Water Management
Technical Feedback Meeting

July 18, 2014
Sacramento, CA
Agenda Overview

• Comments on Recent Meeting Notes
• Water Supply Briefing
• Restoration Flows Releases
• Restoration Flow Guidelines
• Recapture / Recirculation
• Investment Strategy
• Part III
• Lecture Series: Unreleased Restoration Flows – Lessons Learned
• Public Comment / Next Meeting Dates and Locations
Comments on Meeting Notes
Water Supply Briefing
Restoration Flow Releases
Unreleased Restoration Flows (URFs)

- February 2014, Settling Parties suspended Restoration Flows in response to drought
- 12,694 af of URFs banked with FID
- 11,000 af to Class 1 contractors in 2014
  - 23 Agreements executed
  - 4,800 af delivered to date
Restoration Flow Guidelines
• Forecasting Restoration Flows, including tools for mitigating uncertainty.

• Gravelly Ford, minimum compliance point or flow target.

• Managing flood management releases to best meet riparian recruitment needs.
Recapture / Recirculation
# Recaptured Water (2010-2013)

<table>
<thead>
<tr>
<th>Contract Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recaptured (acre-feet)</td>
<td>52,000</td>
<td>35,740</td>
<td>103,000</td>
<td>90,000</td>
</tr>
</tbody>
</table>
2013 Recirculation

- Total Recaptured = 90 TAF
  - Banked Recapture = 6 TAF
  - Recirculated in 2013 = 41 TAF
  - Recirculated in 2014 = 43 TAF

Data: April 17, 2014
Long-Term R&R Plan

- Recirculation Chapter drafted with Friant Contractor input
- Critical Path: Recapture Chapter and associated operations agreements
- Plan progress on hold due to resource needs for drought and current FWA lawsuit
- Resume work on recapture after litigation resolved
Investment Strategy
Investment Strategy
Study Area
Water Users TM

October 2013
Administrative Draft Investment Strategy Report

April 2014
Evaluate 20 Priority Projects

• Appraisal-level designs and cost estimates
• Project implementation schedule and budget requirements for major project phases
  – Planning / NEPA / CEQA
  – Design, Permitting
  – Acquisitions, Agreements
  – Construction
• Rank Priority Projects for Future Funding
Project Site Visits & Meetings

- Madera ID
- City of Fresno
- Fresno ID
- Orange Cove ID
- Ivanhoe ID
- Tulare ID
- Kaweah Delta WCD
- Porterville ID, Saucelito ID, Terra Bella ID
- Lower Tule River ID
- Delano-Earlimart ID
- Shafter Wasco ID
- Arvin-Edison WSD
- Patterson ID, Banta Carbona ID, West Stanislaus ID
- Friant Water Authority
Draft Investment Strategy Dates

• July 2014 – Draft appraisal studies for review by each project proponent

• Sep 2014 – Draft Investment Strategy Report for review by Friant Districts

• Dec 2014 – Revised Draft Investment Strategy Report
Part III
Friant-Kern Canal Capacity Restoration

- Restore Design Maximum Flow Capacity and current design standards from MP 29.14 to MP 71.3

- Design-level 60%
  - Refining cost estimate earthwork assumptions and identifying non-essential pay items
  - Starting modification designs for affected bridges and drains
Madera Canal Capacity Restoration

• Originally combined with Friant-Kern Canal Restoration

• Identify, design and construct select demonstration projects

• Feasibility Study initiated, and first stakeholder meeting scheduled for July 28
Friant-Kern Canal Reverse Flow Pump-Back Project

- Red Bluff pumps and motors purchased and transported to FWA storage facility

- Feasibility study on hold
Pixley ID- Joint Groundwater Bank

• Site visit in April 2014, kickoff late July.
• Construction complete December 2017.

Porterville ID- In-Lieu Project

• Site visit/ kickoff July 2014.
• Construction complete December 2016.
Shafter-Wasco ID- Madera Avenue Intertie

- Engineering analysis in progress to update project description.

Tulare ID- Cordeniz Basin Construction & Exchange Program

- Kickoff/ site visit July 2014
- Environmental Compliance January 2015, construction December 2015
Lecture Series: Unreleased Restoration Flows Lessons Learned
Unreleased Restoration Flows (URFs)

• Paragraph 13(i) of Settlement
  – Restoration Flows commence no later than January 1, 2014
  – Restoration Flows that cannot be released from Friant Dam become URFs
  – Use URFs to best achieve the Restoration Goal, as determined by Reclamation
  – Established priority for banking, storing, exchanging, selling, and supplemental releases
## Projected Availability

<table>
<thead>
<tr>
<th>Restoration Year</th>
<th>Reach 2B Channel Capacity (cfs)</th>
<th>Weighted Average Availability (TAF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>810</td>
<td>63 – 117</td>
</tr>
<tr>
<td>2016</td>
<td>810</td>
<td>63 – 117</td>
</tr>
<tr>
<td>2017</td>
<td>810</td>
<td>63 – 117</td>
</tr>
<tr>
<td>2018</td>
<td>810</td>
<td>63 – 117</td>
</tr>
<tr>
<td>2019</td>
<td>810</td>
<td>63 – 117</td>
</tr>
<tr>
<td>2020</td>
<td>2,000</td>
<td>63 – 117</td>
</tr>
<tr>
<td>2021</td>
<td>2,000</td>
<td>15 – 31</td>
</tr>
<tr>
<td>2022</td>
<td>2,000</td>
<td>15 – 31</td>
</tr>
<tr>
<td>2023</td>
<td>3,000</td>
<td>0 – 10</td>
</tr>
<tr>
<td>2024</td>
<td>3,000</td>
<td>0 – 10</td>
</tr>
<tr>
<td>2025</td>
<td>3,000</td>
<td>0 – 10</td>
</tr>
<tr>
<td>2026</td>
<td>3,000</td>
<td>0 – 10</td>
</tr>
<tr>
<td>2027</td>
<td>4,000</td>
<td>-</td>
</tr>
</tbody>
</table>
• Recommendations
  – Prioritize Banking, Storing, and Exchanging
  – Execute agreements by March 1 of each Contract Year
  – Prioritize Friant Contractors
  – Practical and mutually acceptable
  – Cover projected volumes + 25%
February 2014 URFs

- February 2014, Settling Parties suspended Restoration Flows in response to drought
- 12,694 af of URFs banked with FID
- 70 days from concept to operational temporary pump facility to exchange the URFs
- 11,000 af to Class 1 contractors in 2014
  - 24 of 31 Agreements executed
Lessons Learned This Year

- Not possible to limit Agreements to just “a few” Friant Contractors
- Annual agreements are extremely time consuming to develop and track
- Exchange option not popular
- URFs pricing was a contentious issue
- Revenues generated not available without appropriation until 2020
Proposed 13(i) Concept

- URFs distributed to Friant Contractors on pro-rata basis
- Water rate pre-determined
  - Class 1 Contract rate base
  - Apply year type multiplier to base rate
- Revenues distributed directly to SJRRP without further appropriation
Example URFs rates

<table>
<thead>
<tr>
<th>Category</th>
<th>Contract Rate Multiplier</th>
<th>Per AF price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet</td>
<td>X 2</td>
<td>$66.34</td>
</tr>
<tr>
<td>Normal-Wet</td>
<td>X 3</td>
<td>$99.51</td>
</tr>
<tr>
<td>Normal-Dry</td>
<td>X 5</td>
<td>$165.85</td>
</tr>
<tr>
<td>Dry</td>
<td>X 8</td>
<td>$265.36</td>
</tr>
<tr>
<td>Critical High</td>
<td>X 12</td>
<td>$398.04</td>
</tr>
<tr>
<td>Critical Low</td>
<td>X 16</td>
<td>$530.72</td>
</tr>
</tbody>
</table>

Based on Class 1 Contract Rate = $33.17
### Example URFs Revenues

<table>
<thead>
<tr>
<th></th>
<th>Max Projected URFs, TAF</th>
<th>Revenue</th>
<th>Min Projected URFs, TAF</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet</td>
<td>99</td>
<td>$6,567,660</td>
<td>86</td>
<td>$5,705,240</td>
</tr>
<tr>
<td>Normal-Wet</td>
<td>115</td>
<td>$11,443,650</td>
<td>40</td>
<td>$3,980,400</td>
</tr>
<tr>
<td>Normal-Dry</td>
<td>46</td>
<td>$7,629,100</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dry</td>
<td>13</td>
<td>$3,449,680</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical High</td>
<td>12</td>
<td>$4,776,480</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Low</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Based on Restoration Flow capacity constraint = 1,100 cfs
Uses for URFs Revenues

• Purchase water
  – to supplement future Restoration Flows
  – for unexpected seepage losses
  – for buffer flows

• Accelerate completion of Phase I projects
Public Comment / Next Meetings
<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday</td>
<td>September 19, 2014</td>
<td>Visalia</td>
</tr>
<tr>
<td>Friday</td>
<td>November 21, 2014</td>
<td>Visalia</td>
</tr>
<tr>
<td>TBD</td>
<td>January 2015</td>
<td>Reno</td>
</tr>
</tbody>
</table>