San Joaquin River Restoration Program

Water Management Technical Feedback Meeting

Visalia, CA

March 16, 2018

Agenda

- Introductions
- 2017 In Review
- 2018 Outlook
- Water Management Goal Project Status
- Stakeholder Feedback
- Break
- Lecture Series: SCCAO Water Supply
- 2018 Meeting Schedule
- Adjourn

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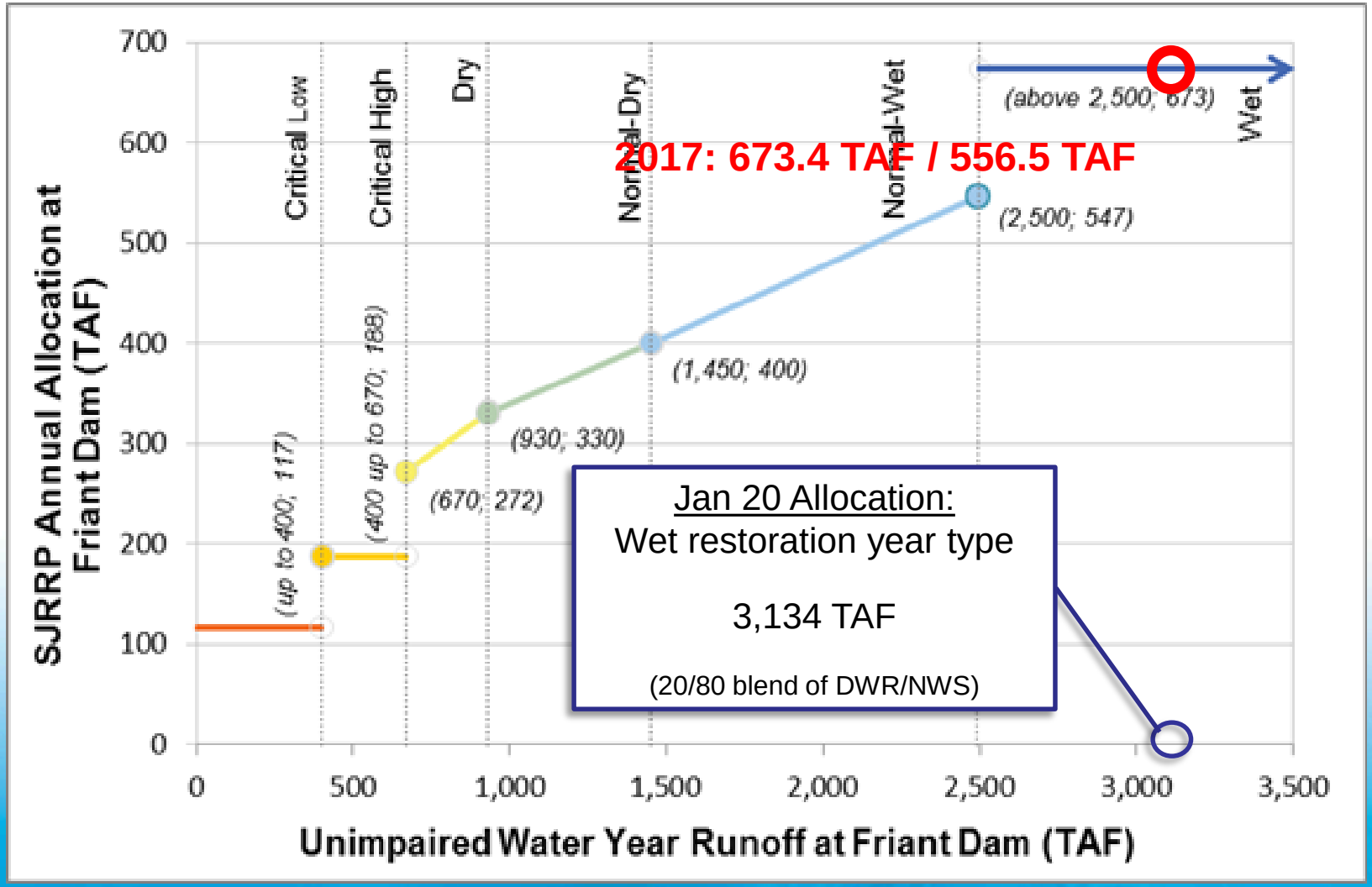
2017 IN REVIEW

2017 Hydrology

- 4.395 MAF – 2nd wettest year since 1900
- 240% of average runoff, 220% of average snowpack
- Higher proportion of rain:snow
- High snow levels due to warm storms
- Airborne Snow Observatory data used in 2017 to guide blending of DWR & NWS forecasts.
- Since early June, held in-house projection to 4.406 MAF

2017 Restoration Year Type



2017 Restoration Schedule

- Wet restoration year type
  - 673 TAF Friant Dam release / 557 TAF @ GRF
  - 150-300 cfs limit below Sack Dam in Spring & Summer
  - 189 TAF scheduled / 367 TAF Unreleased Restoration Flows (URFs)
  - Of the 189 TAF scheduled Restoration Flows, 97 TAF of those were flood flows.

2017 Restoration Schedule

- URFs
  - 364.967 TAF Gross Tier 1 (346.719 TAF Net)
  - $20/AF – no refunds for undelivered water
  - Not fully schedulable, tied to default hydrograph
  - Deliver by end of Uncontrolled Season
  - 2.491 TAF Gross for last minute URF Exchange
- Flood flows through July 21
  - Issue of Flood flows not meeting RA Recommendation at Sack Dam (0 cfs below Sack Dam)
  - Highlighted need for greater clarity in Restoration Flow Guidelines pertaining to flood flows

2017 Restoration Schedule

- Fall Pulse released two periods
  - 1,256 AF as early September pulse (within Flexible Flow Period)
  - Remainder of Fall pulse moved to February (outside of Flexible Flow Period, applied Water Supply Test)
  - 2,491 AF at end of year put into URF Exchange

2017 Restoration Schedule

- Gravelly Ford Accounting
  - Holding Contracts less than Exhibit B for over 2 months after flood flows
  - Inconsistency/Discrepancy with Settlement / Restoration Flow Guidelines on how to account
  - Feedback sought from Settling Parties and RA
  - Implemented interim procedure for accounting, use GRF flows, but adjust for “residual flood flows”

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2018 OUTLOOK

2018 Allocation

- January 20: 20/80 blending and 75% exceedance produced **741 TAF** Natural River Forecast
  - Dry
  - 171.178 TAF at Gravelly Ford
- February 16: 30/70 blending and 90% exceedance produced **525 TAF** Natural River Forecast
  - Critical-High
  - 70.919 TAF at Gravelly Ford
- March 16: 40/60 blending and 75% exceedance produced **928 TAF** Natural River Forecast
  - Dry
  - ~ 195 TAF at Gravelly Ford

2018 Forecasting Efforts

- Joint Forecasting
  - SJRRP and SCCAO meeting weekly to review data, blend DWR and NWS forecasts, and direct scientific efforts
  - Apprentice training
  - Staff supporting other efforts (DWR, ARS, ASO)
- NASA ASO
  - First flight March 4-5 for portion of watershed
  - Funding constrained, difficulty of getting $ to NASA
  - Early April and May fights planned to coincide with snow course sampling

2018 Forecasting Efforts

- Agricultural Research Service
  - iSnoBal model to track snowpack between ASO flights
  - Biweekly reports
  - Model driven by high-resolution forecast to melt and accumulate snow between ASO flights
  - Model development proceeding well
- Univ of Colorado Boulder / NASA
  - Satellite based snow-cover product
  - Monthly reports (perhaps biweekly in future)
  - Seeking integration with NASA ASO, ARS iSnoBal

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WATER MANAGEMENT GOAL PROJECT STATUS

Madera Canal Projects

Low Flow Valve

- Valve installed in August 2017
- Valve Testing completed February 2018

Madera Canal Capacity Restoration

- Selected measures to proceed as separate projects
  - CWD Improvements
  - Fresno River Diversion

FKC Capacity Restoration

- Original project formulation infeasible with authorized funding
- Working with Friant Contractors to reformulate alternatives and focus on subsidence area
- Seeking additional authorizations and funding sources to implement a more comprehensive solution

Groundwater Financial Assistance

Tulare ID - Cordeniz Basin

- 80-acre basin
- Groundbreaking: December 2015
- Complete: Summer 2019

Shafter-Wasco ID - Madera Avenue Intertie

- 270-acre recharge basin at Kimberlina Rd.
- Recharge ponds complete
- Flood water turned out into them in 2017

Groundwater Financial Assistance

Porterville ID - In-Lieu Project

- Connects two service areas (2,170 acres) to surface supplies from the Wood-Central Ditch and Friant-Kern Canal
- Construction started August 2017

Pixley ID - Joint Groundwater Bank

- 560-acre bank; 4.5 mile pipeline; new FKC turnout
- FONSI signed December 28, 2017
- Initiation of construction pending CEQA litigation

Recapture & Recirculation

2017 Recapture – 26,000 AF

- 17,000 AF at Patterson and Banta-Carbona Irrigation District facilities
- 9,000 AF at Mendota Pool

R&R Plan

- Delta Recapture pilot plan, Draft 2017
- Recirculation Chapter update – workshop tentatively planned for summer 2018

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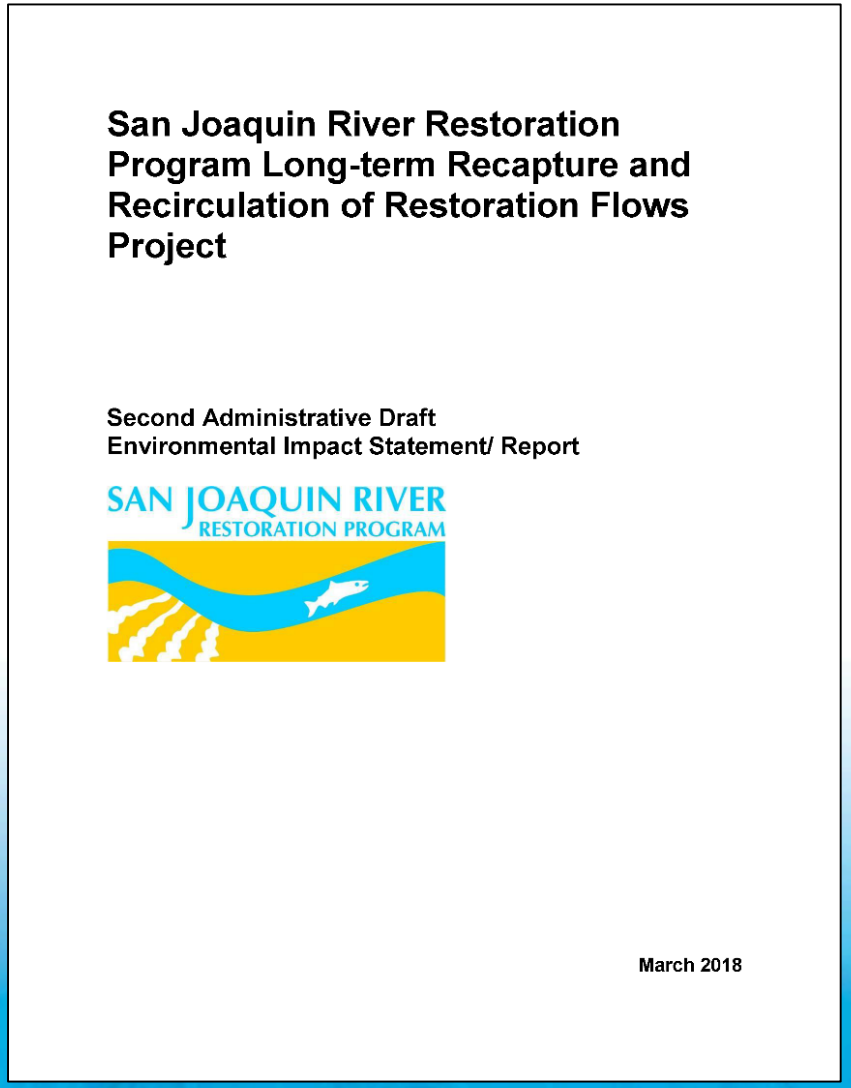
LONG-TERM RECAPTURE AND RECIRCULATION OF RESTORATION FLOWS EIS/R

Overview

- Administrative Draft EIS/R Review
- Alternatives Under Consideration
- Baselines Evaluated in the EIS/R
- Preliminary Findings
  - Resource Areas Potentially Affected by Operations
  - Resource Areas Potentially Affected by Construction
- Next Steps and Schedule

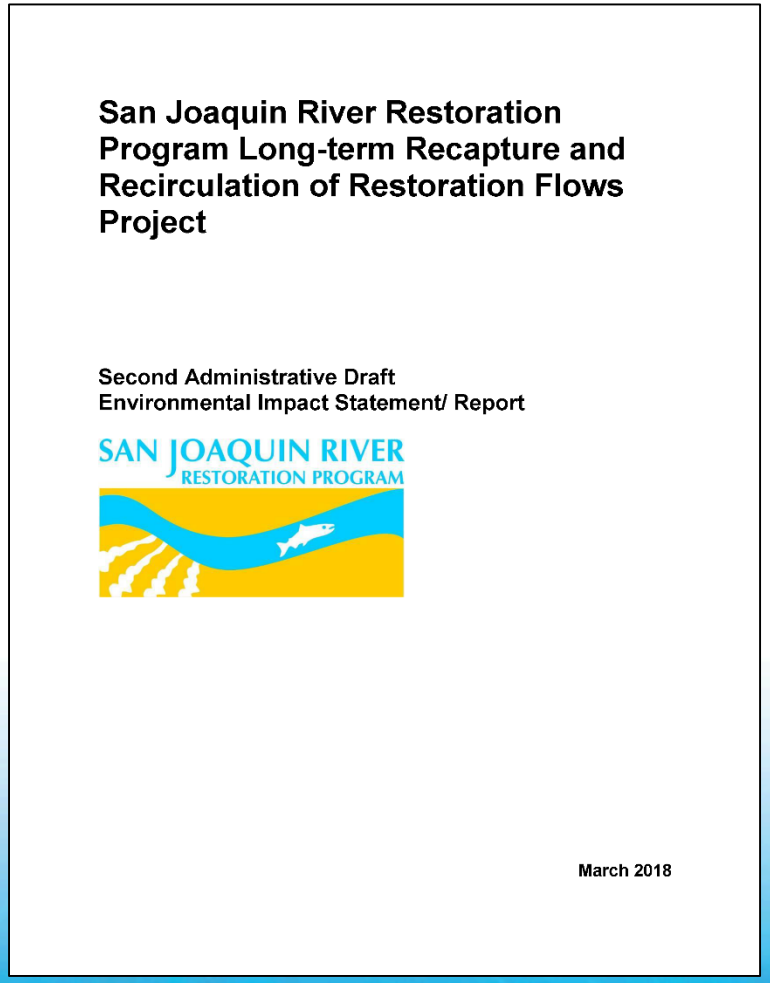
2nd Administrative Draft Review

- Administrative Draft EIS/R will be shared with Settling Parties and Cooperating Agencies for review and input
- Feedback received will be incorporated into the Public Draft EIS/R scheduled for completion later this year



EIS/R Alternatives

- Alternative 1 - No Action/No Project
- Alternative 2 – Continue Existing Temporary Recirculation Actions
- Alternative 3 – Maximize Use of Existing Facilities
- Alternative 4 – Expand Existing Facilities
- Alternative 5 – Construct New Facilities



Baselines Evaluated in the EIS/R

- Existing Conditions – reflects conditions at the time of the CEQA NOI which includes:
  - Elements of the Settlement evaluated at a project level in the PEIS/R that are currently underway
  - Unreleased Restoration Flows that have ranged annually from zero to the full Restoration Allocation
  - Restoration Flows below Sack Dam at 300 cfs
  - Recapture in the Restoration Area and at the Delta Pumps
  - Recirculation of recaptured Restoration Flows

Baselines Evaluated in the EIS/R

- No Action/No Project Alternative – reflects reasonably foreseeable future conditions in the absence of this project which includes:
  - All elements of the Settlement evaluated at a project level in the PEIS/R under Alternative C1
  - Unconstrained release of Restoration Flows
  - Recapture in the Restoration Area and at the Delta Pumps
  - Other elements of the SJRRP that have made substantial progress towards implementation

Preliminary Findings – Operations Effects

- Long-term operations-related impacts evaluated under all of the alternatives
- Resources with long-term effects identified include:
  - Air Quality
  - Bio Resources – Fisheries
  - Bio Resources – Veg. & Wild.
  - Climate Change
  - Groundwater
  - Hydrology – Surface Water
  - Hydrology –Water Quality
  - Land Use and Ag Resources
  - Noise
  - Recreation
  - Utilities and Service Systems

Preliminary Findings – Construction Effects

- Short-term construction-related impacts limited to Alts 4 & 5
- Resources with construction impacts requiring mitigation include:
  - Air Quality
  - Bio Resources – Fisheries
  - Bio Resources – Veg. & Wild.
  - Climate Change
  - Cultural Resources
  - Geo and Soils
  - Land Use and Ag Resources
  - Noise
  - Paleontological Resources
  - Hazardous Materials
  - Traffic and Transportation
  - Utilities and Service Systems
  - Visual Resources

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Next Steps and Schedule

November 2015

Scoping Report

March 2016

Initial Alternatives Report

September 2017

Project Description Memo

September 2017

Kickoff EIS/R

Winter 2017/2018

Evaluate Alternatives

March/April 2018

Settling Party & Coop Agency Review EIS/R

Summer 2018

Draft EIS/R

We Are Here

Stakeholder Outreach

FKC Reverse Flow Pump-Back Project

STAKEHOLDER FEEDBACK

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Questions?

BREAK

LECTURE SERIES

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NEXT MEETINGS

Next Meetings

Date	Location
May 2018	Visalia
Summer 2018 workshop	TBD
September 2018	Sacramento