Wallace Weir
Fish Rescue Facility
Wallace Weir Fish Rescue Facility

**Issue**

- Adult salmon enter the Colusa Basin Drain (Drain) when certain flow regimes are met that attract migrating salmon.
- There is no upstream route for salmon to return to the Sacramento River from the Drain.
- Absent fish rescue operations, the fish perish and are lost from production.
Wallace Weir Fish Rescue Facility

- Sacramento River
- Feather River
- KLOG
- Colusa Drain
- Knights Landing
- Ridge Cut
- Wallace Weir Fish Rescue Facility
- Fish Entry to CBD
Wallace Weir Fish Rescue Facility

Issue

• May 2013, 300 were rescued from the Drain and released into the Sacramento River
• Only one fish survived to spawn
Knights Landing Outfall Gate
Fish Barrier Project Built in 2015
Wallace Weir Fish Rescue Facility
PORTION OF EXISTING WEIR DEGRADED EACH WINTER
FREMONT WEIR FLOWS INUNDATE WALLACE WEIR
WINTER FLOWS ERODE REMAINDER
ADHOC FISH TRAP DOWNSTREAM
NOT EFFECTIVE AT LOW OR HIGH FLOWS
New Wallace Weir Design Considerations

• Prevent fish from straying into the Drain via the Ridge Cut at least 95% of the time
• Trap & Rescue fish blocked at Wallace Weir
• Don’t impact water users
• Don’t impede flood flows
• Be consistent with the National Marine Service’s 2009 Operations Biological Opinion, Reasonable and Prudent Alternative Action, I.7.
PROPOSED WALLACE WEIR STRUCTURE

- Existing Weir
- New Fish Trap
- New Flow Control Structure with Bridge
- New Earthen Weir
- New Access Ramps
NEW WALLACE WEIR – AERIAL VIEW

- Existing Weir
- New Earthen Weir
- New Flow Control Structure with Bridge
- New Fish Trap
- New Access Ramps
- New Flow Control Structure with Bridge
- Existing Weir Embankment to be removed
- New Inflatable Gates
- New Weir Manhole
- New Weir Manhole
- New Headwall, Concrete Headwall, Watermain C-to Canal Gates
- New Overhead Electrical Service
- New Weir Manhole
- New Access Ramp
- Control Building
- Proposed Power Pole Location (Typ)
New Earthen Weir

Fish Trap

3 Bottom Hinged Gates

New Bridge over Structure

6 Picket Weir Screens
Aggressive Schedule

• Winter 2015/Spring 2016
  • Concept Design Development

• Spring/Summer 2016
  • Design, Environmental Review and Permitting

• Fall 2016
  • Construction
    • Start August 2016
    • Finish December 2016?
Substantial Environmental & Permitting Requirements

- California Environmental Quality Act (CEQA)
- National Environmental Policy Act (NEPA)
- U.S. Army Corps: Section 404 Individual Permit
- Regional Water Quality Control Board: Section 401
- National Marine Fisheries Service: Biological Opinion
- U.S. Fish & Wildlife Service: Biological Opinion
Substantial Environmental & Permitting Requirements (contd.)

- State Historic Preservation Officer: National Historical Preservation Act Section 106
- Native American Consultation
- Cal Dept. Fish & Wildlife: SAA & ITP
- U.S. Army Corps: Section 408 Permission
- Central Valley Flood Protection Board: Encroachment Permit
- Yolo County permits
Implementation Approach

- Move project from large bureaucracy to small agency
- Truncate decision tree
- Set aggressive schedule & milestones
- Invite regulators to be part of the implementing team to create ownership
- Identify agencies likely to impact critical path and reach out early
- Message project benefits and sell, sell, sell
Implementation Approach (contd.)

- DWR contracted with Reclamation District 108 for design, permitting and construction
- RD 108 took on CEQA lead agency role
- RD 108 hired a Consultant Team they knew:
  - KSN – Overall Project Management & Civil Engineering
  - ICF – Environmental Planning
  - cbec – Hydraulic Design
  - Hultgren & Tillis – Geotechnical Engineering
  - VE Solutions – Structural Design
Implementation Approach (contd.)

• Created small core team of CNRA, DWR & RD 108 staff/consultants to make quick decisions
• DWR/RD 108 Core Team met weekly
• Created small ad-hoc interagency ‘teams of experts’ to quickly address specific design & permitting issues
• Took risks and advanced environmental process ahead of the design process
Implementation Approach (contd.)

• Spilt NEPA & CEQA documents so state agencies could move forward separate from federal review schedule
• Biweekly conference calls with Regulatory Agencies – 30 plus participants on each call
• Always followed up with a record of decisions made and assigned action
• Preordered specialized equipment
Schedule Achieved
## Schedule Achieved

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<tr>
<th>Approval/Permit</th>
<th>Agency</th>
<th>Normal Timeframe</th>
<th>WW Timeframe</th>
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<tr>
<td>Section 408</td>
<td>USACE</td>
<td>12-18 months</td>
<td>4 months</td>
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<td>USACE &amp; SHPO</td>
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<td>CVFPB</td>
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<td>Section 401</td>
<td>CVRWQCB</td>
<td>3-6 months</td>
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Lessons Learned

• Need internal champions within key agencies
• Protect your champions & don’t wear them out
• Broaden the concept of ‘the team’ to include regulators
• Regular team meetings & conference calls
• Always follow up mtgs & calls with a record of ‘decisions made’ and assigned action items
Lessons Learned (contd.)

• Large bureaucracies don’t always feel comfortable travelling at high speeds
• Don’t assume large agencies are on the same page internally or have the same priorities
• Don’t assume the project’s virtues are self-evident - Keep selling project benefits
Questions?
Hydraulic Design Parameters

- KLRC Flood Design Flow is 20,000 cfs.
- During most flood conditions, Fremont Weir has overtopped so Bypass backwater controls.
- We checked 4,000 cfs, 10,000 cfs and 20,000 cfs KLRC flood flows in hydraulic model.
- No impact to flood water surface elevations.
- US Army Corps concurs.