

Maximizing Value of Existing Infrastructure through Collaboration:

Incorporating Water Supply Priorities into the
Operations of a Southern California Dam

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Agenda

- Background
- BLUF (Bottom Line Up Front)
- History of Water Conservation at Seven Oaks Dam
- Current Initiatives that Support Collaboration
- Strategy for Collaboration
- Ideas/Thoughts/Questions?



Who is Heather Dyer?



Who is Valley District?

- Water wholesaler and State Water Contractor
- Formed in 1964
- Tasked with meeting the supplemental water needs within our service



OUR *MISSION* IS TO...

- ❖ Work **collaboratively** to provide a **reliable** and **sustainable** water supply to support the changing needs of our region's **people** and **environment**.



Long-term Drought Resilience

- Plan today for **future** droughts
- Regional collaboration necessary
- Storage is our Savings Account
- Water Use Efficiency Stretches the Savings Account

Supply Diversity = Resilience

- Imported Water
- Recycled Water
- Stormwater Capture
- Water Conservation



BLUF: Bottom Line Up Front

- Become true collaborative partners with the Army Corps of Engineers
- Serve as Local Sponsor of the Dam for Water Conservation component
- Follow template of collaboration between OCWD and USACE LAD at Prado Dam
- Authorize the Seven Oaks Dam for water conservation
- Operate the Dam for Multiple Public Benefits

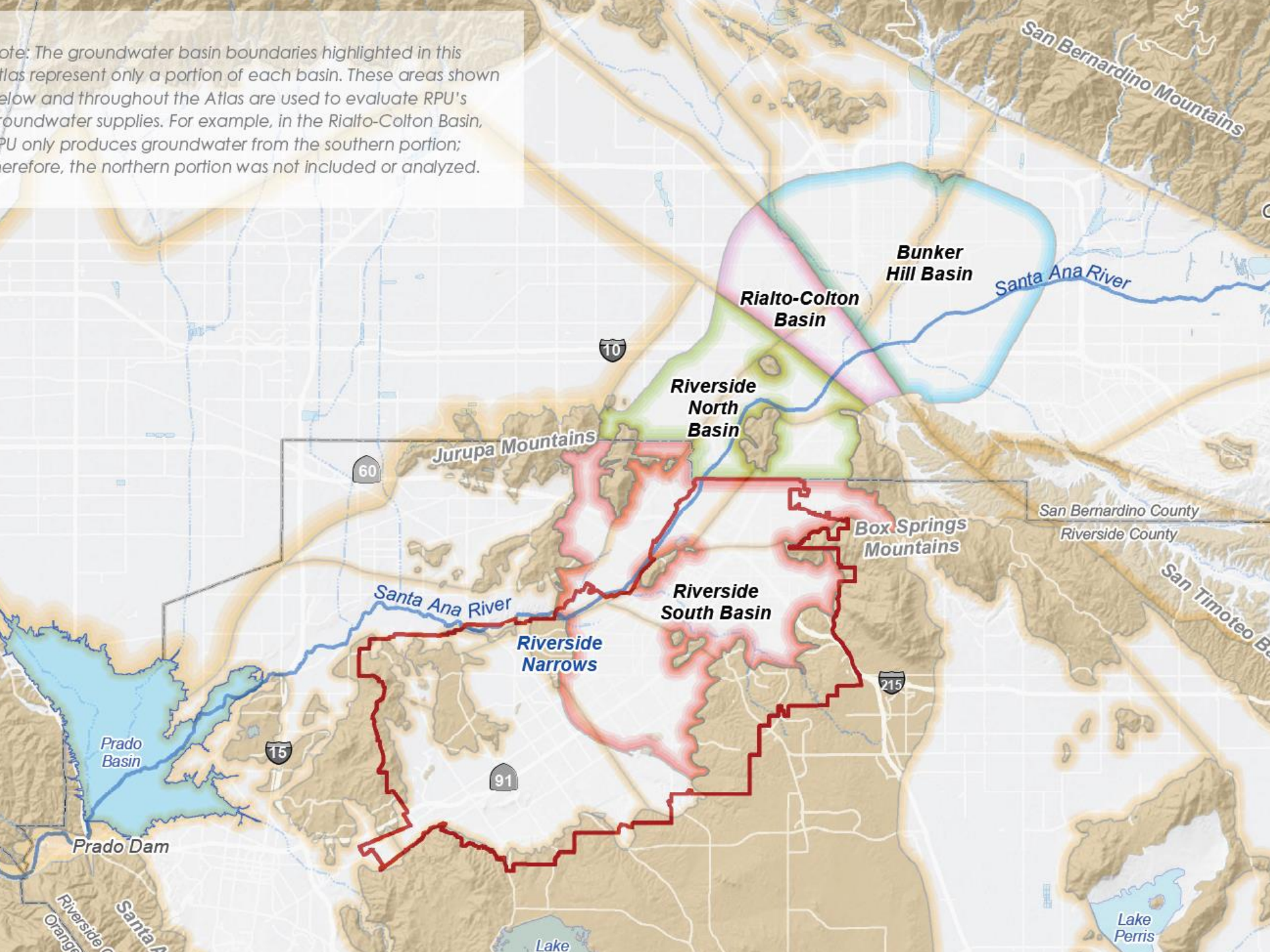


Stormwater Capture

- Take advantage of atmospheric rivers
- Capture stormflow from 7 tributaries to Santa Ana River
- Store water in the ground for future droughts
- Plan for many tributaries due to unknown future conditions
- ~ 50,000 AFY



Note: The groundwater basin boundaries highlighted in this Atlas represent only a portion of each basin. These areas shown below and throughout the Atlas are used to evaluate RPU's groundwater supplies. For example, in the Rialto-Colton Basin, RPU only produces groundwater from the southern portion; therefore, the northern portion was not included or analyzed.







Seven Oaks Dam

Prado Dam



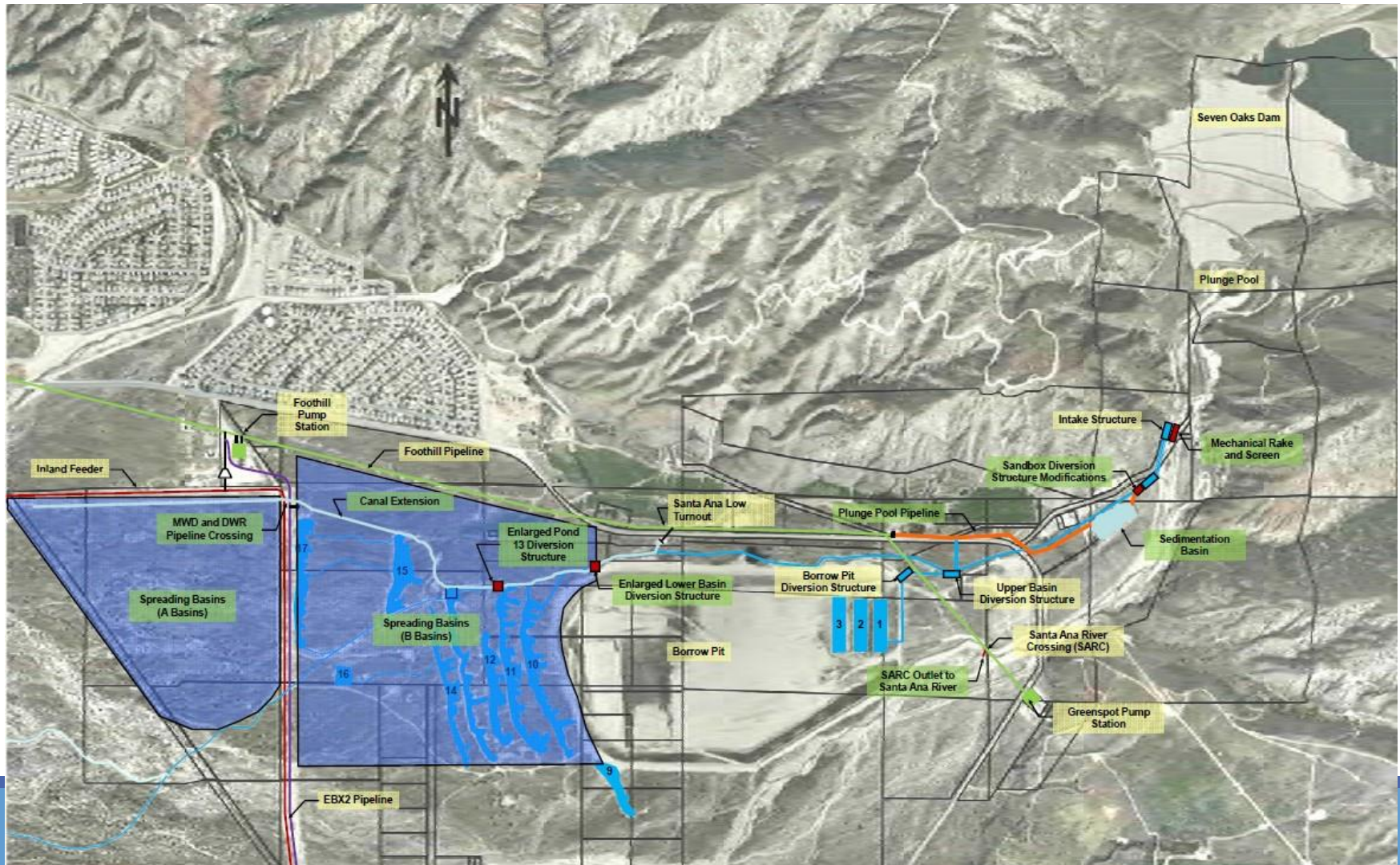


Seven Oaks Dam Water Supply

- Federal dam completed in 2000
- Authorized for Single purpose: Flood Control
- Valley has Water Rights behind the dam for up to 198,000 AF
- ~15,500 AFY Average stormflow for recharge purposes



Schematic of Water Recharge



Water Conservation in Action



SANTA ANA RIVER UPSTREAM
OF SEVEN OAKS DAM



CAPTURED
FLOW



RECHARGE
FLOW



What is the Goal?

- Flood Control
- Water Supply/Conservation
- Water Quality
- Downstream Habitat Protection and Enhancement
- Forecast Influenced Reservoir Operations
- EXTRA CREDIT – Sediment Mgmt.

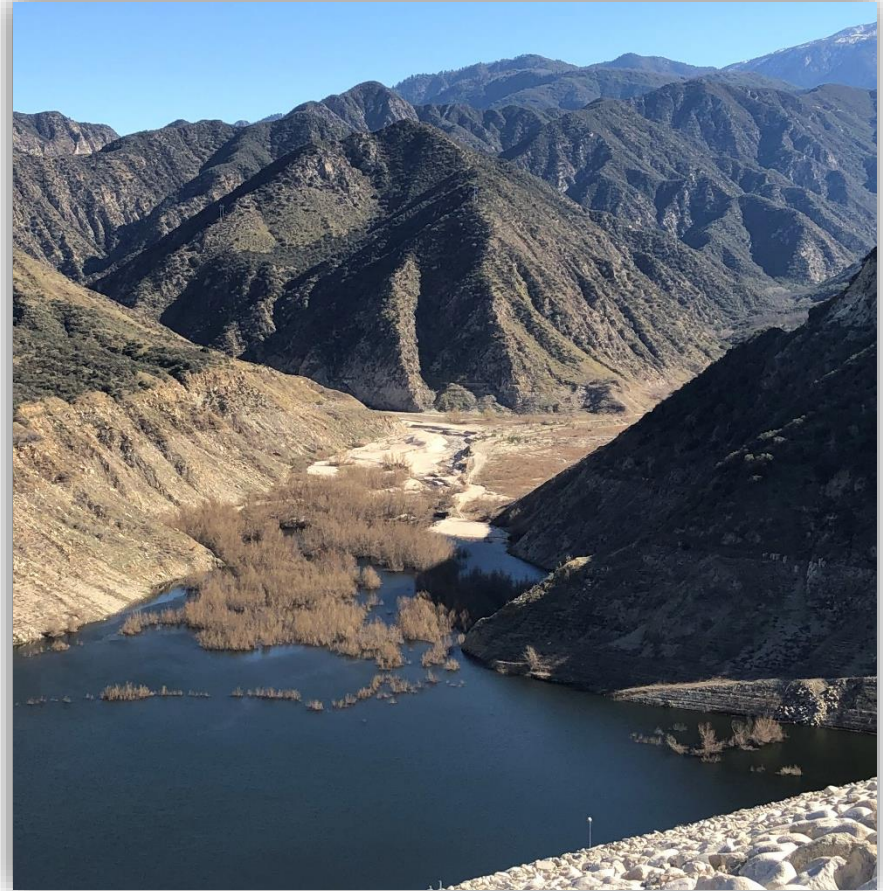


Three Principles for Complex Problem Solving

- 1) Strategic Vision Needed
- 2) Mutual Respect for Missions is Required
- 3) Inter-Agency Collaboration = Best Solutions

History of Water Conservation at Seven Oaks Dam

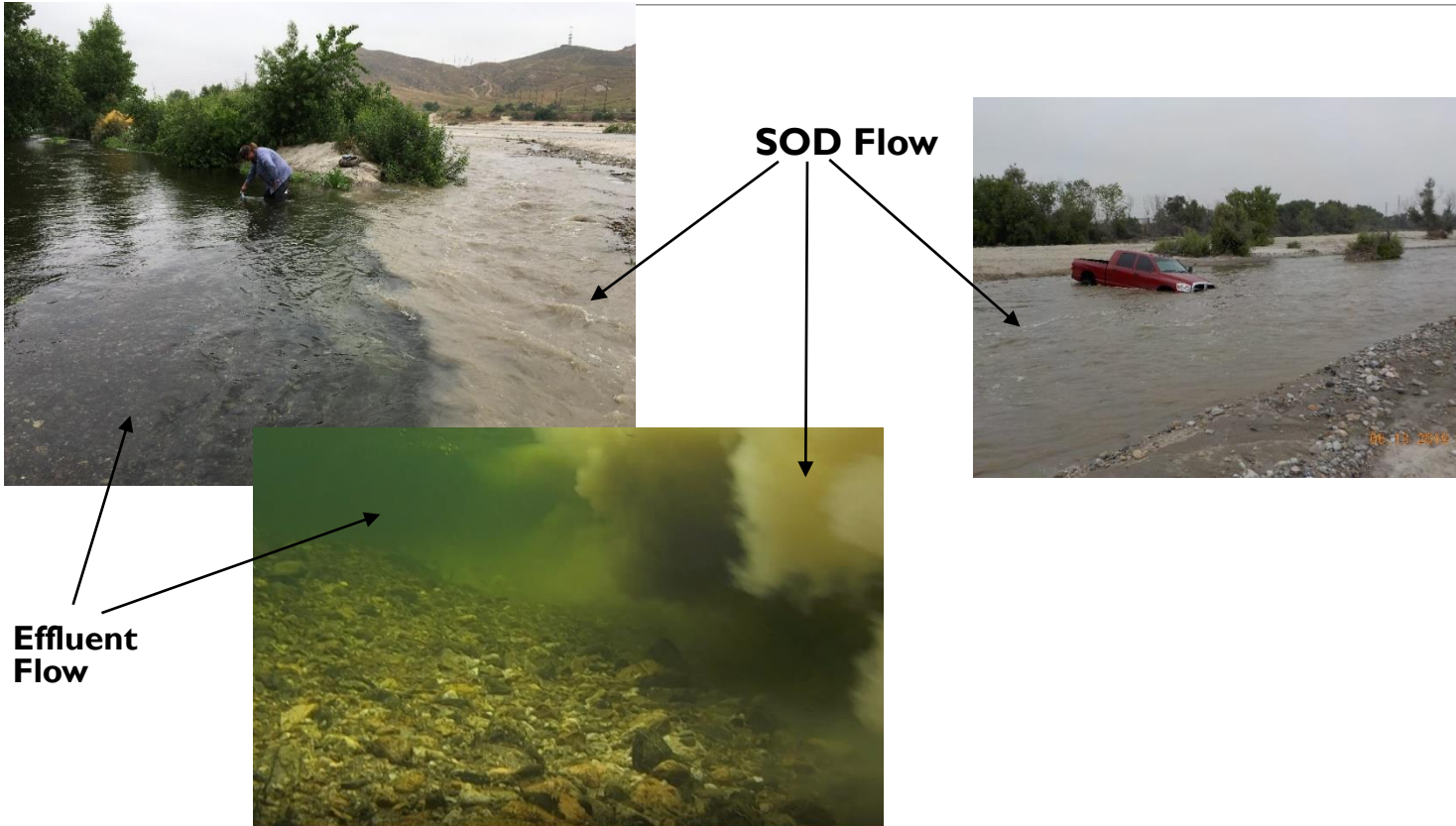
- History dates back to the Water Supply Act of 1958
- Initial Water Conservation Reconnaissance Study started in 1986
- Feasibility Study Completed mid-90s
- Biological Opinion did not cover Water on as part of proposed action and included “High Flow Release” Conservation Measure for Environmental Benefit***
- Several studies, agreements, and water rights applications stalled in the mid-2010's



Looking upstream from top of Seven Oaks Dam



Seven Oaks Dam Release – May 2019



Current Initiatives That Support Collaboration:

Upper Santa Ana River Habitat Conservation Plan

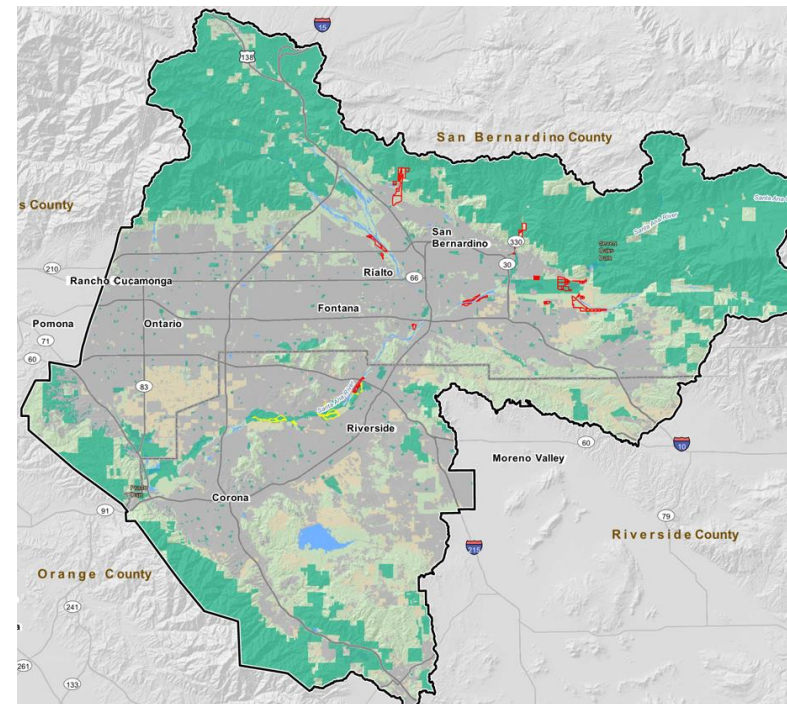


Initiative Outline:

- 12 Partners
- 70 Covered Activities
- 22 Species
- 50-year permit
- Long-Term Programmatic Permitting
- Long-Term Management and Reporting

Collaborative Opportunities

- Ecosystem Restoration
- Flood Risk Reduction & Ecosystem Restoration
- Groundwater Recharge & Ecosystem Restoration



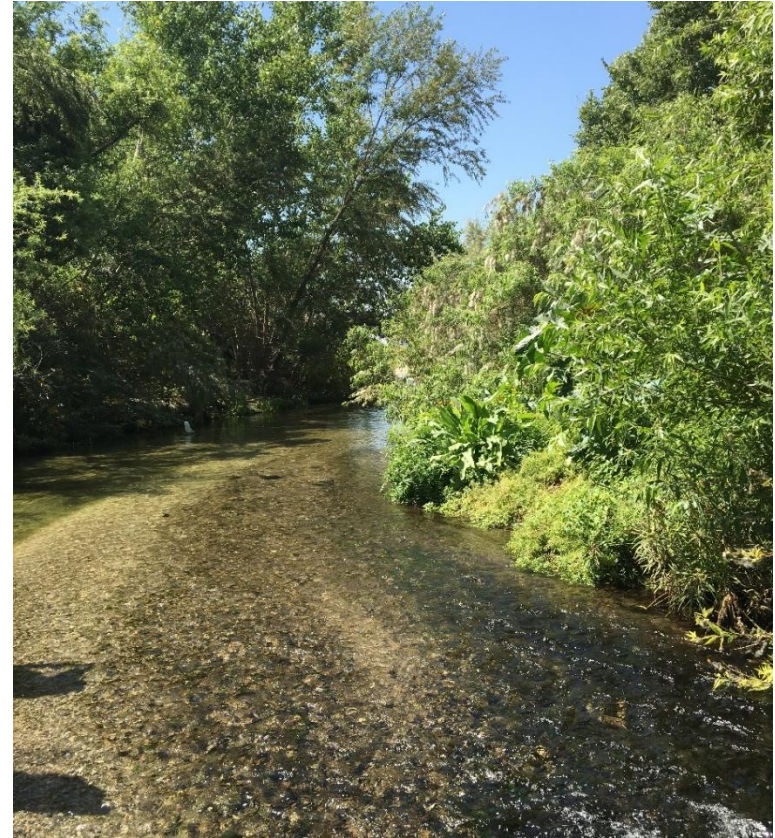
Upper SAR HCP

- Covers
Downstream
Impacts from
Seven Oaks Dam
Water Supply
Project!



Lessons Learned to Ensure Future Resilience:

- We *can* meet the many needs of people and the environment.
- Creative Engineering Likely Needed.
- Good Science is a Superpower!
- Collaboration Leads to Regional Solutions.
- Shared Resources are the Answer: Land, Water, Money, Expertise.
- Mutual Respect and Relationships make the difference between failure or success.
- Big Vision = Big Reward



Current Initiatives That Support Collaboration: Climate Resilience Initiative

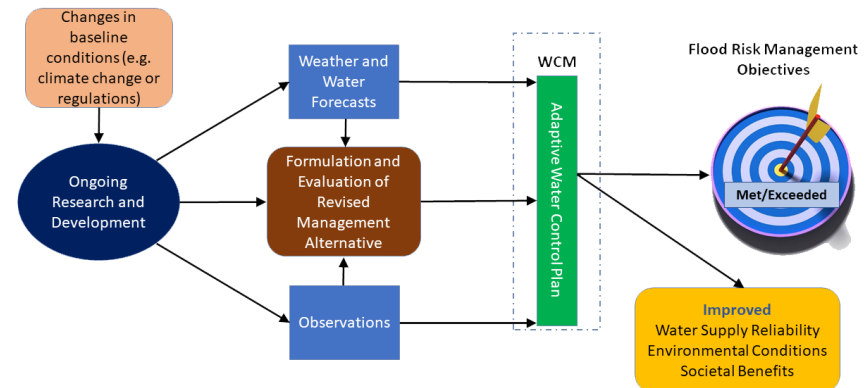
Initiative Outline:

- Goal:
 - Ensure the District is resilient to future climate change uncertainties
 - Ensure the District is engaged as a civic leader on the threat of climate change and potential impacts to our community
 - Strategically position the District to be highly competitive for funding opportunities related to climate-resilient planning and infrastructure

Collaborative Opportunities:

- Seven Oaks Dam Water Conservation Feasibility Study
- Utilize FIRO to balance groundwater recharge and environmental flows

FIRO Model for Adaptive Water Control Manuals



https://cw3e.ucsd.edu/FIRO_docs/images/FIRO_overview_Figure1.png

Potential Corps Benefits

- Satisfy WRDA 2020 Congressional Directive to expedite feasibility study
- Final sign-off by USFWS on requirements of SOD consultation process
- New Biological Opinion with a new collaborative mitigation strategy could:
 - Settle the lawsuit between us that hasn't moved in several years
 - New partners could implement ongoing habitat management obligations
- Potential to bring FIRO into Dam Operations to maximize flood management
 - Potential for long-term Sediment Management component to be addressed and funded collaboratively with SBVMWD
 - Corps provides huge public win-win by expanding the value of this infrastructure to include multiple benefits (flood control, water supply, habitat enhancement)



View looking upstream from top of Seven Oaks Dam

Way Ahead

- Create strong foundation for relationship and grow and maintain it with key stakeholders in collaborative team:
- Establish components of partnership
 - Goals: Near- and long-term
 - Processes and Protocols
 - Scientific Study (Ideally, Forecast Informed Reservoir Operations FIRO)
 - Timelines
 - Budgets
- Schedule reoccurring staff and executive level meetings in order to maintain momentum and forward progress



Questions



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