

San Joaquin River Restoration Program

Fisheries Management Work Group
Technical Feedback Meeting

CSU-Stanislaus
December 9, 2008



Agenda

- Introductions
- Program Update
- Interim Flows Fisheries Study Needs
- Genetic Management
 - Components
 - Population Goals
 - Genetic Study Concepts
- Next Steps and Future Meetings



Introductions

- Name
- Agency or Affiliation



Questions From November Meeting that will be Addressed Today

- Legislation and Schedule
 - What is the status of the Federal legislation? Is it anticipated to pass soon? If not, how will this affect the project schedule?
 - Where is the Program in implementing the Settlement?
- Water Supply Impacts
 - How will water supply impacts be determined?
- Genetics Management
 - What is an acceptable salmon population size?



Questions From November Meeting to be Addressed at Jan-09 Meeting

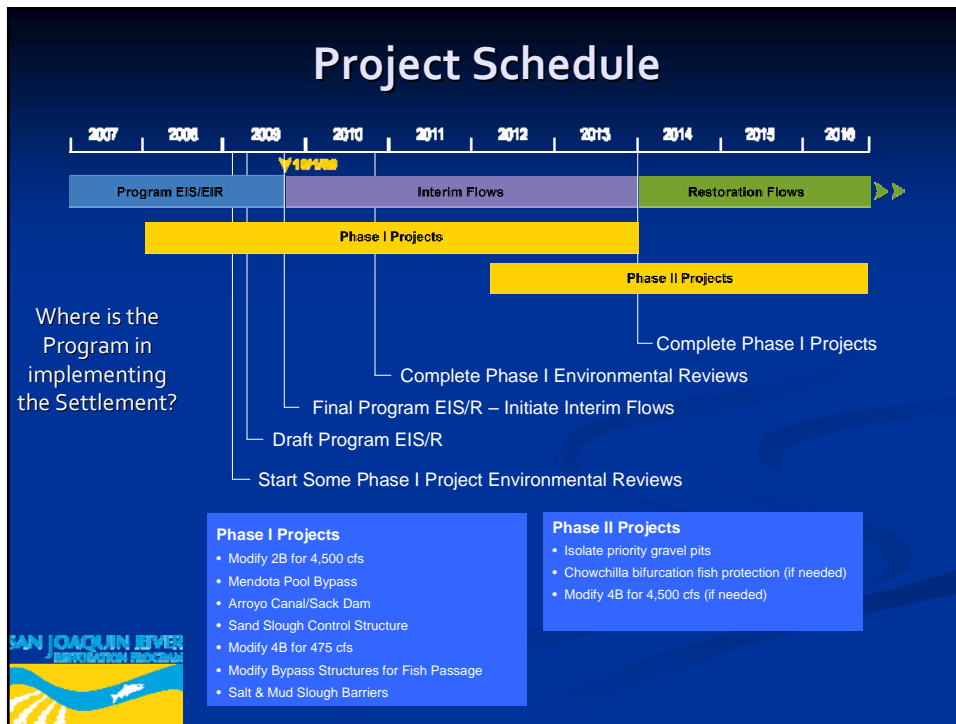
- Alternatives
 - Level of detail
 - Achievement of the Restoration Goal
 - Floodplain sizing
 - River-wide view
- Water temperatures
- Real-time Operations



Federal Legislation and Project Schedule

- What is the status of the Federal legislation? Is it anticipated to pass soon? If not, how will this affect the schedule?
 - San Joaquin River Restoration Settlement Act
 - Part of the Omnibus Public Land Management Act of 2008
 - Entire Omnibus Bill is anticipated to be reintroduced in early 2009
 - Near-term activities and schedule will not be affected
 - Planning and environmental documentation





Water Supply Impacts

- How will water supply impacts be determined?
 - Addressed by the Water Management Working Group
 - Monthly Technical Feedback Group Meetings
 - Next meeting, January 9
 - See www.restoresjr.net for more information and future meeting dates

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Input from the Feedback Group is an Important Aspect of the FMP



Interim Flow Fisheries Study Needs



Interim Flow Period

"...in order to collect relevant data concerning flows, temperatures, fish needs, seepage losses, recirculation, recapture and reuse."



Interim Flow Period

- Flow Durations:
 - 2009 – 6 weeks during fall
 - 2010 – spring and fall
 - 2011 – year round flow
 - 2012 – year round flow
 - 2013 – year round flow
- No later than 2014 – Full Restoration Flows



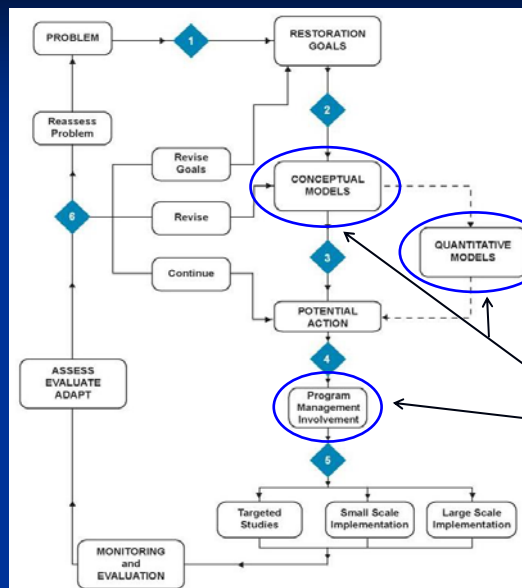
Interim Flow Fisheries Data Need: To Verify the Conceptual Models

- Historical Population Dynamics
 - Spring-run, fall-run, other fish
- Historic and Current Life History Strategies
- Stressors
 - Physical, chemical, or biological perturbations
- Limiting Factors Analysis
 - Stressors that substantially influence abundance
- Conceptual Models
 - How we think the system works



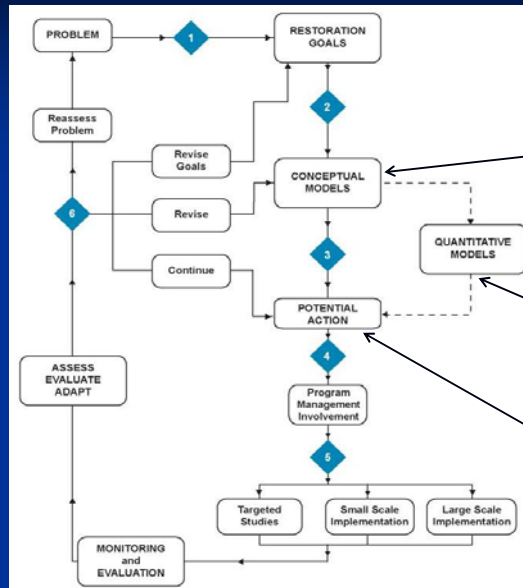
Interim Flows: Study Needs Background

- Decision Nodes:
1. Identify problem
 2. Develop restoration goal
 3. Limiting factors prioritization
 4. Action routing
 5. Program management input (cost, feasibility, partnering, political considerations, etc.)
 6. Assess and adjust



What we know here impacts what we do here

Interim Flows: Example



What are water temperatures during juvenile migration?

What are the relative impacts of various limiting factors; including temperature?

How are the impacts of temperature reduced?



Specific Data Validation Needs

- All physical and biological processes
 - Water temperature validation
 - Hydraulic information
 - Relative impact of limiting factors



Interim Flow Data Needs

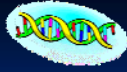
	Adult Migration	Holding	Spawning & Incubation	Fry Rearing	Smolt	Yearling
HEC 5Q validation	X	X	X	X	X	X
Streamflow assessment	X		X	X	X	X
Water quality assessment	X			X	X	X
Passage evaluations	X					
Migration cue issues	X					
Straying issues	X					
Holding pool		X				
Spawning gravel			X			
Floodplain condition				X	X	X
Instream habitat condition				X	X	X
Potential predators				X	X	X
Potential food supply				X	X	X
Over-summering habitat						X



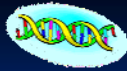
Interim Flow Data Needs

- Multiple life history strategies: Assess habitat complexity during all water year types for the following life history types:
 - Downstream fry rearing
 - Upstream fry rearing
 - Sub-yearling
 - Yearling





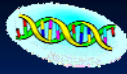
Genetic Management



Genetic Management Goals

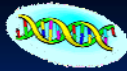
- Protect and promote genetic diversity
- Safe-guard against negative genetic effects
- Helps promote abundance, spatial structure, and diversity





Genetic Needs

- Population goals:
 - Effective population size
 - Minimum viable population size
 - Target population size
- Reintroduction strategy
- Other needs such as:
 - Artificial propagation methods
 - Program performance
 - Viable salmonid population criteria



Population Genetics Management

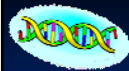
- Key populations:
 - Broodstock source individuals
 - Hatchery origin individuals
 - Natural origin individuals
 - Non-target population individuals





Genetic Study Concepts

- Single nucleotide polymorphisms (SNPs):
 - Discovery
 - Power analysis
- Genetic stock identification
- Effective population size of spring-run



Reintroduction Strategy Data Needs

- Genetic description of target and non-target stocks
- Potential Reintroduction actions
 - Stock selection and criteria
 - Brood collection strategies
 - Artificial propagation strategies
 - Outplanting strategies
 - Natural population re-establishment
 - Phase-out of artificial propagation



Next Meetings

- January 16
 - Potential topics:
 - Critical Sections of the FMP
 - Program Alternative Report
 - Meeting location to be provided
- Location: CSU Stanislaus
- Time: 1:00 p.m. to 4:00 p.m.



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