## Flood System OMRR&R Cost Evaluation TM Overview

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## **Discussion Overview**

- Background and recap
- Breakdown of \$130M annual estimate
  - Breakdown of State's responsibilities and share
  - Breakdown of local responsibilities and share
- Moving forward







## State Plan of Flood Control Facilities





### **Sacramento and San Joaquin Basins**

### Levees

- Over 1,600 miles of federal project levees
- Both urban and non-urban
- Condition from very bad to newly constructed

### Channels

- Over 1,200 miles (148,000 acres) of designated floodways
- Over 1,000 miles of project channels



### Structures

53 other major flood protection works (weirs, relief structures, pumping plants, gates, etc.)



## Cost Categories included in \$130M Estimate







Urban Levee O&M Non-Urban Levee O&M Channel Sediment Removal **Channel Vegetation and Debris Removal** Minor Structures O&M Major Structures O&M Repair, Rehabilitation and **Replacement** (limited)









# The Challenge



- Comply with O&M Manual
- Adequate Funding

- Comply with O&M Manual and many other regulations, some that conflict
- No proportional increase in funding

# How We Estimated the True Cost

Data Analysis

- 1. Determine all activities (Job Categories)
- 2. Inventory and create database of all SPFC facilities (Units)

#### Outreach

- 3. Gather all input as to existing expenditures per each activity
- 4. Gather all input as to estimated true cost of each activity

### Data Analysis

- 5. Develop "Range of Cost" for each activity by region
- 6. Multiply "Estimated Unit Cost" by "Units" for entire SPFC

Outreach

7. Refine estimate with regional assistance





# Findings by the Numbers

# \$130M What we should be spending annually\$30M What we are spending annually

### Other Numbers and Cost Examples

\$40K-\$60K	O&M on 1 Mile of Levee	
\$10	Removal of 1 Cubic Yard of Sediment	
\$25K	Removal of 1 Acre of Arundo donax (estimated 360	acres)
2,274	# of Pipes potentially the responsibility of LMA's	
	(out of 5,500 total penetrations based on UCIP data)	
\$2K	Each Video Pipe Inspection	
\$240K	Pipe Replacement (average, lower \$ for	
	abandon/removal/slip-lined)	STATES PROVIDENT





# Breakdown of Estimate



# What is Included in



- Routine and Non-routine SPFC maintenance for both the State and 82 LMAs
- Permitting Costs
- <u>RECURRING COSTS</u> (including some (not all) deferred maintenance costs and RR&R costs that will need ongoing funding stream)
  - Urban ULDC compliance
  - Pipe Penetrations

 Giant Reed (Arundo donax) removal

– Rural RR&R

Closes funding gap so no new deferred maintenance is accrued







One-Time Projects and <u>Capital investments</u>



- Backlog of <u>deferred maintenance</u> other than pipe penetrations and Giant Reed (Arundo donax)
- Non-SPFC facilities
- Non-SPFC Delta OMRR&R
- Any federal actions, costs, etc.





# Moving Forward

- Utility Crossing Inventory Program (UCIP) Data
- Categories, Definitions, Deferred Maintenance
- Life Cycle Analysis
- Integration into Performance Tracking and System Status Report
- Updated Estimate
- Detailed Analysis of Responsibilities (Current, and what makes sense moving forward)
- Detailed data needed to support CVFPP funding recommendations





## Questions?

"The structures and facilities constructed by the United States for local flood protection shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain the maximum benefits."

- 1955 SRFCP Standard O&M Manual







# Backup Slides





## Why is Central Valley Maintenance Important?

Deferred maintenance leads to disaster

### One of highest levels of flood risk in the country

### Over 1.3 million people at risk in floodplain

About \$80 billion of infrastructure and assets at risk

Large agricultural industry Urban, small community, and rural protection Hub of California's water system (25-million people)





## Why is Maintenance Difficult?

"Vintage" system built over many decades	Complex - both State and locally maintained pieces	Two standard O&M manuals – 118 unit specific manuals	Assurances to USACE for only Flood Control (most of SPFC)	Conflicting federal regulations and mandates
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Higher maintenance costs due to new considerations	Time and money spent on regulatory actions and permits	Flood System intertwined with: water supply, ecosystem, cultural resources, recreation, industry, transportation, water quality, endangered species, fisheries, etc.		Not enough funding





# Estimate by Category (\$130M Total)





