San Joaquin River Restoration Program

Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project

Landowner Meeting
July 21, 2011

Agenda

• Reach 4B Project Overview
• Initial Concepts
• Field Activities and Access
• SJRRP General Program Update
• General Discussion
Original Alternatives Process

Section 11(a) Settlement Requirements:

• Reach 4B1:
  – Convey at least 475 cfs through Reach 4B of San Joaquin River channel
  – Modify Reach 4B headgate to ensure fish passage and flows

• Eastside and Mariposa Bypasses:
  – Modify Sand Slough Control Structure and Eastside and Mariposa Bypass structures to ensure fish passage
  – Modify Eastside and Mariposa Bypass channels to establish a low-flow channel for anadromous fish migration

Concerns With Approach

• Reach 4B Project original purpose and need focused on capacity and fish passage
  – 475 cfs through San Joaquin River channel
  – Fish passage through river and bypass channels

• Several Concerns
  – No constructed rearing habitat for fish
  – Approach involves two rounds of disruptive construction
Alternatives Formulation Principles

- Purpose and Need to include support for Restoration Goal
- Improve Reach 4B capacity to at least 475 cfs
- Provide habitat and flow in Reach 4B and/or the Eastside Bypass to support long-term fish population goals
- Peak restoration flows routed in Reach 4B will not be constrained
- Fish passage and rearing will be evaluated for Reach 4B, Eastside Bypass, and both
- Alternatives will inform separate flow routing decision called for under Settlement (High Flow Study)
- Total existing conveyance capacity for flood flows and operational flexibility cannot be diminished

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Example Initial Concepts

- Bracket a range of potential actions that may take place to accomplish project goals/objectives
- Represent a range of potential environmental effects
- Will change with feedback - landowners and stakeholders can suggest additional potential actions or approaches
- A draft Initial Alternatives TM will provide an opportunity for reflection and comment
- A preferred alternative will be developed into plans and specifications after a ROD

Initial Concept 1

Main Channel Restoration

- Restoration flows and fish into San Joaquin River
- Flood flows into Bypasses
Initial Concept 1

- Setback Levees
- Create rearing habitat
- Add gates
- Remove headgate
- Replace road crossings

Draft for Discussion Purposes Only. Subject to Change.

Initial Concept 2

Bypass Restoration

- Restoration and flood flows into Bypasses
- San Joaquin River channel used for flood capacity only
Initial Concept 2

- Need to mitigate changes to flood capacity and operations in bypasses
  - Add capacity in San Joaquin River
  - Move levees in the bypasses
  - Change slope and capacity in the bypasses
- Mitigation ideas have not yet been discussed with flood control entities – final mitigation measures may change
Initial Concept 3

Bypass All Pulse Flows

- Restoration flows up to 475 cfs into San Joaquin River
- Greater restoration flows and flood flows into Bypass

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Initial Concept 3

- Provide fish passage at Eastside Bypass Control Structure
- Improve low-flow crossings in bypasses
- Create rearing habitat
- Add gates
- Replace culverts at road crossings
- Construct gates and ladders

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Draft for Discussion Purposes Only. Subject to Change.
Initial Concept 4

Split Pulse Flows and Restore Both

- Lower restoration flows into San Joaquin River
- Greater restoration flows and flood flows into Bypass
- Bypass is passable to fish

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Initial Concept 4

- Notch all center bays of Mariposa Bypass Control Structure
- Consider improvements to low-flow road crossings
- Provide fish passage at Mariposa Drop Structure
- Create rearing habitat
- Improve Levees
- Add gates
- Improve road crossings
- Create rearing habitat
- Construct gates and ladders

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Initial Concept 5

Split Pulse Flows and Isolate River

- Lower restoration flows into San Joaquin River
- Greater restoration flows and flood flows into Bypass
- Bypass is screened to move fish into river channel

Consider improvements to low-flow road crossings

Improve Levees

Improve road crossings

Create rearing habitat

Construct gates and ladders

Add fish screen

Draft for Discussion Purposes Only. Subject to Change.
Seepage Impacts

- Increasing flows in the River channel and/or bypasses has potential to increase groundwater seepage into adjacent agricultural lands
- Seepage could affect adjacent crops and long-term productivity of adjacent agricultural lands
- The Lead Agencies are committed to avoiding or minimizing these impacts
- Pre-design will identify measures for each alternative to address potential seepage based on concepts in the Seepage Management Plan

Fish Considerations

- **Fish Passage** – physical blockage (road crossings), injury from impact, desiccation (damage from being out of water for long periods), velocity, depth, elevation changes, fatigue, false migration pathways, stranding, predation, disease
- **Water Quality** – temperature, dissolved oxygen, turbidity, salinity
- **Habitat** – shade, food, shelter, refuge from predators and high water velocities
Alternative Evaluation

Initial Concepts
Expanded Subalternatives with Different Habitat and Levee Configurations
Evaluation Based on Screening Criteria
EIS/EIR Alternatives

Fisheries
Flood Control
Environmental Acceptability
Cost
Technical Feasibility
Geomorphology/Sediment Transport

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Next Steps

Formulate Alternatives
- Comment on concepts
- Review Initial Alternatives

Field Work/Surveys
- Identify locations for traffic, noise, and air quality surveys
- Provide local knowledge and feedback
- Provide land access

Evaluate Alternatives
- Comment on screening criteria
- Provide feedback on how well alternatives meet screening criteria

Draft Project Description
- Review project description

Draft for Discussion Purposes Only. Subject to Change.
Reach 4B Schedule

<table>
<thead>
<tr>
<th>Title</th>
<th>Date</th>
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<tbody>
<tr>
<td>Formulate Alternatives</td>
<td>June to November 2011</td>
</tr>
<tr>
<td>Initial Alternatives TM</td>
<td>August/September 2011</td>
</tr>
<tr>
<td>Evaluate Alternatives</td>
<td>September/October 2011</td>
</tr>
<tr>
<td>Draft Project Description</td>
<td>December 2011</td>
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<tr>
<td>Draft EIS/R for Public Review</td>
<td>June 2012</td>
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<tr>
<td>Final EIS/R for Public Review</td>
<td>March 2013</td>
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<tr>
<td>ROD/NOD/Findings</td>
<td>June 2013</td>
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Questions?

- Any questions on the Reach 4B Project or schedule?
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**SJRRP Surveys**

- Review SJRRP surveys scheduled in next six months
Reach 4B Project Surveys

- Surveys needed to collect information on existing conditions, determine appropriate mitigation for any impacts
- Ensures the design team understands site-specific conditions
- Helps to understand existing infrastructure and take that into account in the early design stages
- Identifies impacts early so project can be designed to avoid/minimize them
- Provides on-the-ground input into the formulation of alternatives

Upcoming Surveys (next 6 months)
- Bathymetry Surveys – Reach 4B1 channel
- Biological Resources – vegetation, wildlife, wetlands, vernal pools
- Cultural Resources – historic properties or resources
- Traffic – current traffic volumes
- Noise – existing noise levels
- Air Quality – dust monitoring
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SJRRP Update

• Draft Program EIS/R released to public April 2011
• Comment period extended to September 21, 2011
• Interim flows and flood flows
• Seepage management and monitoring
• Sand Slough Conveyance Project
• SLC Update
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General Discussion

- Questions?
- Topics for discussion?
- Upcoming meetings?
Contact Information

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