Fong, of the Federal Highway Administration (FHA), to Wayne White, of the Service,

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requesting Section 7 consultation; and, (3) a site visit on April 14 attended by Rick Kuyper, of the Service, Wirt Lanning of North State Resources, and Kevin Rosser of the Tehama County Public Works Department.

Consultation History

March 30, 2004. The Service received a letter from FHA requesting formal consultation on the proposed Bowman Road Bridge replacement project.

April 14, 2004. Site visit attended by Rick Kuyper, of the Service, Wirt Lanning of North State Resources, and Kevin Rosser of the Tehama County Public Works Department.

Project Description

The project site is located approximately 11 miles west of the town of Cottonwood, California, nine miles west of Interstate 5, and 4.3 miles north of State Route 36 (Beegum Road). The project area encompasses 18.68 acres and includes portions of the active South Fork Cottonwood Creek Channel. The proposed project would provide two 12-foot traffic lanes with 6-foot adjacent shoulders and concrete barrier rails along both sides. The proposed project would also make improvements to the existing roadway configuration. Nine elderberry shrubs (*Sambucus* sp.) occur within the project area, and five of these shrubs (one stem between 1-3 inches, one stem between 3-5 inches, and three stems greater than 5 inches in diameter) are within areas of permanent impact. These elderberry shrubs are located in a riparian area and do not have exit holes.

The Service has determined it is appropriate to append the proposed project to the Programmatic Consultation. This letter is an agreement by the Service and the FHA to append the proposed Bowman Road Bridge Replacement Project to the Programmatic Consultation and it represents the Service's biological opinion on the effects of the proposed action. Conservation measures for projects appended to the Programmatic Consultation involve the use of the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*, dated July 9, 1999 (Guidelines).

The Service is tracking losses of beetle habitat permitted under the Programmatic Consultation. We reevaluate the effectiveness of this Programmatic Consultation at least every six (6) months to ensure continued implementation will not result in unacceptable effects to the species or the habitats upon which it depends.

In accordance with the Programmatic Consultation, projects appended to that biological opinion will be minimizing effects according to the Guidelines unless otherwise approved by the Service. The minimization measures identified in the Programmatic Consultation includes the following:

1. transplantation of affected elderberry plants with stems one inch or greater at ground level to a Service-approved conservation area;

2. planting of additional elderberry seedlings or cuttings and planting of associated native species at the conservation area;

3. management and monitoring of the conservation area for either ten (10) consecutive years or seven (7) years over a 15-year period with monitoring reports submitted for each monitoring year; and,

4. a management plan for long-term protection of the conservation area to protect the area in perpetuity as habitat for the valley elderberry longhorn beetle.

The proposed project will require the removal of at least five elderberry shrubs. According to the 1999 Guidelines, the required compensation for the proposed project would be to transplant the five shrubs and plant additional cuttings and plant associates at a Service-approved conservation area or bank. The applicant has proposed to compensate for the loss of beetle habitat by using the Mill Creek Conservation Area, a nearby conservation area to the proposed project.

Specifically, the FHA through Tehama County Public Works Department, shall complete the following.

1. All compensatory mitigation measures defined in section 5.5 of the February 2004, *Biological Assessment for Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus), Bowman Road at South Fork Cottonwood Creek Bridge (Bridge No. 08C-0009) Replacement Project*, prepared by North State Resources, Inc. shall be followed;

2. Prior to ground-breaking, the FHA through Tehama County Public Works Department, shall have a qualified biologist inventory all elderberry shrubs for beetle exit holes, report the findings to the FHA and the Service and, if needed, adjust the compensation for the beetle according to the Service's 1999 Guidelines;

3. Prior to ground-breaking, the FHA through Tehama County Public Works Department shall transplant at least 5 adversely affected elderberry shrubs according to the Service's 1999 Guidelines, to a Service approved conservation area not subject to construction activities;

4. Prior to ground-breaking, the FHA through Tehama County Public Works Department, shall plant the required elderberry plant associates (Table 1) and any additional associates based upon the results of pre-construction shrub surveys to a Service approved conservation area not subject to construction activities;

5. The FHA through Tehama County Public Works Department, shall have a qualified biologist on site during the transplantation process to ensure that the Service's 1999 Guidelines are followed;

6. The FHA through Tehama County Public Works Department, shall monitor the transplanted shrubs and plant associates in the compensation area for either 10 consecutive years or through a 15 year period according to the Service's 1999 Guidelines;

7. The FHA, through Tehama County Public Works Department, shall place a conservation easement on the beetle conservation area or provide other written assurances that the beetle conservation area is protected in perpetuity.

Table 1: Minimization ratios based on location (riparian vs. non-riparian), stem diameter of affected elderberry plants at ground level, and presence or absence of exit holes.

Location	Stems (maximum diameter at ground level)	Exit Holes	Elderberry Seedling Ratio	# Elderberry Seedlings required	Associated Native Ratio	# Associated Natives required
Non-riparian	1-3" = 0	No	1:1	0	1:1	0
		Yes	2:1	0	2:1	0
Riparian	1-3"= 1	No	2:1	2	1:1	1
		Yes	4:1	0	2:1	0
Non-riparian	3-5"= 0	No	2:1	0	1:1	0
		Yes	4:1	0	2:1	0
Riparian	3-5"= 1	No	3:1	3	1:1	1
		Yes	6:1	0	2:1	0
Non-riparian	≥ 5" = 0	No	3:1	0	1:1	0
		Yes	6:1	0	2:1	0
Riparian	≥ 5" = 3	No	4:1	12	1:1	3
		Yes	8:1	0	2:1	0
Total	5			17		5

REINITIATION–CLOSING STATEMENT

This concludes formal consultation on the proposed Bowman Road Bridge Replacement project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please contact Rick Kuyper or Adam Zerrenner, Sacramento Valley Branch Chief, if you have any questions about the Bowman Road Bridge Replacement at (916) 414-6645.

Sincerely,

Chris Nagano
Chief, Endangered Species Division

cc:
California Department of Fish and Game, Yountville, CA (Attn: Terry Roscoe)
Tehama County Public Works Department, Gerber, CA (Attn: Kevin Rosser)
North State Resources, Inc., Redding, CA (Attn: Wirt Lanning)

Appendix B Conservation Guidelines for the Valley Elderberry Longhorn Beetle

United States Department of the Interior
Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

Conservation Guidelines for the Valley Elderberry Longhorn Beetle

Revised July 9, 1999

The following guidelines have been issued by the U.S. Fish and Wildlife Service (Service) to assist Federal agencies and non-federal project applicants needing incidental take authorization through a section 7 consultation or a section 10(a)(1)(B) permit in developing measures to avoid and minimize adverse effects on the valley elderberry longhorn beetle. The Service will revise these guidelines as needed in the future. The most recently issued version of these guidelines should be used in developing all projects and habitat restoration plans. The survey and monitoring procedures described below are designed to avoid any adverse effects to the valley elderberry longhorn beetle. Thus a recovery permit is not needed to survey for the beetle or its habitat or to monitor conservation areas. If you are interested in a recovery permit for research purposes please call the Service's Regional Office at (503) 231-2063.

Background Information

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), was listed as a threatened species on August 8, 1980 (Federal Register 45: 52803-52807). This animal is fully protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The valley elderberry longhorn beetle (beetle) is completely dependent on its host plant, elderberry (Sambucus species), which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley. Use of the elderberry by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just prior to the pupal stage. The life cycle takes one or two years to complete. The animal spends most of its life in the larval stage, living within the stems of an elderberry plant. Adult emergence is from late March through June, about the same time the elderberry produces flowers. The adult stage is short-lived. Further information on the life history, ecology, behavior, and distribution of the beetle can be found in a report by Barr (1991) and the recovery plan for the beetle (USFWS 1984).

Surveys

Proposed project sites within the range of the valley elderberry longhorn beetle should be surveyed for the presence of the beetle and its elderberry host plant by a qualified biologist. The beetle's range extends throughout California's Central Valley and associated foothills from about the 3,000-foot elevation contour on the east and the watershed of the Central Valley on the west (Figure 1). All or portions of 31 counties are included: Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Madera, Mariposa, Merced, Napa, Nevada, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba.

If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on or adjacent to the proposed project site, or are otherwise located where they may be directly or indirectly affected by the proposed action, minimization measures which include planting replacement habitat (conservation planting) are required (Table 1).

All elderberry shrubs with one or more stems measuring 1.0 inch or greater in diameter at ground level that occur on or adjacent to a proposed project site must be thoroughly searched for beetle exit holes (external evidence of beetle presence). In addition, all elderberry stems one inch or greater in diameter at ground level must be tallied by diameter size class (Table 1). As outlined in Table 1, the numbers of elderberry seedlings/cuttings and associated riparian native trees/shrubs to be planted as replacement habitat are determined by stem size class of affected elderberry shrubs, presence or absence of exit holes, and whether a proposed project lies in a riparian or non-riparian area.

Elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level are unlikely to be habitat for the beetle because of their small size and/or immaturity. Therefore, no minimization measures are required for

removal of elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level with no exit holes. Surveys are valid for a period of two years.

Avoid and Protect Habitat Whenever Possible

Project sites that do not contain beetle habitat are preferred. If suitable habitat for the beetle occurs on the project site, or within close proximity where beetles will be affected by the project, these areas must be designated as avoidance areas and must be protected from disturbance during the construction and operation of the project. When possible, projects should be designed such that avoidance areas are connected with adjacent habitat to prevent fragmentation and isolation of beetle populations. Any beetle habitat that cannot be avoided as described below should be considered impacted and appropriate minimization measures should be proposed as described below.

Avoidance: Establishment and Maintenance of a Buffer Zone

Complete avoidance (i.e., no adverse effects) may be assumed when a 100-foot (or wider) buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level. Firebreaks may not be included in the buffer zone. In buffer areas construction-related disturbance should be minimized, and any damaged area should be promptly restored following construction. The Service must be consulted before any disturbances within the buffer area are considered. In addition, the Service must be provided with a map identifying the avoidance area and written details describing avoidance measures.

Protective Measures

1. Fence and flag all areas to be avoided during construction activities. In areas where encroachment on the 100-foot buffer has been approved by the Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant.

2. Brief contractors on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.

3. Erect signs every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

4. Instruct work crews about the status of the beetle and the need to protect its elderberry host plant.

Restoration and Maintenance

Restore any damage done to the buffer area (area within 100 feet of elderberry plants) during construction. Provide erosion control and re-vegetate with appropriate native plants.

Buffer areas must continue to be protected after construction from adverse effects of the project. Measures such as fencing, signs, weeding, and trash removal are usually appropriate.

No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant should be used in the buffer areas, or within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.

The applicant must provide a written description of how the buffer areas are to be restored, protected, and maintained after construction is completed.

Mowing of grasses/ground cover may occur from July through April to reduce fire hazard. No mowing should occur within five (5) feet of elderberry plant stems. Mowing must be done in a manner that avoids damaging plants (e.g., stripping away bark through careless use of mowing/trimming equipment).

Transplant Elderberry Plants That Cannot Be Avoided

Elderberry plants must be transplanted if they can not be avoided by the proposed project. All elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level must be transplanted to a conservation area (see below). At the Service's discretion, a plant that is unlikely to survive transplantation because of poor

condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible the minimization ratios in Table 1 may be increased to offset the additional habitat loss.

Trimming of elderberry plants (e.g., pruning along roadways, bike paths, or trails) with one or more stems 1.0 inch or greater in diameter at ground level, may result in take of beetles. Therefore, trimming is subject to appropriate minimization measures as outlined in Table 1.

1. Monitor. A qualified biologist (monitor) must be on-site for the duration of the transplanting of the elderberry plants to insure that no unauthorized take of the valley elderberry longhorn beetle occurs. If unauthorized take occurs, the monitor must have the authority to stop work until corrective measures have been completed. The monitor must immediately report any unauthorized take of the beetle or its habitat to the Service and to the California Department of Fish and Game.

2. Timing. Transplant elderberry plants when the plants are dormant, approximately November through the first two weeks in February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.

3. Transplanting Procedure.

a. Cut the plant back 3 to 6 feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. The trunk and all stems measuring 1.0 inch or greater in diameter at ground level should be replanted. Any leaves remaining on the plant should be removed.

b. Excavate a hole of adequate size to receive the transplant.

c. Excavate the plant using a Vemeer spade, backhoe, front end loader, or other suitable equipment, taking as much of the root ball as possible, and replant immediately at the conservation area. Move the plant only by the root ball. If the plant is to be moved and transplanted off site, secure the root ball with wire and wrap it with burlap. Dampen the burlap with water, as necessary, to keep the root ball wet. Do not let the roots dry out. Care should be taken to ensure that the soil is not dislodged from around the roots of the transplant. If the site receiving the transplant does not have adequate soil moisture, pre-wet the soil a day or two before transplantation.

d. The planting area must be at least 1,800 square feet for each elderberry transplant. The root ball should be planted so that its top is level with the existing ground. Compact the soil sufficiently so that settlement does not occur. As many as five (5) additional elderberry plantings (cuttings or seedlings) and up to five (5) associated native species plantings (see below) may also be planted within the 1,800 square foot area with the transplant. The transplant and each new planting should have its own watering basin measuring at least three (3) feet in diameter. Watering basins should have a continuous berm measuring approximately eight (8) inches wide at the base and six (6) inches high.

e. Saturate the soil with water. Do not use fertilizers or other supplements or paint the tips of stems with pruning substances, as the effects of these compounds on the beetle are unknown.

f. Monitor to ascertain if additional watering is necessary. If the soil is sandy and well-drained, plants may need to be watered weekly or twice monthly. If the soil is clayey and poorly-drained, it may not be necessary to water after the initial saturation. However, most transplants require watering through the first summer. A drip watering system and timer is ideal. However, in situations where this is not possible, a water truck or other apparatus may be used.

Plant Additional Seedlings or Cuttings

Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) must be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). Minimization ratios are listed and explained in Table 1. Stock of either seedlings or cuttings should be obtained from local sources. Cuttings may be obtained from the plants to be transplanted if the project site is in the vicinity of the conservation area. If the Service determines that the elderberry plants on the proposed project site are unsuitable candidates for transplanting, the Service may allow the applicant to plant seedlings or cuttings at higher than the stated ratios in Table 1 for each elderberry plant that cannot be transplanted.

Plant Associated Native Species

Studies have found that the beetle is more abundant in dense native plant communities with a mature overstory and a mixed understory. Therefore, a mix of native plants associated with the elderberry plants at the project site or similar sites will be planted at ratios ranging from 1:1 to 2:1 [native tree/plant species to each elderberry seedling or cutting (see Table 1)]. These native plantings must be monitored with the same survival criteria used for the elderberry seedlings (see below). Stock of saplings, cuttings, and seedlings should be obtained from local sources. If the parent stock is obtained from a distance greater than one mile from the conservation area, approval by the Service of the native plant donor sites must be obtained prior to initiation of the revegetation work. Planting or seeding the conservation area with native herbaceous species is encouraged. Establishing native grasses and forbs may discourage unwanted non-native species from becoming established or persisting at the conservation area. Only

stock from local sources should be used.

Examples

Example 1

The project will adversely affect beetle habitat on a vacant lot on the land side of a river levee. This levee now separates beetle habitat on the vacant lot from extant Great Valley Mixed Riparian Forest (Holland 1986) adjacent to the river. However, it is clear that the beetle habitat located on the vacant lot was part of a more extensive mixed riparian forest ecosystem extending farther from the river's edge prior to agricultural development and levee construction. Therefore, the beetle habitat on site is considered riparian. A total of two elderberry plants with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The two plants have a total of 15 stems measuring over 1.0 inch. No exit holes were found on either plant. Ten of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are greater than 5.0 inches in diameter. The conservation area is suited for riparian forest habitat. Associated natives adjacent to the conservation area are box elder (Acer negundo californica), walnut (Juglans californica var. hindsii), sycamore (Platanus racemosa), cottonwood (Populus fremontii), willow (Salix gooddingii and S. laevigata), white alder (Alnus rhombifolia), ash (Fraxinus latifolia), button willow (Cephalanthus occidentalis), and wild grape (Vitis californica).

Minimization (based on ratios in Table 1):

- Transplant the two elderberry plants that will be affected to the conservation area.

- Plant 40 elderberry rooted cuttings (10 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

- Plant 40 associated native species (ratio of associated natives to elderberry plantings is 1:1 in areas with no exit holes):

  5 saplings each of box elder, sycamore, and cottonwood

  5 willow seedlings

  5 white alder seedlings

  5 saplings each of walnut and ash

  3 California button willow

  2 wild grape vines

  Total: 40 associated native species

- Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 80 plants must be planted (40 elderberries and 40 associated natives), a total of 0.33 acre (14,400 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Example 2

The project will adversely affect beetle habitat in Blue Oak Woodland (Holland 1986). One elderberry plant with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The plant has a total of 10 stems measuring over 1.0 inch. Exit holes were found on the plant. Five of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are between 3.0 and 5.0 inches in diameter. The conservation area is suited for elderberry savanna (non-riparian habitat). Associated natives adjacent to the conservation area are willow (Salix species), blue oak (Quercus douglasii), interior live oak (Q. wislizenii), sycamore, poison oak (Toxicodendron diversilobum), and wild grape.

Minimization (based on ratios in Table 1):

- Transplant the one elderberry plant that will be affected to the conservation area.

- Plant 30 elderberry seedlings (5 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

• Plant 60 associated native species (ratio of associated natives to elderberry plantings is 2:1 in areas with exit holes):

20 saplings of blue oak, 20 saplings of sycamore, and 20 saplings of willow, and seed and plant with a mixture of native grasses and forbs

• Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 90 plants must be planted (30 elderberries and 60 associated natives), a total of 0.37 acre (16,200 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Conservation Area—Provide Habitat for the Beetle in Perpetuity

The conservation area is distinct from the avoidance area (though the two may adjoin), and serves to receive and protect the transplanted elderberry plants and the elderberry and other native plantings. The Service may accept proposals for off-site conservation areas where appropriate.

1. Size. The conservation area must provide at least 1,800 square feet for each transplanted elderberry plant. As many as 10 conservation plantings (i.e., elderberry cuttings or seedlings and/or associated native plants) may be planted within the 1800 square foot area with each transplanted elderberry. An additional 1,800 square feet shall be provided for every additional 10 conservation plants. Each planting should have its own watering basin measuring approximately three feet in diameter. Watering basins should be constructed with a continuous berm measuring approximately eight inches wide at the base and six inches high.

The planting density specified above is primarily for riparian forest habitats or other habitats with naturally dense cover. If the conservation area is an open habitat (i.e., elderberry savanna, oak woodland) more area may be needed for the required plantings. Contact the Service for assistance if the above planting recommendations are not appropriate for the proposed conservation area.

No area to be maintained as a firebreak may be counted as conservation area. Like the avoidance area, the conservation area should connect with adjacent habitat wherever possible, to prevent isolation of beetle populations.

Depending on adjacent land use, a buffer area may also be needed between the conservation area and the adjacent lands. For example, herbicides and pesticides are often used on orchards or vineyards. These chemicals may drift or runoff onto the conservation area if an adequate buffer area is not provided.

2. Long-Term Protection. The conservation area must be protected in perpetuity as habitat for the valley elderberry longhorn beetle. A conservation easement or deed restrictions to protect the conservation area must be arranged. Conservation areas may be transferred to a resource agency or appropriate private organization for long-term management. The Service must be provided with a map and written details identifying the conservation area; and the applicant must receive approval from the Service that the conservation area is acceptable prior to initiating the conservation program. A true, recorded copy of the deed transfer, conservation easement, or deed restrictions protecting the conservation area in perpetuity must be provided to the Service before project implementation.

Adequate funds must be provided to ensure that the conservation area is managed in perpetuity. The applicant must dedicate an endowment fund for this purpose, and designate the party or entity that will be responsible for long-term management of the conservation area. The Service must be provided with written documentation that funding and management of the conservation area (items 3-8 above) will be provided in perpetuity.

3. Weed Control. Weeds and other plants that are not native to the conservation area must be removed at least once a year, or at the discretion of the Service and the California Department of Fish and Game. Mechanical means should be used; herbicides are prohibited unless approved by the Service.

4. Pesticide and Toxicant Control. Measures must be taken to insure that no pesticides, herbicides, fertilizers, or other chemical agents enter the conservation area. No spraying of these agents must be done within one 100 feet of the area, or if they have the potential to drift, flow, or be washed into the area in the opinion of biologists or law enforcement personnel from the Service or the California Department of Fish and Game.

5. Litter Control. No dumping of trash or other material may occur within the conservation area. Any trash or other foreign material found deposited within the conservation area must be removed within 10 working days of discovery.

6. Fencing. Permanent fencing must be placed completely around the conservation area to prevent unauthorized entry by off-road vehicles, equestrians, and other parties that might damage or destroy the habitat of the beetle, unless approved by the Service. The applicant must receive written approval from the Service that the fencing is acceptable prior to initiation of the conservation program. The fence must be maintained in perpetuity, and must be repaired/replaced within 10 working days if it is found to be damaged. Some conservation areas may be made available to the public for appropriate recreational and educational opportunities with written approval from the Service. In these cases appropriate fencing and signs informing the public of the beetle's threatened status and its natural history and ecology should be used and maintained in perpetuity.

7. Signs. A minimum of two prominent signs must be placed and maintained in perpetuity at the conservation area, unless otherwise approved by the Service. The signs should note that the site is habitat of the federally threatened valley elderberry longhorn beetle and, if appropriate, include information on the beetle's natural history and ecology. The signs must be approved by the Service. The signs must be repaired or replaced within 10 working days if they are found to be damaged or destroyed.

Monitoring

The population of valley elderberry longhorn beetles, the general condition of the conservation area, and the condition of the elderberry and associated native plantings in the conservation area must be monitored over a period of either ten (10) consecutive years or for seven (7) years over a 15-year period. The applicant may elect either 10 years of monitoring, with surveys and reports every year; or 15 years of monitoring, with surveys and reports on years 1, 2, 3, 5, 7, 10, and 15. The conservation plan provided by the applicant must state which monitoring schedule will be followed. No change in monitoring schedule will be accepted after the project is initiated. If conservation planting is done in stages (i.e., not all planting is implemented in the same time period), each stage of conservation planting will have a different start date for the required monitoring time.

Surveys. In any survey year, a minimum of two site visits between February 14 and June 30 of each year must be made by a qualified biologist. Surveys must include:

1. A population census of the adult beetles, including the number of beetles observed, their condition, behavior, and their precise locations. Visual counts must be used; mark-recapture or other methods involving handling or harassment must not be used.

2. A census of beetle exit holes in elderberry stems, noting their precise locations and estimated ages.

3. An evaluation of the elderberry plants and associated native plants on the site, and on the conservation area, if disjunct, including the number of plants, their size and condition.

4. An evaluation of the adequacy of the fencing, signs, and weed control efforts in the avoidance and conservation areas.

5. A general assessment of the habitat, including any real or potential threats to the beetle and its host plants, such as erosion, fire, excessive grazing, off-road vehicle use, vandalism, excessive weed growth, etc.

The materials and methods to be used in the monitoring studies must be reviewed and approved by the Service. All appropriate Federal permits must be obtained prior to initiating the field studies.

Reports. A written report, presenting and analyzing the data from the project monitoring, must be prepared by a qualified biologist in each of the years in which a monitoring survey is required. Copies of the report must be submitted by December 31 of the same year to the Service (Chief of Endangered Species, Sacramento Fish and Wildlife Office), and the Department of Fish and Game (Supervisor, Environmental Services, Department of Fish and Game, 1416 Ninth Street, Sacramento, California 95814; and Staff Zoologist, California Natural Diversity Data Base, Department of Fish and Game, 1220 S Street, Sacramento, California 95814). The report must explicitly address the status and progress of the transplanted and planted elderberry and associated native plants and trees, as well as any failings of the conservation plan and the steps taken to correct them. Any observations of beetles or fresh exit holes must be noted. Copies of original field notes, raw data, and photographs of the conservation area must be included with the report. A vicinity map of the site and maps showing where the individual adult beetles and exit holes were observed must be included. For the elderberry and associated native plants, the survival rate, condition, and size of the plants must be analyzed. Real and likely future threats must be addressed along with suggested remedies and preventative measures (e.g. limiting public access, more frequent removal of invasive non-native vegetation, etc.).

A copy of each monitoring report, along with the original field notes, photographs, correspondence, and all other pertinent material, should be deposited at the California Academy of Sciences (Librarian, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118) by December 31 of the year that monitoring is done and the report is prepared. The Service's Sacramento Fish and Wildlife Office should be provided with a copy of the receipt from the Academy library acknowledging receipt of the material, or the library catalog number assigned to it.

Access. Biologists and law enforcement personnel from the California Department of Fish and Game and the Service must be given complete access to the project site to monitor transplanting activities. Personnel from both these agencies must be given complete access to the project and the conservation area to monitor the beetle and its habitat in perpetuity.

Success Criteria

A minimum survival rate of at least 60 percent of the elderberry plants and 60 percent of the associated native plants must be maintained throughout the monitoring period. Within one year of discovery that survival has dropped below 60 percent, the applicant must replace failed plantings to bring survival above this level. The Service will make any determination as to the applicant's replacement responsibilities arising from circumstances beyond its control, such as plants damaged or killed as a result of severe flooding or vandalism.

Service Contact

These guidelines were prepared by the Endangered Species Division of the Service's Sacramento Fish and Wildlife Office. If you have questions regarding these guidelines or to request a copy of the most recent guidelines, telephone (916) 414-6600, or write to:

U.S. Fish and Wildlife Service
Ecological Services
2800 Cottage Way, W-2605
Sacramento, CA 95825

Literature Cited

Barr, C. B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service; Sacramento, California.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished Report. State of California, The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, California.

USFWS. 1980. Listing the valley elderberry longhorn beetle as a threatened species with critical habitat. Federal Register 45:52803-52807.

USFWS. 1984. Recovery plan for the valley elderberry longhorn beetle. U.S. Fish and Wildlife Service, Endangered Species Program; Portland, Oregon.

Table 1: Minimization ratios based on location (riparian vs. non-riparian), stem diameter of affected elderberry plants at ground level, and presence or absence of exit holes.

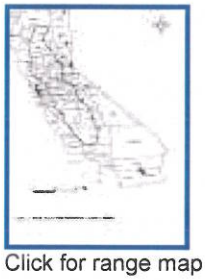
Location	Stems (maximum diameter at ground level)	Exit Holes on Shrub Y/N (quantify)[1]	Elderberry Seedling Ratio[2]	Associated Native Plant Ratio[3]
non-riparian	stems >=1" & =<3"	No:	1:1	1:1
		Yes:	2:1	2:1
non-riparian	stems >3" & <5"	No:	2:1	1:1
		Yes:	4:1	2:1
non-riparian	stems >=5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems >=1" & <=3"	No:	2:1	1:1
		Yes:	4:1	2:1

riparian	stems > 3" & < 5"	No:	3:1	1:1	
		Yes:	6:1	2:1	
riparian	stems >=5"	No:	4:1	1:1	
		Yes:	8:1	2:1	

[1] All stems measuring one inch or greater in diameter at ground level on a single shrub are considered occupied when exit holes are present anywhere on the shrub.

[2] Ratios in the Elderberry Seedling Ratio column correspond to the number of cuttings or seedlings to be planted per elderberry stem (one inch or greater in diameter at ground level) affected by a project.

[3] Ratios in the Associated Native Plant Ratio column correspond to the number of associated native species to be planted per elderberry (seedling or cutting) planted.



Click for range map

Appendix C U.S. Fish and Wildlife Service Species List

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

May 1, 2009

Document Number: 090501100127

Ginger Bolen, Ph.D.
North State Resources, Inc.
5000 Bechelli Lane, Suite 203
Redding, CA 96002

Subject: Species List for Bowman Road Bridge Replacement

Dear: Dr. Bolen

We are sending this official species list in response to your May 1, 2009 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 30, 2009.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 090501100127

Database Last Updated: January 29, 2009

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana aurora draytonii
California red-legged frog (T)

Quads Containing Listed, Proposed or Candidate Species:

MITCHELL GULCH (629C)

County Lists

Tehama County

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)
Critical habitat, Conservancy fairy shrimp (X)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

valley elderberry longhorn beetle (T)

Lepidurus packardi
Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana aurora draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Strix occidentalis caurina
Critical habitat, northern spotted owl (X)
northern spotted owl (T)

Plants

Chamaesyce hooveri
Critical habitat, Hoover's spurge (X)
Hoover's spurge (T)

Limnanthes floccosa ssp. californica
Butte County (Shippee) meadowfoam (E)
Critical habitat, Butte County (Shippee) meadowfoam (X)

Orcuttia pilosa
Critical habitat, hairy Orcutt grass (X)
hairy Orcutt grass (E)

Orcuttia tenuis
Critical habitat, slender Orcutt grass (X)
slender Orcutt grass (T)

Tuctoria greenei
Critical habitat, Greene's tuctoria (=Orcutt grass) (X)
Greene's tuctoria (=Orcutt grass) (E)

Candidate Species

Amphibians

Rana muscosa
mountain yellow-legged frog (C)

Birds

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (C)

Mammals

Martes pennanti
fisher (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 30, 2009.

Appendix D U.S. Fish and Wildlife Service California Red-Legged Frog Email

-----Original Message-----
From: Kathy_Brown@fws.gov [mailto:Kathy_Brown@fws.gov]
Sent: Wednesday, June 04, 2003 1:40 PM
To: Wirt Lanning
Subject: Re: Bowman bridge

Wirt,

I have reviewed the site assessment. Based on the information presented in your assessment, I will not be requesting additional information or field surveys at this time.

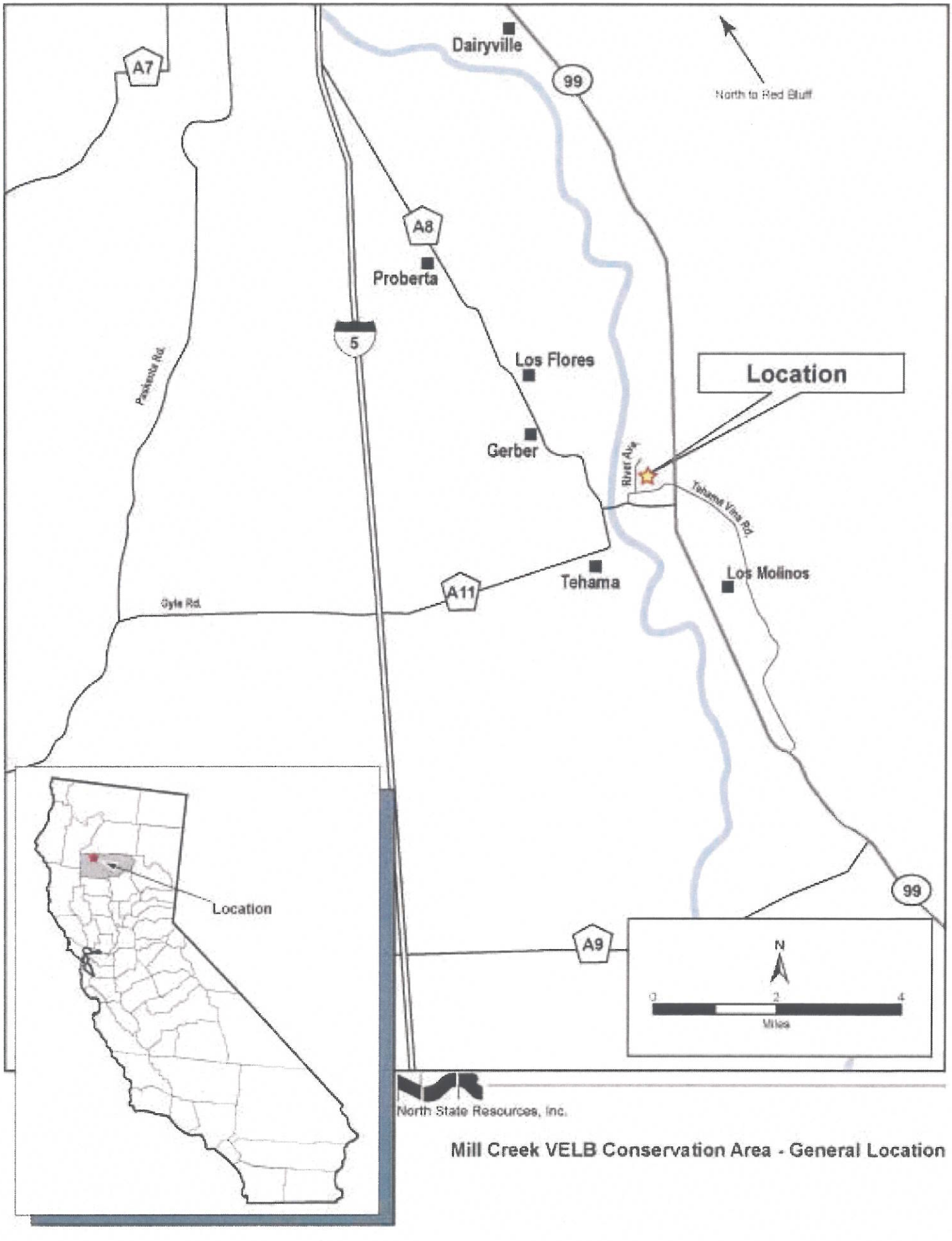
Kathy Brown

^^

Kathy Brown
U.S. Fish and Wildlife Service
Fish and Wildlife Biologist
Endangered Species Division
Forest and Foothills Ecosystem Branch
2800 Cottage Way, Room W-2605
Sacramento, CA 95825
Email: kathy_brown@fws.gov
Phone: 916-414-6600
Fax: 916-414-6713

^^

Appendix E Mill Creek VELB Conservation Area



Mill Creek VELB Conservation Area - General Location

Natural Environment Study Addendum

Bowman Road at South Fork Cottonwood Creek Bridge Replacement Project

02-453954L
Bridge No. 08C-0009

Township 29N, Range 5W, Section 32
Township 28N, Range 5W, Section 5

Tehama County, Mitchell Gulch, California USGS 7.5-Minute Quadrangle

November 2009

STATE OF CALIFORNIA
Department of Transportation

Consultant
Prepared by: _____ Date: _____

Wirt Lanning
Project Manager
North State Resources, Inc., Redding, CA
(530) 222-5347 x 128

Local Agency
Approved By: _____ Date: _____

Mr. Kevin Rosser
Program Supervisor
Tehama County Public Works Department
(530) 385-1462 x 3051

Caltrans
Approved By: _____ Date: _____

Julie Owen,
Assoc. Environmental Planner, Natural Resource Specialist:
Local Assistance, District 2, Caltrans
(530) 225-3034

Caltrans SEP
Approved By: _____ Date: _____

Tom Balkow
Senior Environmental Planner, Environmental Branch Chief
North Region Environmental Branch, D2, Caltrans
(530) 225-3034

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Preface

In June 2004, North State Resources, Inc. (NSR) prepared the *Bowman Road at South Fork Cottonwood Creek Bridge (08C-0009) Replacement Project Natural Environment Study* for the Tehama County Public Works Department (County). This natural environment study (NES) was reviewed and approved by pertinent resource agencies, including the California Department of Transportation (Caltrans). However, cultural resources were found along the preferred alignment, and further review by County staff found that the preferred alignment required the approval of design exceptions by Caltrans. Subsequently, the County directed its engineering design consultant to provide an additional alternative to alleviate the need for the proposed design exceptions and to avoid all cultural resources. On November 20, 2007, the new alignment was adopted by the Board of Supervisors as the preferred alignment. This document addresses changes to the original NES resulting from the change in the preferred alignment. The structure of this document corresponds to the structure of the original NES.

Summary of Findings and Conclusion

The overall summary of findings and conclusion remains unchanged with the following exception: the analysis of potential impacts to, and mitigation for, the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) has been revised.

1. Introduction

1.1 Project History

1.1.1 Need for Project

The need for the project remains unchanged from the original NES.

1.2 Revised Project Description

1.2.1 Location

The project location remains unchanged from the original NES.

1.2.2 Proposed Project Action Area

The proposed project action area has remained primarily unchanged from the original NES with one exception: the BSA has been expanded along the northeastern and southern boundaries by a total of 1.15 acres (Addendum Figure 1).

1.2.3 Existing Facility Conditions

The existing facilities remain unchanged from the original NES.

S.F. Cottonwood Creek

Legend

- Limits of Action Area (19.83 acres)
- Cut and fill
- Edge of pavement
- Right-of-way

N

0 150 300

Feet

G:\Projects\27012_Bowman_Bridge_Replacement\GIS\Working_Mxds\27012_Addendum_Figure_1.mxd 05-04-09 edouglas

North State Resources, Inc.

South Fork of Cottonwood Creek on Bowman Road Bridge Replacement Project

Addendum Figure 1
Action Area

1.2.4 Proposed Project Action

The proposed project action remains unchanged from the original NES with the following exceptions: the alignment and size of the replacement bridge have been modified as follows. The proposed action would replace the existing bridge with a new bridge 38.83 feet wide and 460 feet long. From the westerly approach, the alignment begins with a 1,400-foot radius curve to the left clipping the steep bank adjacent to the existing northerly roadway shoulder. Then the alignment reverses with a 1,680-foot radius curve towards the creek and proposed bridge crossing approximately 250 feet upstream of the existing bridge. Along the easterly approach, the alignment extends 1,270 feet beyond the end of the new bridge. The westerly approach extends approximately 815 feet beyond the end of the new bridge.

1.3 Rejected Alternatives

The discussion of rejected alternatives has been modified to include Alternative 2 (see below).

1.3.1 No Project Alternative

The no project alternative remains unchanged from the original NES.

1.3.2 Alternative 1

The no project alternative remains unchanged from the original NES.

1.3.3 Alternative 2

Under Alternative 2, the new bridge crossing would be located approximately 250 feet upstream of the existing bridge. The proposed action would place a curve and superelevation on the proposed bridge and replace the existing bridge with a new 38.8-foot wide, 450-foot long, three-span cast-in-place prestressed concrete box girder supported on single column bents.

From the westerly approach, this alignment would begin with a 700-foot radius curve to gain separation from the existing roadway and avoid any excavation of the cut bank adjacent to the northerly roadway shoulder. Then the alignment would reverse with a 650-foot radius curve towards the existing alignment and cross over Cottonwood Creek approximately 250 feet upstream from the existing bridge. The project would end with another reverse 700-foot radius curve to conform to the existing roadway.

1.4 Related Projects

The analysis of related projects remains unchanged from the original NES.

1.5 Construction Criteria and Methods

1.5.1 Specifications

Construction specifications remain unchanged from the original NES.

1.6 Conservation Measures

Conservation measures remain unchanged from the original NES.

1.7 Tentative Schedule

The tentative schedule has been revised as follows. The earliest that construction would start is summer of 2010.

1.8 Consultation to Date

The following additional consultation has occurred:

- On July 8, 2009, Caltrans sent a revised Biological Assessment (BA) along with a letter to the U.S. Fish and Wildlife Service (USFWS) requesting re-initiation of the programmatic consultation for the proposed project.
- On August 5, 2009, USFWS biologist Jason Hanni contacted NSR biologist Dr. Ginger Bolen by phone to request additional information regarding the potential impacts to the elderberry shrub at Location 10.
- On August 5, 2009, Dr. Ginger Bolen emailed to Jason Hanni a memo containing the additional information requested regarding the elderberry shrub at Location 10 (Appendix A).
- On September 24, 2009, the USFWS sent Caltrans a revised Biological Opinion for the Bowman Road Bridge Replacement Project (Appendix B).

1.9 Document Preparation History

The document preparation history has been modified to include the following individuals:

- Ginger M. Bolen, Senior Biologist, NSR
- Edward Douglas, GIS Specialist, NSR

The document preparation history has been modified to include the following associated documents:

- May 2009, Biological Assessment for Valley Elderberry Longhorn Beetle, Bowman Road at South Fork Cottonwood Creek Bridge (No. 08C-0009) Replacement Project.

2. Study Methods

2.1 Studies Required

2.1.1 Literature Search

The literature search remains unchanged from the original NES with one exception, an updated list of special-status species having the potential to occur in the BSA was obtained electronically from USFWS on May 1, 2009 (Appendix C).

2.1.2 Field Surveys

In addition to the field surveys described in the original NES, a valley elderberry longhorn beetle survey was conducted and a reconnaissance survey of the expanded study area was completed.

Valley Elderberry Longhorn Beetle Survey. In November 2008, an NSR biologist conducted protocol-level VELB surveys within the revised action area. The surveys were conducted according to USFWS guidelines (U.S. Fish and Wildlife Service 1999).

2.2 Personnel and Survey Dates

Personnel and survey dates have been modified to include the following:

Kurt Bainbridge, Biologist, NSR

- Protocol-level VELB surveys, November 26, 2008

Caleb Marchi, Biologist, NSR

- Protocol-level VELB surveys, November 26, 2008

2.3 Agency Coordination and Professional Contacts

Agency coordination and professional contacts have been modified to include the following:

- Jason Hanni Biologist, USFWS, Sacramento, CA
- Julie Owen NEPA Liaison, Local Assistance, Redding, CA

2.4 Limitations That May Influence Results

Limitations remain unchanged from the original NES.

3. Results: Environmental Setting

3.1 Description of the Existing Biological and Physical Conditions

3.1.1 Environmental Setting

The environmental setting remains unchanged from the original NES.

3.2 Project Area

The description of the project area remains unchanged from the original NES.

3.3 Regionally Occurring Special-Status Species

The regional species and habitats of concern remain primarily unchanged from the original NES. However, the status of several species has changed. These species are presented in Table 1.

4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Potential Impacts to Special-Status Plant Species

Potential impacts to special-status plant species remain unchanged from the original NES.

4.2 Potential Impacts to Special-Status Animal Species

Potential impacts to special-status animal species remain unchanged from the original NES with the exception of the valley elderberry longhorn beetle (VELB), the changes for which are described below.

Valley Elderberry Longhorn Beetle (Desmocerus Californicus Dimorphus)

Survey Results. Protocol-level surveys for VELB were conducted within the action area on August 23, 2002 and October 30, 2003. An additional protocol-level survey for VELB was conducted within the revised action area on November 26, 2008. During the 2008 survey, access was denied to private lands containing Shrub 11. Thus, updated information for Shrub 11 could not be obtained.

The VELB surveys documented the presence of 11 elderberry shrubs with 45 stems equal to or greater than 1-inch-diameter at ground level. The results of the surveys are included in Table 2 and their locations are depicted in Addendum Figure 2. No VELB individuals or exit bore holes were observed during the protocol-level surveys.

Table 1. Summary of Special-Status Species with Changed Status

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	Scientific Name				
Plants					
Indian Valley brodiaea	*Brodiaea coronaria* ssp. *rosea*	--/CE/2	Occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and valley and foothill grasslands in sunny openings at the edge of seasonal drainages on serpentine. Blooming Period: May – June.	A	Suitable habitat for this species is not present within the BSA. Therefore, this species is removed from further consideration.
Silky cryptantha	*Cryptantha crinita*	--/--/1B	Valley and foothill grassland, cismontane woodland, and riparian habitats. Found in gravelly streambeds. Blooming Period: April-May.	P	This species not detected during the 2002 plant inventory. Therefore, this species is removed from further consideration.
Tracy's eriastrum	*Eriastrum tracyi*	--/CR/1B	Found on dry, gravelly to loamy soils on flat areas or benches on shale, sandstone, conglomerates, and volcanic soils in closed-cone pine forests or chaparral. Also known as Brandegee's eriastrum (*Eriastrum brandegeae*). Blooming Period: June – July.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Adobe lily	*Fritillaria pluriflora*	--/--/1B	Found in open grassland fields in adobe soil (often derived from serpentine) in foothill woodland or in chaparral-foothill woodland interface, on clay soils often saturated in late winter or early spring at the time of flowering (usually before much growth has occurred on the surrounding annual grasses). Blooming Period: February – April.	P	This species not detected during the 2002 plant inventory. Therefore, this species is removed from further consideration.
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	--/CE/1B	Occurs in vernal pools and freshwater marshes and swamps. Blooming Period: April-August.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	Scientific Name				
Stebbins' harmonia	*Harmonia stebbinsii*	--/--/1B	Endemic to shallow, rocky, ultramafic substrates; sparsely vegetated chaparral-woodland in open areas of less than 5% shrub and tree cover, edges between timber and brush, and roadsides on gentle south-facing slopes. Blooming Period: May – early July.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Tehama County western flax	*Hesperolinon tehamense*	--/--/1B	Occurs in foothills of the west side of the Sacramento Valley in openings in mixed serpentine chaparral. Blooming Period: May – July.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Red Bluff dwarf rush	*Juncus leiospermus* var. *leiospermus*	--/--/1B	Valley and foothill grassland, chaparral, and cismontane woodland habitats. Found on vernally mesic sites; sometimes on edges of vernal pools. Blooming Period: April-June.	P	This species not detected during the 2002 plant inventory. Therefore, this species is removed from further consideration.
Red-flowered lotus	*Lotus rubriflorus*	--/--/1B	Cismontane woodland and valley/foothill grassland habitats. Most recent sightings from sterile, red soils-volcanic mudflow deposits. Blooming Period: April-June.	P	This species not detected during the 2002 plant inventory. Therefore, this species is removed from further consideration.
Baker's navarretia	*Navarretia leucocephala* ssp. *bakeri*	--/--/1B	Found in vernal pools in a variety of communities including cismontane woodlands, lower montane coniferous forests, meadows, and valley and foothill grasslands. Blooming Period: May – July.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Ahart's paronychia	*Paronychia ahartii*	--/--/1B	Valley and foothill grassland, vernal pool, and cismontane woodland habitats. Found on stony, nearly barren clay of swales and higher ground around vernal pools. Blooming Period: April-June.	P	This species not detected during the 2002 plant inventory. Therefore, this species is removed from further consideration.
Sanford's arrowhead	*Sagittaria sanfordii*	--/--/1B	Found in standing or slow-moving freshwater ponds, marshes, and ditches. Blooming Period: late May-August.	P	This species not detected during the 2002 plant inventory. Therefore, this species is removed from further consideration.
Invertebrates					

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	**Scientific Name**				
Antioch Dunes anthicid beetle	*Anthicus antiochensis*	--/--	Inhabits sandy dunes. Known only from the Antioch Dunes.	A	The BSA is outside the range for this species. Therefore, this species is removed from further consideration.
Sacramento anthicid beetle	*Anthicus sacramento*	--/--	Restricted to sand dune areas of the Sacramento-San Joaquin Delta.	A	The BSA is outside the range for this species. Therefore, this species is removed from further consideration.
California linderiella fairy shrimp	*Linderiella occidentalis*	--/--	Vernal pools in unplowed grasslands with old alluvial soils.	A	Suitable vernal habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Amphibians					
Foothill yellow-legged frog	*Rana boylii*	--/CSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	P	The species was observed approximately 0.4 miles upstream of the BSA; however, it was not observed within the BSA. Suitable habitat within the BSA is limited to the single pool underneath the bridge. This species is discussed further in **Chapter 4**.
Western spadefoot toad	*Spea hammondii*	--/CSC	Occurs primarily in grassland habitats, but can be found in valley and foothill woodlands. Vernal pools are essential for breeding and egg laying.	A Breeding habitat not present.	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Reptiles					
Northwestern pond turtle	*Clemmys marmorata marmorata*	--/CSC	Permanent or nearly permanent water in a variety of habitats. Require basking sites such as partially submerged logs, rocks, or open mud banks, and suitable upland habitat for egg laying.	P	Suitable habitat is present in the BSA, but the species was not observed during the field surveys. This species is discussed further in **Chapter 4**.
Fish					

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	**Scientific Name**				
Green sturgeon	*Acipenser medirostris*	T/CSC	Spawn in the Sacramento River when temperatures range between 8-14°C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
River lamprey	*Lampetra ayresi*	--/CSC	Lower Sacramento River, San Joaquin River, and Russian River. May also occur in coastal streams north of San Francisco Bay.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Central Valley fall/late fall-run chinook salmon ESU	*Oncorhynchus tshawytscha*	--/CSC	Spawn and rear in main-stem Sacramento River and suitable perennial tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat. Spawn in riffles with gravel and cobble.	P	South Fork Cottonwood Creek within the BSA provides spawning and non-natal rearing habitat for the species. This species is discussed further in **Chapter 4**.
Longfin smelt	*Spirinchus thaleichthys*	--/--	Found in all major bays and estuaries from San Francisco Bay northward. Also known from portions of the Sacramento/San Joaquin Delta.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Birds					
Tricolored blackbird	*Agelaius tricolor*	--/CSC	Requires open water, usually nests in dense cattails or tules. Highly colonial species, nesting areas must be large enough to support a minimum colony of about 50 pairs.	A	Large areas of cattails or tules capable of supporting breeding colony do not occur within or immediately near the BSA. Therefore, this species is removed from further evaluation

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	Scientific Name				
Grasshopper sparrow	*Ammodramus savannarum*	--/--	An uncommon summer resident and breeder in foothills and lowlands west of the Cascade-Sierra Nevada crest from Mendocino and Trinity Counties south to San Diego County. Occurs in dry or well-drained, dense grasslands, particularly those with a variety of native grasses, tall forbs, and scattered shrubs for singing perches. Summer residents arrive March to May, breed from early April to mid-July, and migrate south by September.	A	The BSA is outside the known range for the species. Therefore, this species is removed from further evaluation
Bell's sage sparrow	*Amphispiza belli belli*	--/CSC	In cismontane California, occupies chaparral dominated by chamise, and coastal scrub dominated by sage. Seeks cover in fairly dense stands in chaparral and scrub habitats during breeding season (late March to mid-August); uses more arid, open shrub habitats in winter. Migratory populations arrive in April and depart by September.	A	The BSA does not contain habitats typically occupied by this species. Evidence of this species was not observed during the field assessment. Therefore, this species is removed from further consideration.
Short-eared owl	*Asio flammeus*	--/CSC	Usually found in open areas with few trees, such as annual and perennial grasslands, prairies, dunes, meadows, irrigated lands, and saline and fresh emergent wetlands. Requires dense vegetation; tall grasses, brush, ditches, and wetlands are used for resting and roosting cover.	A	The BSA does not contain habitats typically occupied by this species. Evidence of this species was not observed during the field assessment. Therefore, this species is removed from further consideration.
Western burrowing owl	*Athene cunicularia hypugaea*	--/CSC	A year-long resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. In California, habitats characteristic for this species include grassland and agricultural areas preferably with ground squirrels. Western burrowing owls will typically use ground squirrel burrows for nesting and cover.	A	The BSA does not contain habitats typically occupied by this species. Evidence of this species was not observed during the field assessment. Therefore, this species is removed from further consideration.

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	Scientific Name				
Ferruginous hawk	*Buteo regalis*	--/--	Occur in semiarid grasslands with scattered trees, rocky mounds or outcrops, and shallow canyons that overlook open valleys. They may occur along streams or in agricultural areas in migration.	A	This species does not nest within the project region. Therefore, this species is removed from further consideration.
Lawrence's goldfinch	*Carduelis lawrencei*	--/--	Breeds in open oak or other arid woodland and chaparral, near water. Sightings are rare. Nomadic species, occurrences in areas can be erratic.	P	Very rare in Shasta County. Suitable foraging and nesting habitat for this species is present within the BSA. This species is discussed further in Chapter 4.
Vaux's swift	*Chaetura vauxi*	--/CSC	Prefers redwood and Douglas-fir habitats with nest-sites in large hollow trees and snags, especially tall, burned-out stubs. Occasionally nests in chimneys and buildings. The most important habitat requirement appears to be an appropriate nest site in a large, hollow tree.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Black tern	*Chlidonias niger*	--/CSC	Formerly a very common spring and summer visitor to fresh emergent wetlands of California, numbers have declined throughout the range, especially in the Central Valley. Uses fresh emergent wetlands, lakes, ponds, moist grasslands, and agricultural fields	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.
Hermit warbler	*Dendroica occidentalis*	--/---	Breeds (late April to early July) in mature ponderosa pine, montane hardwood-conifer, mixed conifer, Douglas-fir, redwood, red fir, and Jeffrey pine habitats in major mountain ranges. In migration and winter, also occurs in valley foothill hardwood habitat and in stands of planted pine.	A	Suitable habitat is not present within or immediately near the BSA. Therefore, this species is removed from further consideration.

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	Scientific Name				
White-tailed kite	*Elanus leucurus*	--/CFP	Habitat preference is trees with dense canopies for cover. Preys mainly on voles.	P	Nesting activity was not observed within the BSA; however, suitable foraging and nesting habitat is present. This species is discussed further in Chapter 4.
Bald eagle	*Haliaeetus leucocephalus*	FD/CE	Breeding and wintering populations occur in Shasta County. Uncommon to common in riverine and open wetland habitats. Perches high in large, stoutly limbed trees, on snags or broken-topped trees, or on rocks near water. Roosts communally in winter in dense, sheltered, remote conifer stands.	A – Nesting P - Foraging	Suitable foraging habitat occurs within the project BSA but the BSA does not support suitable nesting habitat. The CNDDB did not identify any known nests occur within 5 miles of the project site, although a local landowner observed an eagle nest approximately 0.4 miles downstream of the project BSA. Since construction is limited to the dry season to avoid effects to salmonids, it is concluded that the project will not affect bald eagle since there will be no food source present for the species. This species is discussed further in Chapter 4.
Loggerhead shrike	*Lanius ludovicianus*	--/CSC	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Occurs only rarely in heavily urbanized areas, but often found in open cropland. Populations have declined in other states, but the population in California appears to be stable.	P	Nesting activity was not observed within the BSA; however, suitable foraging and nesting habitat is present. This species is discussed further in Chapter 4.
Lewis' woodpecker	*Melanerpes lewis*	--/--	Suitable habitat includes open, deciduous and conifer habitats with brushy understory, and scattered snags and live trees for nesting and perching. Winter migrant in Shasta County; the species seasonally winters in blue-oak woodlands.	A – Nesting P - Foraging	Nesting activity was not observed within the BSA; however, suitable foraging habitat is present. This species is discussed further in Chapter 4.

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	Scientific Name				
Long-billed curlew	*Numenius americanus*	--/--	Upland shortgrass prairies and wet meadows are used for nesting; coastal estuaries, open grasslands, and croplands are used in winter. In California, nests on elevated interior grasslands and wet meadows, usually adjacent to lakes and marshes.	A	Suitable nesting habitat for this species does not occur within the BSA. Therefore, this species is removed from further consideration.
White-faced ibis	*Plegadis chihi*	--/--	Extensive marshes are required for nesting. Prefers to feed in fresh emergent wetlands, shallow lacustrine waters, and muddy ground of wet meadows and irrigated, or flooded, pastures and croplands. Occurs primarily in the Fall River Valley.	A	Suitable nesting habitat for this species does not occur within the BSA. Therefore, this species is removed from further consideration.
Rufous hummingbird	*Selasphorus rufus*	--/--	Uses riparian areas, open woodlands, chaparral, mountain meadows, and other habitats rich in nectar-producing flowers, including gardens and orchards. A common migrant and uncommon summer resident of California. Breeds in Transition Life Zone of northwest coastal area from Oregon Border to southern Sonoma County.	A	This species does not nest in the project region. Therefore, this species is removed from further consideration.
California thrasher	*Toxostoma redivivum*	--/--	Restricted to dense chaparral and, to a lesser degree, adjacent dense riparian habitats and edges of dense live oak woodlands. Adapts, to some extent, to human habitations provided considerable cover is maintained.	P	Marginally suitable nesting habitat for this species occurs within the BSA. This species is discussed further in Chapter 4.
Mammals					
Pale Townsend's big-eared bat	*Corynorhinus townsendii* var. *pallescens*	--/CSC	Found throughout California except in subalpine and alpine habitats, and may be found at any season throughout its range. Most abundant in mesic habitats. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting.	A – Roosting P - Foraging	Suitable foraging habitat for this species occurs within the BSA; however, no suitable roosting habitat is present. This species is discussed further in Chapter 4.

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	Scientific Name				
Pacific western big-eared bat	*Corynorhinus townsendii townsendii*	--/CSC	Forages in mesic habitat and roosts in caves, mines, tunnels, and buildings. Occupies the humid, coastal regions of northern and central California.	A	The BSA is located outside the known range of the species. Therefore, this species is removed from further consideration.
Spotted bat	*Euderma maculatum*	--/CSC	Habitats occupied range from arid deserts and grasslands through mixed conifer forests. Prefers to roost in rock crevices, with cliffs providing optimal roosting habitat.	A	The BSA is located outside the known range of the species. Therefore, this species is removed from further consideration.
Small-footed myotis bat	*Myotis ciliolabrum*	--/--	Occur in deserts, chaparral, riparian zones, and western coniferous forest, most commonly above the pinyon-juniper zone. Roosting occurs singly or in small groups. Habitats include caves, mines, buildings, cliff and rock crevices, and sometimes the undersides of tree bark and bridges. Foraging mostly takes place over water and in wooded areas.	P	Suitable foraging and roosting habitat for this species occurs within the BSA; however, the species was not observed during field surveys. This species is discussed further in Chapter 4.
Long-eared myotis bat	*Myotis evotis*	--/--	Usually associated with coniferous forest, but also occur in semiarid shrubland, sage, chaparral, and agricultural areas. Roosting occurs under exfoliated tree bark, within hollow trees, caves, mines, cliff crevices, rock outcrops and sometimes in buildings and under bridges. Foraging habitat includes open and wooded areas.	P	Suitable foraging and roosting habitat for this species occurs within the BSA; however, the species was not observed during field surveys. This species is discussed further in Chapter 4.
Fringed myotis bat	*Myotis thysanodes*	--/--	Common to oak and juniper woodlands, but also occurs in a wide range of other habitats. Maternity and night roosting habitat includes caves, buildings, mines, rock crevices and cliff faces, bridges and trees.	A	The BSA is located outside the known range of the species. Therefore, this species is removed from further consideration.

Species		Federal/ State/ CNPS Status[1]	General Habitat Description	Habitat Present/ Absent	Rationale
Common Name	Scientific Name				
Long-legged myotis bat	*Myotis volans*	--/--	Most commonly found in coniferous forests (above 4,000 feet), but may also occur seasonally in riparian zones and deserts. Roost sites are typically located in abandoned buildings, cliff crevices, and tree hollows.	A	The BSA is located outside the known range of the species. Therefore, this species is removed from further consideration.
Yuma myotis bat	*Myotis yumanensis*	--/--	Roosts in buildings, caves and mines, abandoned swallow nests, bridges, and rock crevices. Forages over ponds, streams, and stock tanks in open woodlands.	P	Suitable foraging and roosting habitat for this species occurs within the BSA; however, the species was not observed during field surveys. This species is discussed further in Chapter 4.
San Joaquin pocket mouse	*Perognathus inornatus*	--/--	Occurs in dry, open grasslands or scrub areas on fine-textured soils between 1,100 and 2,000 feet in elevation in the Central and Salinas valleys.	A	The BSA is outside the known range for the species. Therefore, this species is removed from further consideration.

NOTES:

Federal

FE = Endangered, FT = Threatened, FC = Candidate, FD = Delisted

SLC = Species of Local Concern.

State

CE = Endangered, CT = Threatened, CFP = Fully Protected, CSC = Species of Special Concern; CR = Rare.

California Native Plant Society (CNPS)

List 1B = Plants rare, threatened, or endangered in California and elsewhere

List 2 = Plants rare, threatened, or endangered in California but more common elsewhere

List 3 = Need more information

DETAIL

SEE DETAIL

S.F. Cottonwood Creek

1
7
8
9
10
2-6
11

Legend

- Limits of Action Area (19.83 acres)
- Elderberry Shrub Location
- Cut and fill
- Edge of pavement
- Right-of-way

N

0 150 300

Feet

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North State Resources, Inc.

South Fork of Cottonwood Creek on Bowman Road Bridge Replacement Project

Addendum Figure 2
Elderberry Shrub Locations

Table 2. Valley Elderberry Longhorn Beetle Habitat Assessment Results

Location/General Description	Total No. of Stems and Size Class	No. of Stems With Exit Holes	Approximate Shrub Clump Size/Height/ Length/Width (feet)	Associated Habitat	Comments
1. Large shrub on northeast corner of intersection of Bowman Road and South Fork Cottonwood Creek (approximately 165 ft east of the creek).	2 stems 1-3" 3 stems 3-5" 1 stem >5"	0	12x20x18	Valley foothill riparian	Many dead stems. Shrub engulfed by grape vines
2. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem 1-3" 1 stem 3-5"	0	15x19x13	Valley oak woodland	N/A
3. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem 1-3"	0	7x5x4	Valley oak woodland	Shrub engulfed by grape vines.
4. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem >5"	0	10x12x10	Valley oak woodland	Base of shrub shows signs of decay. Shrub engulfed by grape vines
5. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem 1-3"	0	7x5x4	Valley oak woodland	Shrub engulfed by grape vines.
6. One live main stem, located south of Bowman Road and approximately 400-450 ft east of South Fork Cottonwood Creek.	1 stem >5"	0	15x12x10	Valley oak woodland	N/A
7. Young shrub located on the southeast corner of intersection of Bowman Road and South Fork Cottonwood Creek. Approximately 20 ft east of Shrub #9	2 stems 1-3"	0	8x9x7	Valley oak woodland	N/A
8. Live shrub located on the north side of Bowman Road and approximately 375 ft east of South Fork Cottonwood Creek.	1 stems 1-3"	0	12x12x8	Valley oak woodland	Shrub is directly next to, and on the north side of, a large valley oak. Several dead stems present.
9. Young shrub located on the southeast corner of intersection of Bowman Road and South Fork Cottonwood Creek.	2 stems 1-3"	0	8x8x5	Valley oak woodland	N/A

Location/General Description	Total No. of Stems and Size Class	No. of Stems With Exit Holes	Approximate Shrub Clump Size/Height/ Length/Width (feet)	Associated Habitat	Comments
10. Young shrub located 250 ft from South Fork Cottonwood Creek on the south side of bowman road. Shrub located just off the road	1 stem 1-3"	0	7x5x5	Valley Oak Woodland	N/A
11. Live shrubs, located on south side of Bowman Road between side channel and main stem of S.F. Cottonwood Creek	27 stems 1-3"	0	45x15x15	Valley foothill riparian	Located in dense willow thicket

Critical Habitat. Critical habitat remains unchanged from the original NES.

Essential Habitat. Essential habitat remains unchanged from the original NES.

Avoidance and Minimization. Avoidance and minimization remains unchanged from the original NES.

Potential Impacts.

Habitat Quality

Potential impacts to habitat quality remain unchanged from the original NES.

Direct Take of the Species

The potential for direct take of the species remains unchanged from the original NES.

Loss of Suitable Habitat

The proposed project will result in the direct take of six elderberry stems (with a basal diameter of 1 inch or greater) at Locations 2–6.

Direct impacts to elderberry shrubs are assumed when ground disturbance takes place within 20 feet of the driplines of elderberry plants (that support stems with a diameter at ground level of 1 inch or greater) due to the potential for soil compaction and/or root damage as a result of heavy equipment, increased airborne dust and impairment of dispersal activities, and alteration of local hydrology. Construction equipment and personnel will be required to work within the 20-foot core avoidance area of the shrub at Location 10 (one stem). As the affected stem is not within the permanent impact zone, the shrub shall not be transplanted. However, direct impacts to its core area will be compensated through the implementation of the mitigation measures described below.

Elderberry shrubs at Locations 1, 7–9, and 11 occur within 100 feet but greater than 20 feet from areas where ground disturbance is proposed to occur. These shrubs and beetles (if they occur) may be

indirectly impacted by sedimentation, erosion, and dust. Indirect impacts could also result from encroachment into the 100-foot buffer zone if construction activities result in changes, such as alteration of drainage patterns, which might affect the long-term viability of the elderberry shrubs.

Cumulative Effects: Cumulative effects remain unchanged from the original NES.

Compensatory Mitigation: Table 3 provides information regarding stem sizes for the shrubs that will be directly affected by the proposed project (shrubs at Locations 2–6 and 10). Prior to any ground disturbing activities associated with the proposed project and per the USFWS' July 9, 1999 Conservation Guidelines for the Valley Elderberry Longhorn Beetle (Guidelines), the six stems that would be removed by the proposed project shall be transplanted at the Stillwater Conservation Bank. In addition, the County shall plant 12 elderberry shrub seedlings and 12 associated riparian native species at the Stillwater Conservation Bank. Per the Guidelines, at least 1,800 square feet will be provided for 1 to 5 elderberry seedlings and up to five associated natives.

Table 3. Description of Elderberry Shrubs Directly Affected and Proposed Compensation

Location	Stems (maximum diameter at ground level)	Exit Holes	Elderberry Seedling Ratio	# Elderberry Seedlings Required	Associated Natives Ratio	# Associated Natives Required
Non-riparian	1-3" = 4	No	1:1	4	1:1	4
		Yes	2:1	0	2:1	0
Non-riparian	3-5" = 1	No	2:1	2	1:1	2
		Yes	4:1	0	2:1	0
Non-riparian	≥5" = 2	No	3:1	6	1:1	6
		Yes	6:1	0	2:1	0
Total	**7**			**12**		**12**

All elderberry shrub compensation will take place at the Stillwater Conservation Bank. A total of 0.10 acre will be planted to compensate for direct effects.

Prior to construction, a Worker Environmental Awareness Program for construction workers shall be conducted by a qualified biologist. The program will provide all workers with information on their responsibilities with regard to sensitive biological resources, specifically the status of the federally threatened beetle and the need to protect its elderberry host plant.

Measures to protect buffer areas will be instituted prior to construction and will include fencing and signs. Fencing shall be placed greater than 20 feet outward from the dripline around existing elderberry shrubs, except for the shrub at Location 10, where fencing will be place 15 feet from the dripline of the shrub. Signs will be erected and attached to the fencing stating the following: "This area is habitat for the beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." Signs shall be placed in clearly visible locations and will be readable from a distance of 20 feet.

No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or elderberry shrubs will be used within 100 feet of any elderberry plant with one or more stems measuring 1 inch or greater.

Any damage to the buffer area during construction will be restored following construction. Restoration will include erosion control and revegetation with appropriate native plants, including elderberry, as appropriate.

4.3 Non-Listed Wildlife Species

Potential impacts to non-listed wildlife species are unchanged from the original NES.

4.4 Noxious Weeds

Potential impacts from noxious weeds are unchanged from the original NES.

4.5 Jurisdictional Waters

The permanent loss of jurisdictional waters due to construction of a new bridge and associated roadway approaches would not occur because the proposed project would result in a net increase in riverine habitat within the project BSA. Two piers associated with the existing structure and within jurisdictional waters will be removed as part of the proposed project (for an increase of 48 square feet of jurisdictional waters) and only one new pier would be placed within jurisdictional waters (for a loss of 24 square feet of jurisdictional waters). Project construction activities would result in the temporary loss or disturbance of 0.13 acres of riparian wetland and 0.77 acres of riverine habitat (Addendum Figure 3). Temporary effects would be associated with areas within the project study area where construction staging and traffic would. The short-term degradation and direct loss of the functions and values of the wetlands in the project area, which include their use as wildlife habitat and aesthetic values, would also be considered an adverse effect.

The mitigation measures proposed for the temporary loss of jurisdictional waters have not changed from the original NES.

5. Results: Permits and Technical Studies for Special Laws or Conditions

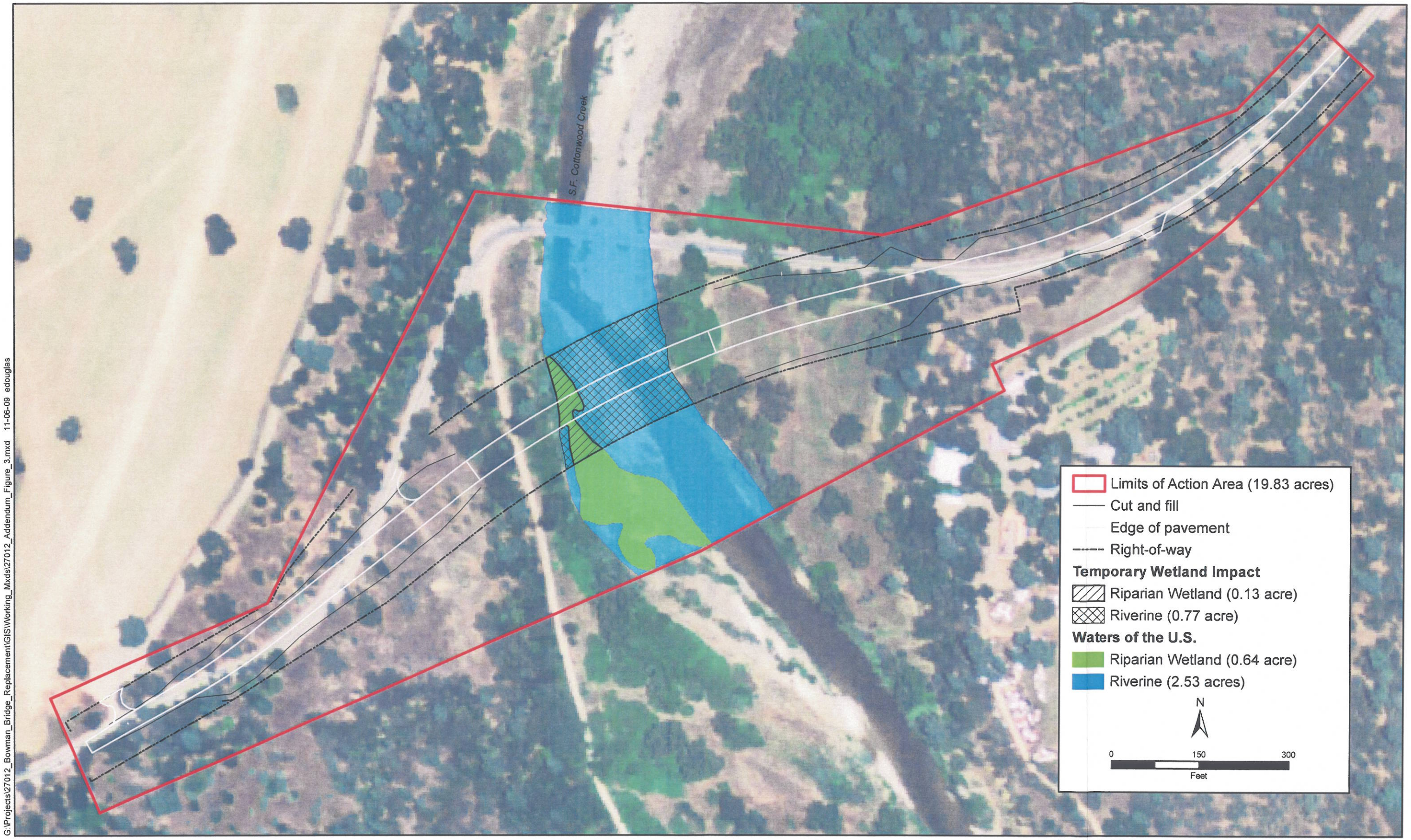
5.1 Regulatory Requirements

Regulatory requirements remain unchanged from the original NES.

6. References

Additional references are as follows:

North State Resources, Inc. 2008. Bowman Road at South Fork Cottonwood Creek Bridge Replacement Project Biological Assessment. Tehama County California.



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North State Resources, Inc.

South Fork of Cottonwood Creek on Bowman Road Bridge Replacement Project

Addendum Figure 3
Impacts on Boundaries of Waters of the U.S.
(including Wetlands)
November 6, 2009

APPENDIX A

MEMORANDUM: PROPOSED VELB MITIGATION

MEMORANDUM

to: Jason Hanni, U.S. Fish and Wildlife Service

from North State Resources, Inc.

re: Proposed VELB Mitigation for the Bowman Road at South Fork Cottonwood Creek Bridge Replacement Project

date: November 12, 2009

Jason,

This memo was prepared in response to your phone call of July 31, 2009 regarding the Biological Assessment for the Bowman Road at South Fork Cottonwood Creek Bridge Replacement Project. During the call, you requested additional information regarding the potential impacts to the elderberry shrub at Location 10 (i.e., the amount of the 20-foot core avoidance area that would be disturbed, and avoidance and minimization measures that would be implemented).

It is anticipated that cut and fill activities would encroach 5-feet into the core avoidance area (i.e., disturbance would occur approximately 15 feet from the dripline of the shrub). In order to avoid and minimize impacts to the shrub, the following measures shall be implemented:

- Fencing shall be placed 15 feet outward from the dripline of the shrub. Signs shall be erected and attached to the fencing stating the following: "This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs shall be placed in clearly visible locations and shall be readable from a distance of 20 feet.
- Any damage to the buffer area during construction shall be restored following construction. Restoration shall include erosion control and re-vegetation with appropriate native plants, including elderberry, as appropriate.
- No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant shall be used within 100 feet of the elderberry shrub at Location 10.

Please feel free to contact me if you have any additional questions.

Sincerely,

Ginger M. Bolen
Senior Wildlife Biologist
North State Resources, Inc.
5000 Bechelli Lane, Suite 203
Redding, California 96002
(530) 222-5347 ext. 127

APPENDIX B

REVISED BIOLOGICAL OPINION

DEPARTMENT OF TRANSPORTATION
District 2 Office of Local Assistance. MS 5
1657 Riverside Drive (96001)
MAIL P.O. Box 496073
Redding, CA 96049-6073
PHONE (530) 225-3034
FAX (530) 225-3020

Flex your power!
Be energy efficient!

July 8, 2009

Bowman Road at SF Cottonwood
STPLZ 5908 (0024)
Bridge Replacement Project: Bridge # 08C-009
Tehama County
USFWS Reference No. 1-1-04-I-1362

Susan Moore
Field Supervisor
US Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, Ca 95825-1846

Dear Ms. Moore,

Project Information
In coordination with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA), the Tehama County Public Works Department proposes to replace Bowman Road at South Fork Cottonwood Creek Bridge (Bridge No. 08C-0009). The proposed project is located on Bowman Road approximately 11 miles west of the town of Cottonwood in Tehama County, California.

The proposed project involves replacing the existing bridge on Bowman road at South Fork Cottonwood Creek and also making improvements on the current roadway configuration. This bridge has been determined structurally and seismically deficient and will be replaced with a structure that meets FHWA standards.

Delegated Federal Authority
Caltrans is now acting as a Federal agency, following the provisions of the *Memorandum of Understanding (MOU) between the Federal Highway Administration, California Division and the California Department of Transportation State Assumption of Responsibility for Categorical Exclusions*, which became effective on June 7, 2007. The MOU was signed pursuant to Section 6004 of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) which allows the Secretary of Transportation to assign, and the State of California to assume, responsibility for most NEPA Categorical Exclusion determinations. For those projects, the State may also be assigned FHWA's responsibilities for environmental consultation and coordination under other Federal environmental laws. By statute, the State is deemed to be a Federal agency for these assigned responsibilities. As this project is covered by the Section 6004 CE MOU, FHWA has assigned and Caltrans has assumed

Table 1 Elderberry Shrub Mitigation Updated May 2009

Directly Impacted Shrubs					Mitigation		
Location	Max diameter of stems at ground level (inches)	Exit Holes on Shrub		Elderberry Seedling Multiplier[1]	Elderberry Seedlings To be Planted	Associated Native Plant Multiplier[2]	Native Plants Species To Be Planted
		Y/ N	Stem Quantity				
Non-riparian	1- 3	No	4	1	4	1	4
		Yes	0	2	0	2	0
Non-riparian	>3 < 5	No	1	2	2	1	1
		Yes	0	4	0	2	0
Non-riparian	= 5	No	2	3	6	1	2
		Yes	0	6	0	2	0
Riparian	1- 3	No	0	2	0	1	0
		Yes	0	4	0	2	0
Riparian	>3 < 5	No	0	3	0	1	0
		Yes	0	6	0	2	0
Riparian	= 5	No	0	4	0	1	0
		Yes	0	8	0	2	0
Total					12		7

[1]Ratios in the *Elderberry Seedling Multiplier* column correspond to the number of cutting or seedlings to be planted per elderberry stem (1.0 inch or greater at ground level) affected by the project.

[2]Ratios in the *Associated Native Plant Multiplier* column correspond to the number of associated native species to be planted per elderberry (seedling or cutting) planted.

If you have any questions or need additional information please contact me at (530) 225-3034 or julie_owen@dot.ca.gov

Sincerely,

Julie Owen
Natural Resource Specialist, D2-Caltrans

Attachments

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
81420-2009-F-1005-R001-1

SEP 24 2009

Julie Owen
Local Assistance, District 2
California Department of Transportation
1657 Riverside Drive
P.O. Box 496073
Redding, California 96049-6073

Subject: Revised Biological Opinion for the Bowman Road Bridge Replacement Project, Tehama County, California (Service File Number 1-1-04-I-1362)

Dear Ms. Owen:

This letter responds to the California Department of Transportation's (Caltrans) July 8, 2009, letter requesting re-initiation of the programmatic consultation for the proposed Bowman Road Bridge Replacement Project (proposed project). The U.S. Fish and Wildlife Service (Service) analyzed the proposed project's effects on the federally-threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle) and issued a biological opinion on May 5, 2004 (Service file number 1-1-04-I-1362). This biological opinion appended the project to the March 11, 1997, *Formal Programmatic Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California (Service File Number 1-1-96-F-156).*

Caltrans is requesting re-initiation for the proposed project due to a change in impacts associated with the proposed project. Tehama County has altered the overall project footprint to avoid impacts to sensitive cultural resources. Therefore, the number of elderberry (*Sambucus* sp.) stems with a basal diameter of 1 inch or greater that would be removed by project activities has increased from 5 to 6. Additionally, 1 elderberry shrub with 1 stem with a basal diameter of 1 inch or greater is within twenty feet of project activities and has the potential to be adversely affected. Caltrans has proposed conservation measures to minimize adverse effects to these shrubs. This re-initiation is issued pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act). Please replace the entire May 5, 2004 biological opinion with this biological opinion:

- Caltrans has proposed to compensate for the five shrubs that will be directly affected by the proposed project. Additionally, one elderberry shrub is located just inside twenty feet from project construction, and Caltrans has proposed to compensate for potential adverse effects to this shrub. Additionally, Caltrans has proposed to protect this shrub with fencing approximately fifteen feet outward from the dripline of this shrub; and follow the conservation measures described below.

- All elderberry compensation will take place at the Stillwater Conservation Bank. A total of 0.10 acres will be planted to compensate for the direct effects to the 6 shrubs.

- Prior to construction, a Worker Environmental Awareness Program for construction workers shall be conducted by a qualified biologist. The program will provide all workers with information on their responsibilities with regard to sensitive biological resources, specifically the status of the federally threatened beetle and the need to protect its elderberry host plant.

- Measures to protect buffer areas will be instituted prior to construction and will include fencing and signs. Fencing shall be placed greater than twenty feet outward from the dripline around existing elderberry shrubs, except for the shrub identified above, where fencing will be place at fifteen feet from the dripline of this shrub. Signs will be erected and attached to the fencing stating the following: "This area is habitat for the beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." Signs shall be placed in clearly visible locations and will be readable from a distance of twenty feet.

- No insecticides, herbicides, fertilizers or other chemicals that might harm the beetle or elderberry shrubs will be used within one hundred feet of any elderberry plant with one or more stems measuring 1 inch or greater.

- Any damage to the buffer area during construction will be restored following construction. Restoration will include erosion control and re-vegetation with appropriate native plants, including elderberry, as appropriate.

Caltrans has proposed to compensate for the 6 elderberry shrubs with 7 stems greater than 1 inch by planting the necessary elderberry seedlings and associated natives to the Stillwater Conservation Bank. Table 1 provides information regarding stem sizes for the 6 shrubs Caltrans has proposed for compensation. Compensation is per the Service's 1999 *Conservation Guidelines for the Valley Elderberry Longhorn Beetle, July 1999* (Guidelines).

alteration of the local hydrology. Additionally, these 5 shrubs would be directly impacted due to being removed from the project area. Transplanted elderberry shrubs may die or experience stress or become unhealthy due to changes in soil, hydrology, microclimate, or associated vegetation. This may reduce their quality as habitat for the beetle, or impair their production of habitat-quality stems in the future. Branches containing larvae may be cut, broken, or crushed as a result of the transplantation process. However, if the beetles survive, they will be more likely to persist in a preserve by potentially colonizing a new shrub within a conservation area managed in perpetuity, rather than just being removed by the proposed project.

Indirect effects on the beetle could occur from the operation and construction activities, including sedimentation, erosion, and dust. Also, accidental grading in areas designated as avoidance areas, or other careless handling of heavy equipment during construction could destroy or injure elderberry shrubs used by the beetle. However, these effects should be minimized by the proposed conservation measures listed above.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The level of take proposed for the Bowman Road Bridge Replacement project falls within the bounds of take anticipated by the March 11, 1997, *Formal Programmatic Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California (Service File Number 1-1-96-F-156).* and therefore is non-jeopardy.

Amount or Extent of Take

The Service anticipates incidental take of the beetle will be difficult to detect or quantify. The cryptic nature of this species and its relatively small body size make the finding of a dead specimen unlikely. The species occur in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of elderberry stems greater than 1.0 inch in diameter at ground level that will become unsuitable as a result of the

APPENDIX C

U.S. FISH AND WILDLIFE SERVICE (USFWS) SPECIES LIST

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

May 1, 2009

Document Number: 090501100127

Ginger Bolen, Ph.D.
North State Resources, Inc.
5000 Bechelli Lane, Suite 203
Redding, CA 96002

Subject: Species List for Bowman Road Bridge Replacement

Dear: Dr. Bolen

We are sending this official species list in response to your May 1, 2009 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 30, 2009.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

Tuctoria greenei
Critical habitat, Greene's tuctoria (=Orcutt grass) (X)
Greene's tuctoria (=Orcutt grass) (E)

Candidate Species

Amphibians

Rana muscosa
mountain yellow-legged frog (C)

Birds

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (C)

Mammals

Martes pennanti
fisher (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 30, 2009.