# San Joaquin River Restoration Program

# Water Management Technical Feedback Meeting

Visalia, CA

**May 18, 2017**

# Agenda

- Introductions
- 2017 Operations
- Plans and Guidelines Updates
- Break
- Water Management Goal Project Status
- Lecture Series Part I: Airborne Snow Observatory
- Lecture Series Part II: FKC Subsidence
- Adjourn

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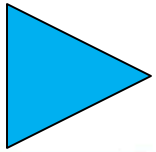
# 2017 OPERATIONS

# 2017 Hydrology

- 26 Wet Year Types since 1900
  - 1983 4.64 MAF
  - 1906 4.37 MAF
  - 1969 4.04 MAF
- 2017 Natural River Forecast based on 40/60 blending of DWR/NWS forecasts
  - 90% 4.19 MAF
  - 50% 4.35 MAF
  - 10% 4.60 MAF



2nd or 3rd wettest in record

- Peak snowpack *only* 2.4 MAF / high proportion of rain precipitation (45%)
- San Joaquin/Kings have the highest percent of normal precipitation

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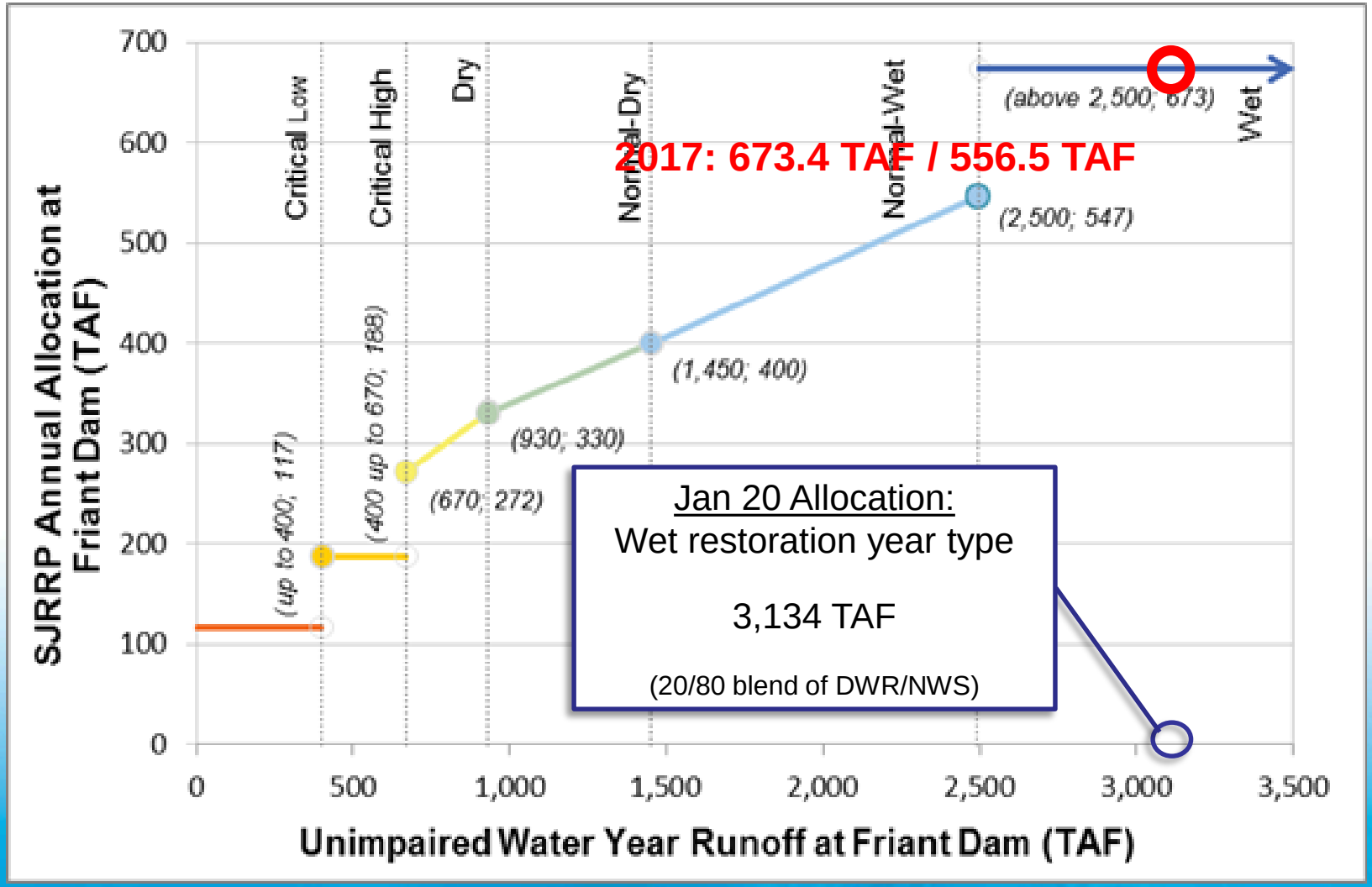
# After Wet Year Pattern

The historic record shows minimal bias after Wet Years. Of the 26 wet years since 1900:

| Year Type after a Wet Year | Number of Actual Occurrences | Number of Expected Occurrences |
|---|---|---|
| Wet | 4 | 5 |
| Normal-Wet | 8 | 8 |
| Normal-Dry | 8 | 8 |
| Dry | 5 | 4 |
| Critical-High | 0 | 1 |
| Critical-Low | 0 | 0 |

# 2017 Restoration Year Type



# 2017 Restoration Allocation

- January 20 Initial RF Allocation
  - Wet restoration year type
  - 673 TAF Friant Dam release / 557 TAF @ GRF
- March 14 Updated Allocation
  - Same Result
- April 21 RA Recommendation
  - 300 cfs limit below Sack Dam in Spring & Summer
  - Changeover to RFs at end of flood flows
  - 197 TAF scheduled / 359 TAF Unreleased Restoration Flows (URFs)

# Reservoir Operations Update

- Uncontrolled Season from Jan 3, 2017 - ?
  - UcS and Flood Flows projected to end between June 25 and July 31
- Between March 1 and May 15:
  - 767.5 TAF Flood Flows and Holding Contracts, plus 61.8 TAF Restoration Flows as Flood Flows
  - 420.5 TAF Canal Flows (incl addtl flood flows), including 170.8 TAF delivered URFs
- If Uncontrolled Season ends July 1
  - 98.6 TAF Actual Restoration Flows scheduled beyond this date

# 2017 Restoration Flow Schedule

- Default Hydrograph Flows through summer
- Fall and Winter flows will have greater specificity in subsequent RA Recommendation
- Groundwater levels (Seepage Mgmt Plan) may limit Restoration Flows in Reach 2 and 3
- Expecting 300 cfs limitation below Sack Dam (more than enough for summer flows)
- Possibly 500 - 700 cfs limitation below Sack Dam by Fall

*RA Recommendation posted on RestoreSJR.net*

# Flood Flow Transition

- A gentle roll-off is sought for end of SJR flood flows
  - For example, ramp down from 2000 cfs to 500 cfs over several days
  - Built into Mil Ops spreadsheet / track falling of Millerton inflow
- Prevents fish stranding in floodplains / bypass, minimized bank collapse
- Allows groundwater levels to subside in advance or switchover to Restoration Flows
- Designed to have de minimus impact upon water supply

# 2017 URF Outlook

- 359 TAF Expected with Current RA Flow Schedule
  - Water Supply Test (to protect Friant Water Supply) applied to management of URFs
  - Recipients must deliver Tier 1 URFs prior to the end of Uncontrolled Season to ensure they are not spilled (converted to water supply)
  - No Exchanges in 2017 / All sales
  - If Flood Flows end prior to July 1, then remaining portion of URFs could have used for their original purpose of Riparian Vegetation Recruitment flows

# 2017 URF Allocation

- Tier 1 ($20 – no surcharges, no refunds)
  - Offered to Class 2 contractors first
  - Block 1 of 237,499 AF (250,000 AF gross)
  - Block 2 of 64,999 AF (68,420 AF gross)
  - Block 3 of 38,293 AF (40,308 AF gross) to be allocated 5/19/17
  - Must deliver before the end of Uncontrolled Season
- Tier 2 (Variable Price ~ $24 – no surcharges)
  - Only utilized if Millerton Reservoir is under control
  - Fully schedulable / no risk of spill
  - Price = (275,000 / Runoff in TAF) – 40
  - Not available in 2017, all Tier 1

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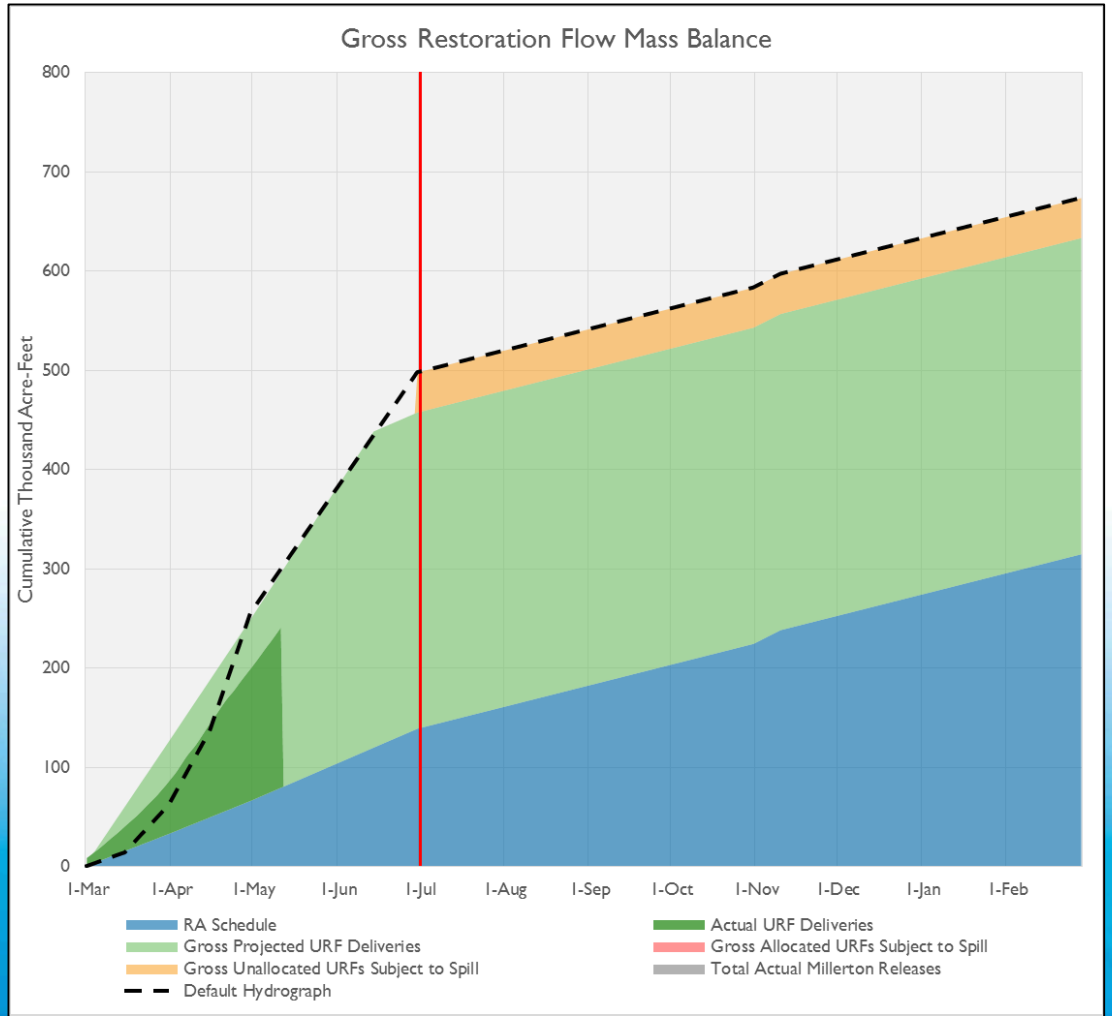
# URF Visualization Tool

- Excel-based tool distributed weekly
- URF deliveries + RF @ GRF ≥ Exhibit B hydrograph



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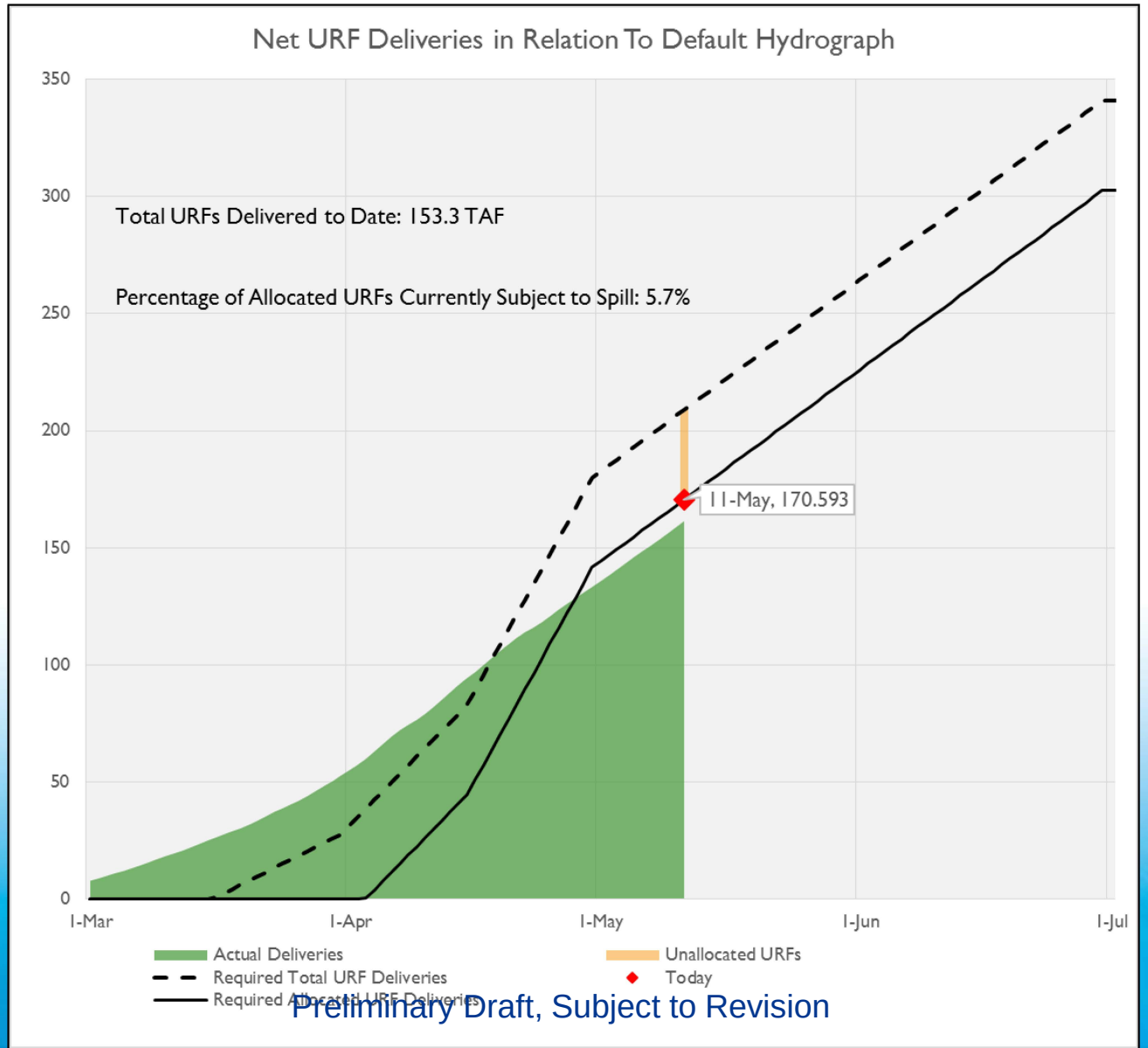

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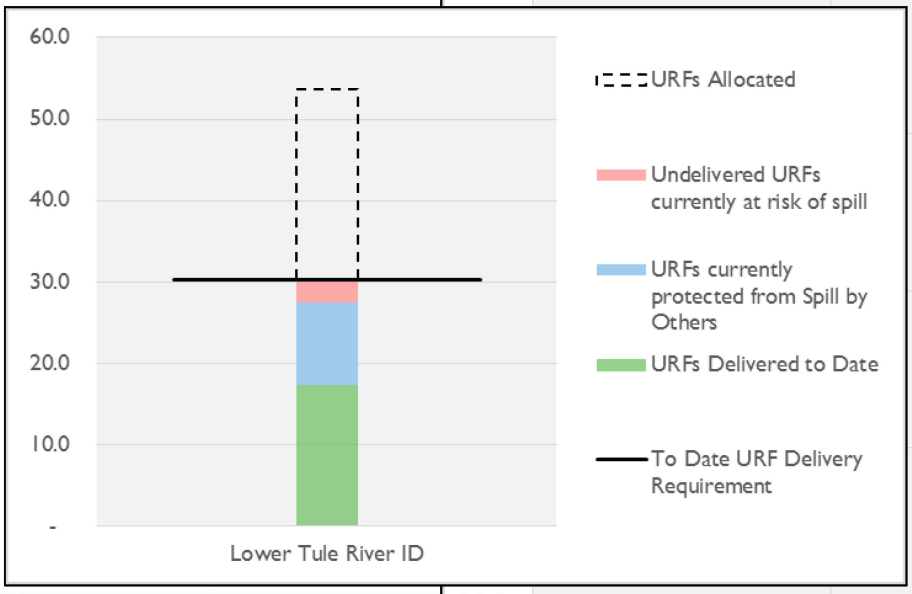





Preliminary Draft, Subject to Revision

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# PLANS AND GUIDELINES UPDATES

# RWA Small Group

- Meetings March - May
- Pupose:
  - Address technical issues with RWA model
  - Incorporate URFs and Buffer Flows into calculation
  - Clarify RFG Chapter 8 and Appendix H text
- Outcome:
  - Updated/clarified RFG text
  - Improved RWA impact model
  - List of issues for RWA Policy Group

# RWA Policy Group

- Meetings June - August
- Discussion Topics:
  - Very negative or positive RWA balances
  - RWA credit advances
  - How is 16(b) water identified
  - How is 16(b) water allocated
  - Other topics identified by RWA technical group or Settling Parties

# RFG Topics for 2017

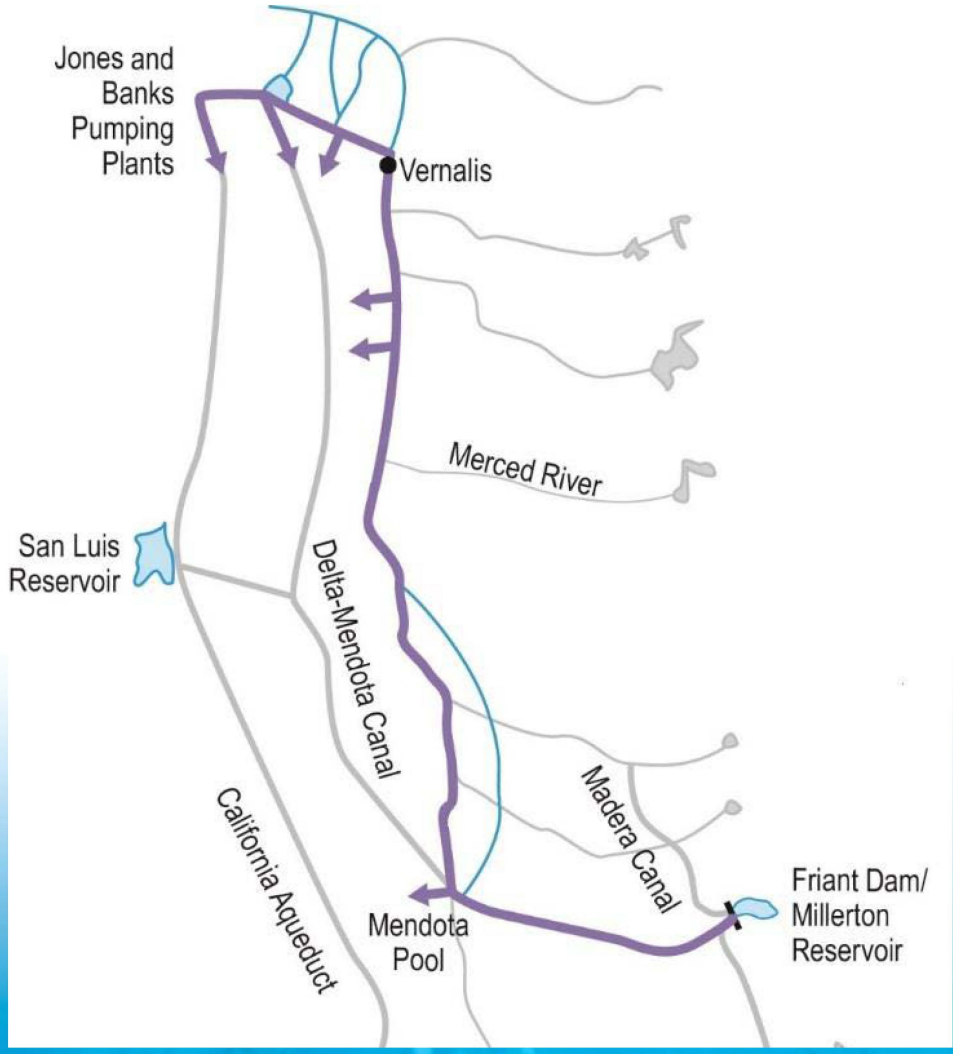
- Forecasting Best Practices (Appendix I)
- Flexible Flow Provisions
  - Moving flows within and between seasons (transfers within the hydrograph)
  - Test for non-impact to Friant water supply
- URFs
  - URF spill / test for non-impact to Friant Water Supply
  - Unallocated URFs
- Buffer Flows
  - Based on Friant Dam or Gravelly Ford
  - Calculated from RA Schedule or Default Hydrograph

# RFG Timeline

- RWA Calculation and Management
  Spring 2017
- Forecasting Best Practices
  Summer 2017
- Flexible Flow Provisions/URF/Buffer Flows
  Summer 2017 – Winter 2017/2018
- Gravelly Ford/Monitoring/Flood Flows/
  Unexpected Seepage Losses
  2018-2019

# Recapture and Recirculation Plan

- Pleasant Valley Water District FONSI
- Recapture at Patterson and Banta-Carbona FONSI and temporary point of diversion
- Recapture & Recirculation Plan – restart June 2017



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# WATER MANAGEMENT GOAL PROJECT STATUS

# Long Term R&R EIS/EIR

- Project Description Technical Memorandum
  - Summarizes the alternative formulation process
  - Documents the alternatives evaluation methods and results
  - Describes the alternatives to be evaluated in the LTRRRF EIS/EIR, including the No Action Alternative
  - Serve as the basis for the project description that will appear in the LTRRRF EIS/EIR
- TM Available to the Public in June 2017

# Long Term R&R EIS/EIR

- Friant Water Authority is now the CEQA Lead Agency
  - Notice of Preparation of an EIS/EIR was posted on the State Clearinghouse Website on May 2nd
  - Scoping meeting for the CEQA EIR is being held today by the Authority
- Work on EIS/EIR is starting
  - Biological and cultural resources field surveys are tentatively planned for early June 2017
  - Second Administrative Draft EIS/EIR currently scheduled for completion in early Spring 2018

# Friant-Kern Canal Projects

**FKC Reverse Flow Pump-Back**

- $3.3M Financial Assistance Agreement awarded to FWA in August 2016
- FWA Contractor Status

**FKC Capacity Restoration**

- Original project formulation infeasible
- Project on hold until Friant Contractors determine next steps

# Madera Canal Projects

## Madera Canal Capacity Restoration

- Feasibility Report and NEPA analysis
  - Settling Party draft – Summer 2017
  - Public Draft EA – Fall 2017

## Low Flow Valve

- Valve in fabrication
- Construction to begin to mid-summer 2017 following the completion of the Hatchery Water Supply project

# Groundwater Financial Assistance

**Tulare ID - Cordeniz Basin**

- 80-acre basin
- Groundbreaking: December 2015
- Complete: Summer 2017

**Shafter-Wasco ID - Madera Avenue Intertie**

- 270-acre recharge basin at Kimberlina Rd.
- All ponds are currently operational and flood water turned out into them

# Groundwater Financial Assistance

**Pixley ID - Joint Groundwater Bank**

- 560-acre bank; 4.5 mile pipeline; new FKC turnout
- Revised Draft EA released April 17, 2017
- Comment period closed May 16, 2017

**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 anticipated to start late-July

# Part III Workshop

- Workshop purpose:
  - Review Program, Guidelines, and Selection considerations
  - Share lessons learned from existing projects
  - Spur planning for FY20 funding (Oct 2019)
- FOA schedule:
  - Develop with Friant Contractor input in FY18
  - Release mid-FY19
  - Award early-FY20
- Guidelines posted:
  restoresjr.net /download/program-documents/program-docs-2012/201208_Part_III_ Guidelines_final.pdf

# Questions?

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# LECTURE SERIES PART I: AIRBORNE SNOW OBSERVATORY

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# LECTURE SERIES PART II: FRIANT-KERN CANAL SUBSIDENCE

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# NEXT MEETINGS

# Next Meetings

| Date | Location |
|---|---|
| September 15, 2017 | Sacramento |
| Jan/Feb 2018 | Visalia |
| May 2018 | Visalia |
| Summer 2018 workshop | TBD |