



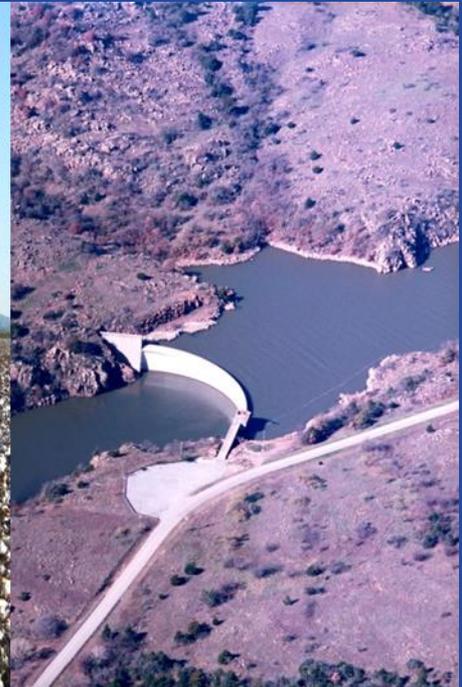
**RECLAMATION**  
*Managing Water in the West*

# Building Resiliency to Drought through WaterSMART

Presentation for IFC FLOW 2018 Workshop  
April 25, 2018

# Reclamation's Mission

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.





# Reclamation Offices



 Area Offices  
 Commissioner's Office  
 Regional Offices  
 Western Rivers

**Reclamation Regional Boundaries**

**Region**

-  Great Plains
-  Lower Colorado
-  Mid-Pacific
-  Pacific North West
-  Upper Colorado
-  States

Map produced by Bureau of Reclamation  
 Contact: [kschultz@usbr.gov](mailto:kschultz@usbr.gov)

# WaterSMART Program

Supports Reclamation's mission through collaboration with stakeholders to improve water management, increase conservation, and stretch scarce water resources



**Basin Study Program**

Collaborative Planning



**Title XVI Program**

Water Reclamation and Reuse



**WaterSMART Grants**

Water Conservation and Efficiency



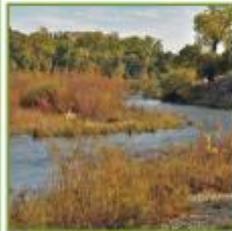
**Water Conservation Field Services Program**

Water Conservation Planning and Design



**Drought Response Program**

Planning and Building Resiliency



**Cooperative Watershed Management Program**

Watershed Management and Restoration

# History of Drought Program

- Reclamation States Emergency Drought Relief Act of 1991 (P.L. 102-250) (Drought Act)
- Program reformulated in 2015 to support a proactive approach for non-Federal partners to prepare for and respond to drought



# Objective of Drought Program

## Drought preparedness to:

- Identify vulnerabilities and mitigation actions to reduce risks
- Improve coordination and cooperation among key entities, and development of procedures for monitoring, assessing, and responding to drought
- Reduce impacts of drought, and conflicts between water users

# Drought Response Program



**Drought  
Contingency  
Planning**



**Drought  
Resiliency  
Projects**



**Emergency  
Response  
Actions**

# Drought Response Program Drought Contingency Plans

The **East Bay Municipal Utility District** and other regional water management agencies within the Bay Area in California will develop a drought contingency plan

The **Washington State Department of Ecology** will update its drought contingency plan, last published in 1992.

The **Dolores Water Conservancy District in Colorado** will develop a drought contingency plan with the Ute Mountain Ute Tribe Farm and Ranch Enterprise, and the Montezuma Valley Irrigation Company.



# Drought Response Program

## Drought Resiliency Projects

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### Eligible Projects Include:

- **Infrastructure Improvements**
  - Modifying surface water intakes
  - New conveyance system components
  - Additional water storage
  - Aquifer Storage and Recovery
  - Capture and treat alternative supplies
- **Decision Support Tools & Modeling**
  - Tools to support water marketing
  - Tools to convey water supply information
  - Measurement
- **Environmental Protection**
  - Improve habitat
  - Install fish screens and ladders



# Merced Irrigation District



**Merced River Subbasin**  
**MIDH2O**  
**Merced Irrigation District**  
**Hydrologic and Hydraulic Operations Model**

Prepared By:



1760 Creekside Oaks Drive, Suite 280, Sacramento, CA 95833  
 Phone: (916) 239-7244

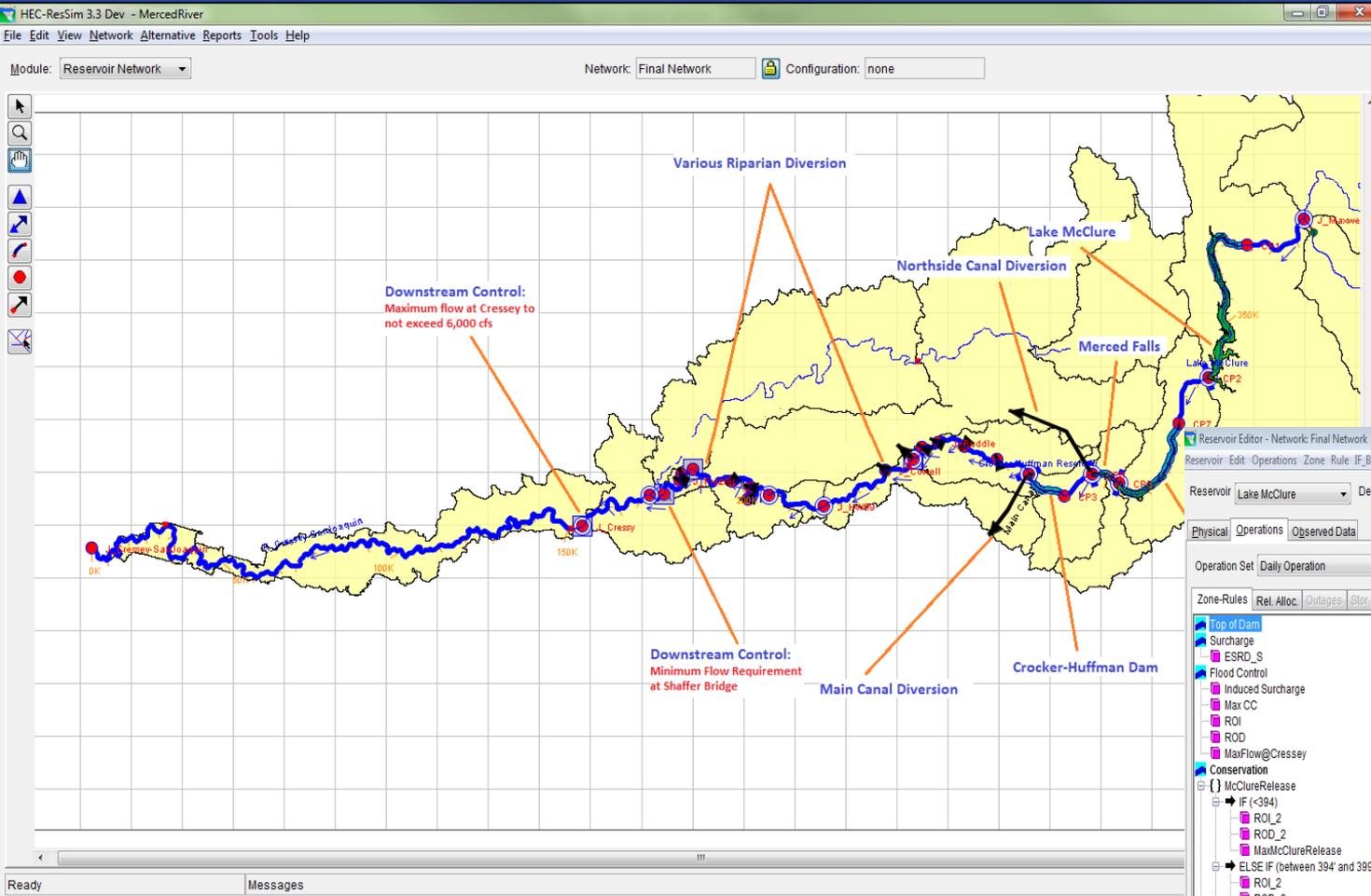
Prepared For:



744 W. 20th Street, Merced, CA 95340  
 Phone: (209) 722-5781



# Merced Irrigation District MIDH20



Reservoir Editor - Network: Final Network

Reservoir Edit Operations Zone Rule IF Block

Reservoir: Lake McClure Description

Physical Operations Observed Data

Operation Set: Daily Operation Description

Zone-Rules: Rel. Alloc. Outages Stor. Credit Dep. Sched. Projected Elev

- Top of Dam
- Surcharge
- ESRD\_S
- Flood Control
  - Induced Surcharge
  - Max CC
  - ROI
  - ROD
  - MaxFlow@Cressey
- Conservation
  - McClureRelease
    - IF (<394)
      - ROI\_2
      - ROD\_2
      - MaxMcClureRelease
    - ELSE IF (between 394 and 399)
      - ROI\_2
      - ROD\_2
      - MaxMcClureRelease
    - ELSE IF (> Max Pool Elev)
      - MinRelease
  - Max CC
  - Max Flow@Cressey
  - LimMcSwain
  - Inactive

Storage Zone: Top of Dam Description

Function of Date

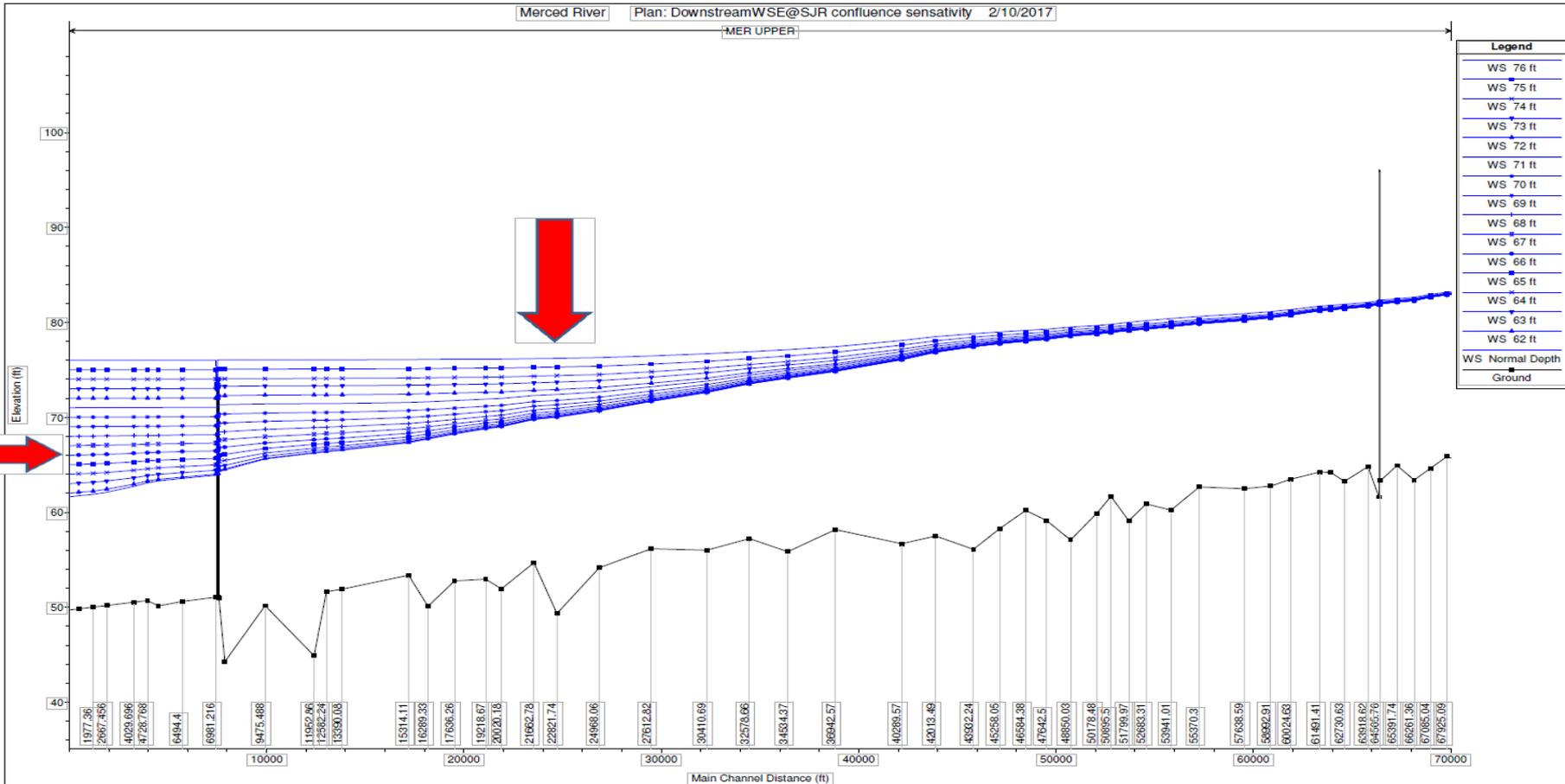
Date	Top Elevation (ft)
01Jan	882.0

Elevation (ft) graph showing a peak around 880 ft in January.

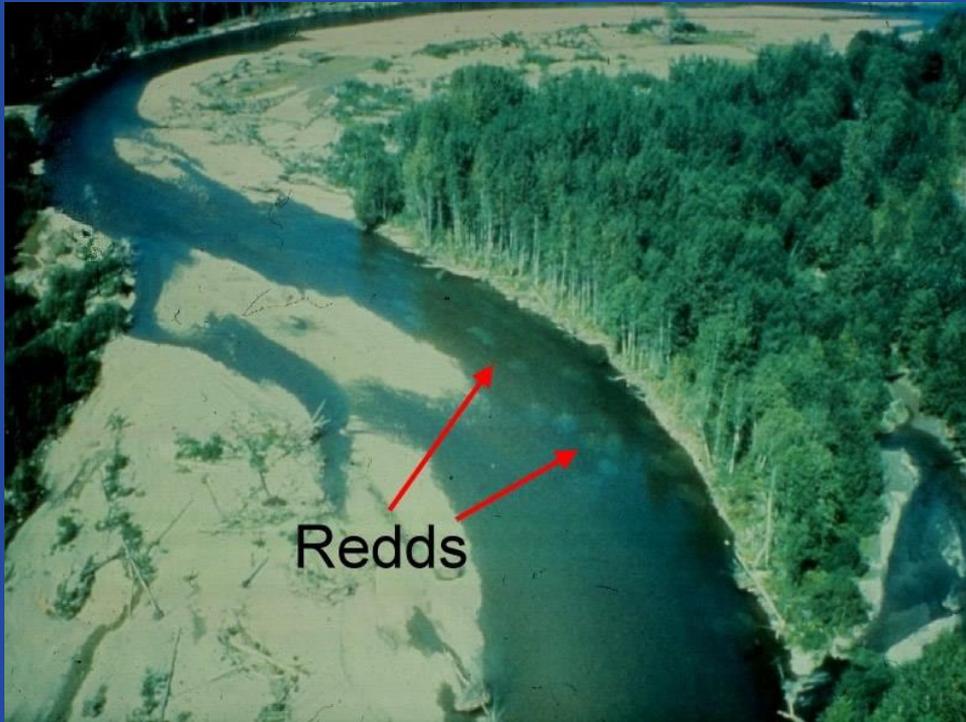
Zone Sort Elevation

OK Cancel Apply

# Stevinson Gage on the Merced River

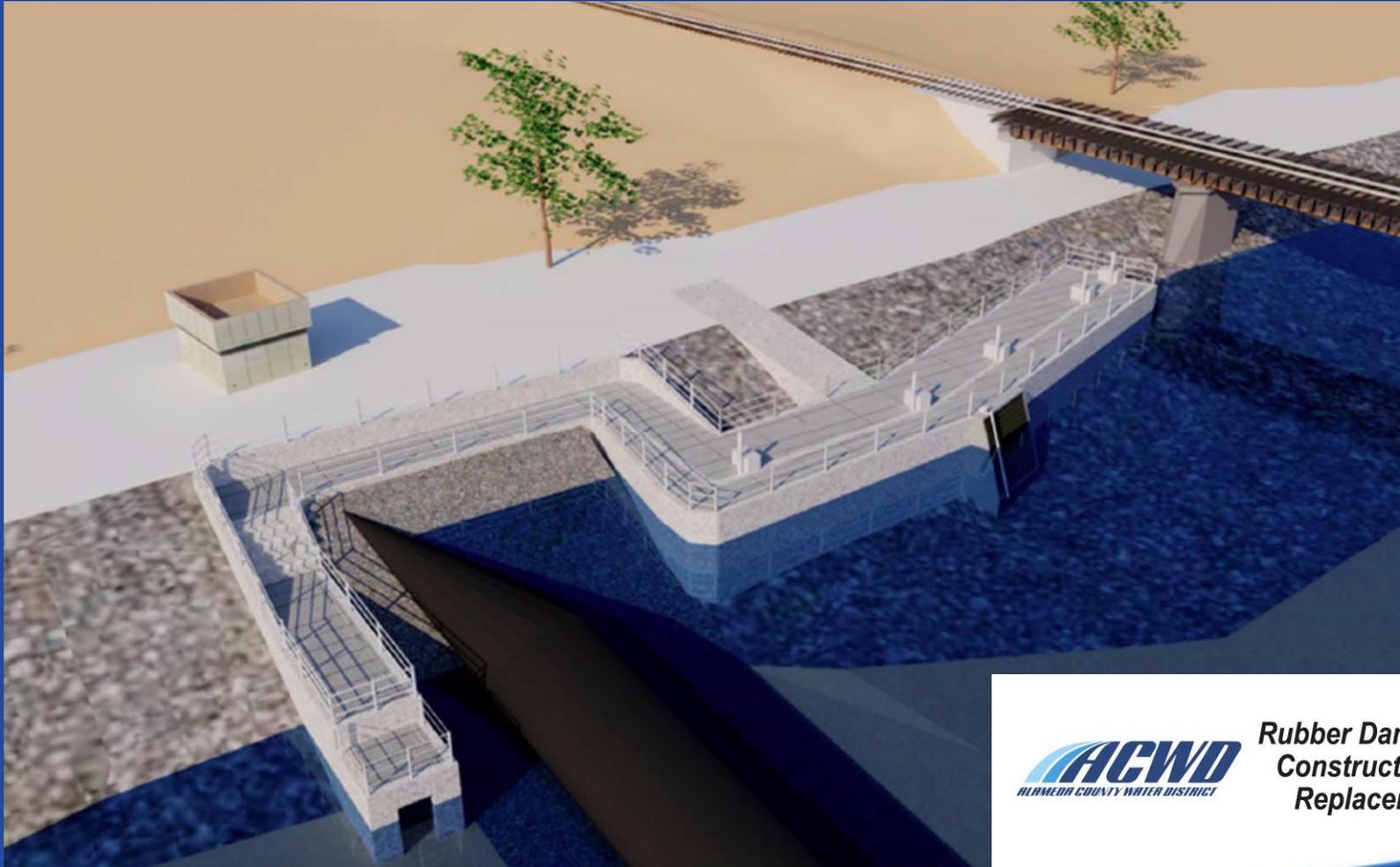


# Merced Irrigation District



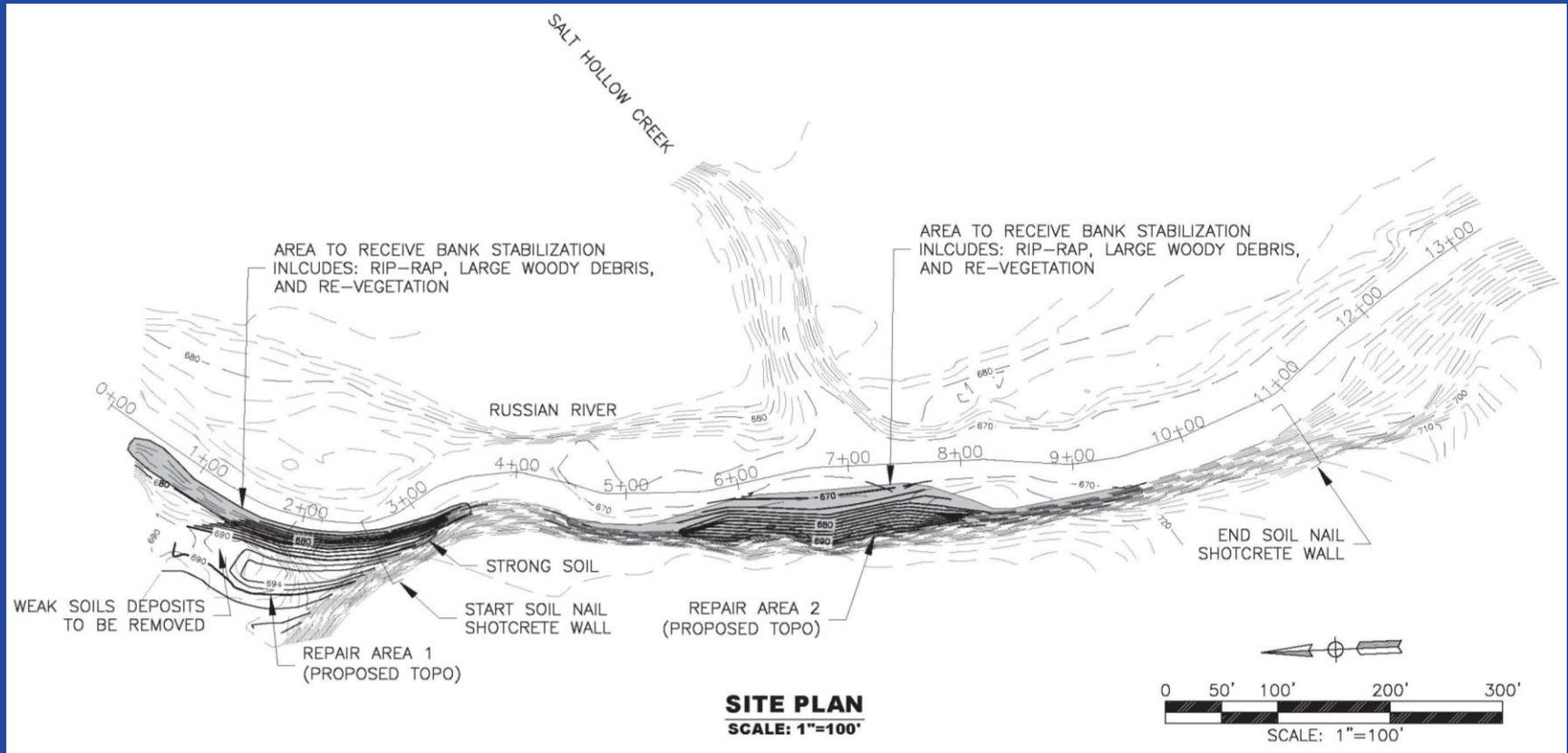
Protection of redds  
while maintaining  
safe stages  
downstream and  
reducing risks for  
the protection and  
safety of the New  
Exchequer Dam

# Alameda County Water District



**Rubber Dam No. 3 Fishway  
Construction and Fabric  
Replacement Project**

# Coyote Valley Band of Pomo Indians



**COYOTE VALLEY**  
*Band of Pomo Indians*

# Round Valley Indian Tribes



Mill Creek Streamflow &  
Riparian Restoration

# Round Valley Indian Tribes



Mill Creek  
Streamflow &  
Riparian Restoration



# Cooperative Watershed Management Program (CWMP)

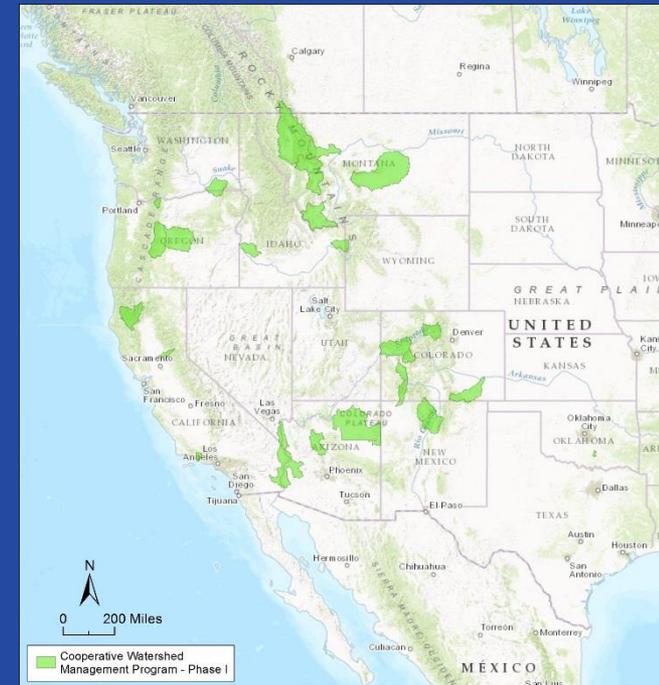
**\*\*Support for local, collaborative watershed groups representing diverse interests\*\***

## Watershed Group Development and Restoration Planning (Phase I):

- ✓ 2012-2016, \$2.4M invested in 30 groups in nine states

## Watershed Management Projects (Phase II):

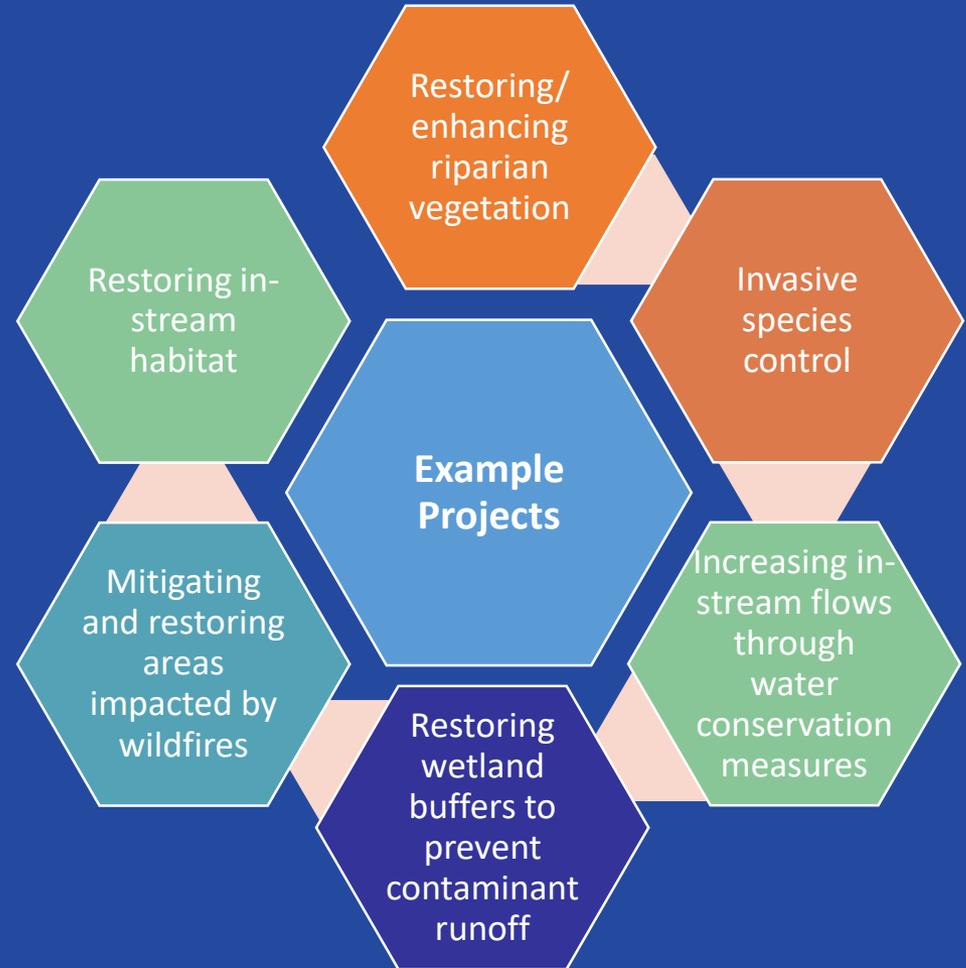
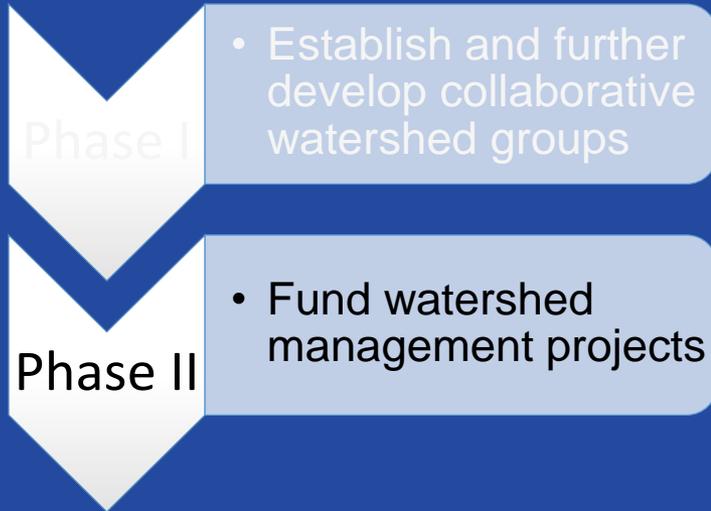
- ✓ NEW in FY 2017
- ✓ In 2017, \$565,000 toward 6 projects



Map of Phase I CWMP Projects 2012-2016

# WaterSMART

## Cooperative Watershed Management Program



# Eagle River Watershed Council, Colorado

## Abrams Creek Cutthroat Habitat Flow Restoration and Irrigation Efficiency Project

- **Partners:** Trout Unlimited, Colorado Parks and Wildlife, and Buckhorn Valley Metropolitan District.
- **Project:** Piping 21,790 linear feet section of the JPO ditch.
- **Benefits:** The approximately 300 acre-feet of saved water will increase base flows in Abrams Creek, which supports a core conservation population of Green-Lineage Cutthroat and currently suffers from low flows.

# Friends of Teton River, Idaho

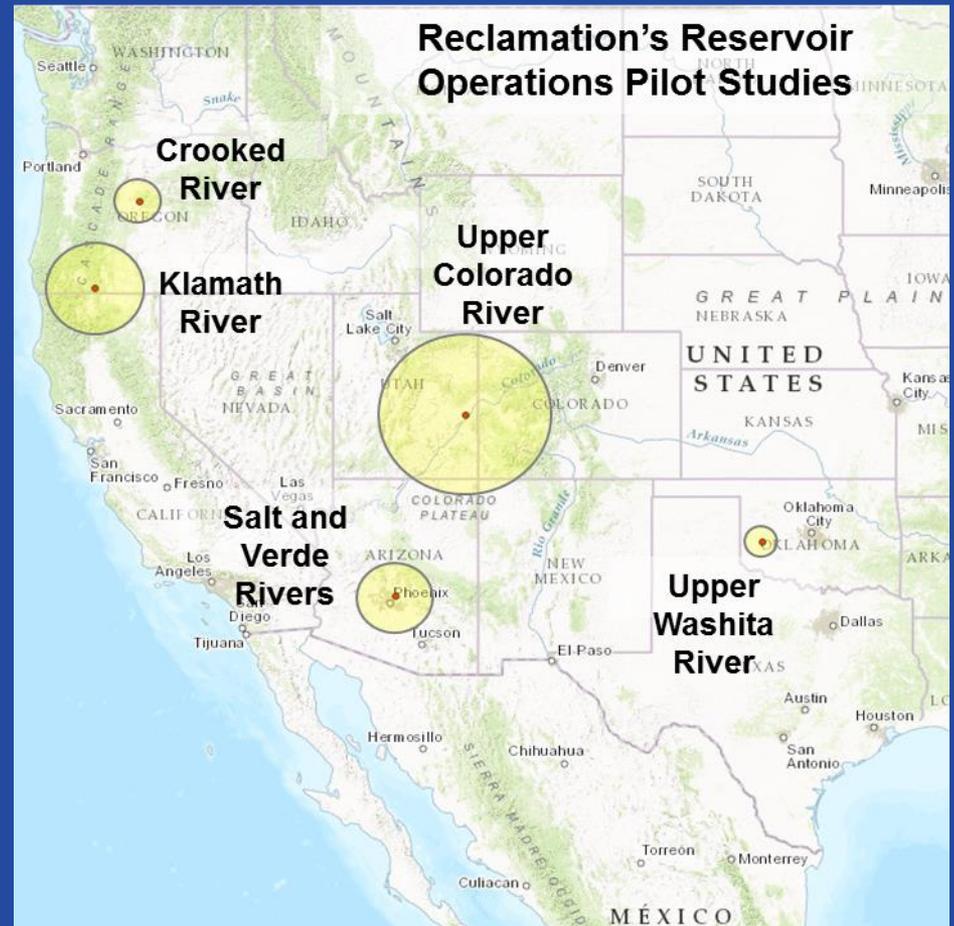
Improving Ecological Resilience through Water Management Activities in the Teton River Watershed

- **Project:** Voluntary, Incidental recharge program. Group will work with irrigators to divert water through canals early in the irrigation season.
- **Benefits:** Increase recharge into aquifer, which is overdrafted, and increase base flows in the Teton River during critical summer months, reducing calls by downstream seniors and providing cooler, cleaner flows benefitting fish, including native Yellowstone Cutthroat Trout.

# Reservoir Operations Pilot Initiative and Reclamation-wide Guidance

Focus of pilot initiative and guidance

- Incorporating **better scientific information** into operations (e.g., forecasting, sedimentation, planning models for operations, Federal coordination)
- Optimizing operations within **existing water management frameworks**
- Identifying locations to **update operating criteria** to improve water management



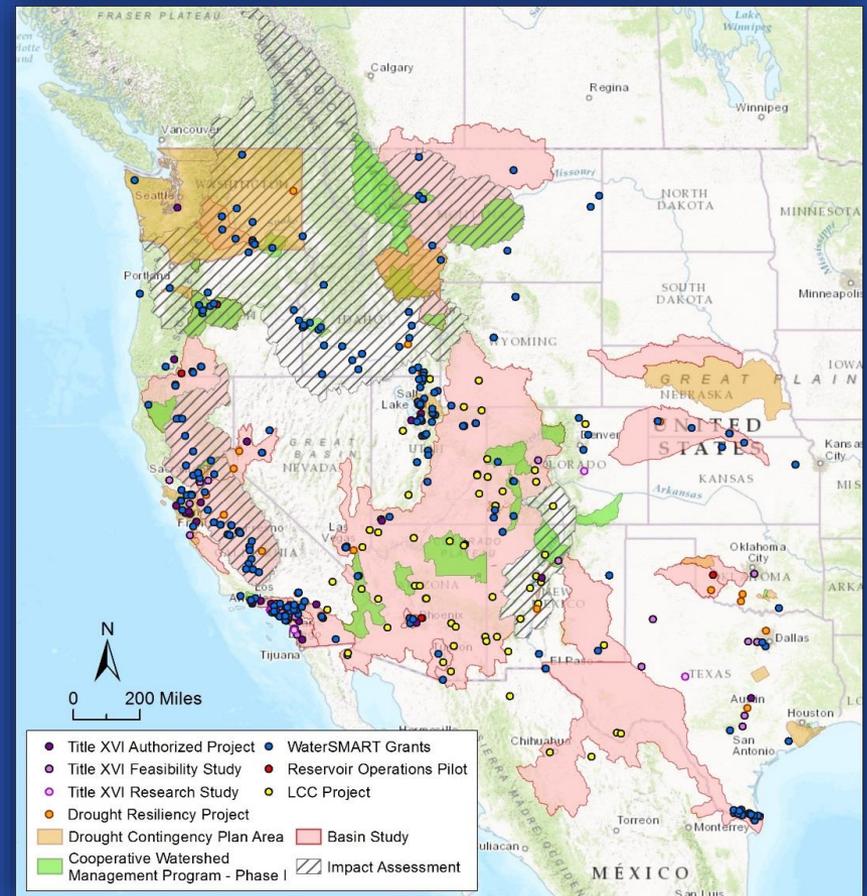
# WaterSMART Data Visualization Tool

Data visualization site is an interactive companion to this report:

- Interactive maps
- Featured project tours
- Program growth over time

<https://www.usbr.gov/watersmart/>

Data Visualization Tool:  
[arcg.is/1TcT68S](https://arcg.is/1TcT68S)



**Darion Mayhorn, PE**  
**Reclamation Drought Coordinator**  
**[dmayhorn@usbr.gov](mailto:dmayhorn@usbr.gov)**



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