

Norcal Watereuse
San Ramon, California
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Bringing New Water Supplies to the Parched Central Valley

North Valley Regional Recycled Water Program
(NVRWRP)

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National Experience. Local Focus.



Presentation Overview

- Introduction
- Need for the NVRRWP
- Conceptual Solution and Benefits
- Implementation Challenges
 - Securing Water Rights
 - Approval for Use of USBR Facilities
 - Obtaining a New NPDES Permit
- Next Steps
- Questions



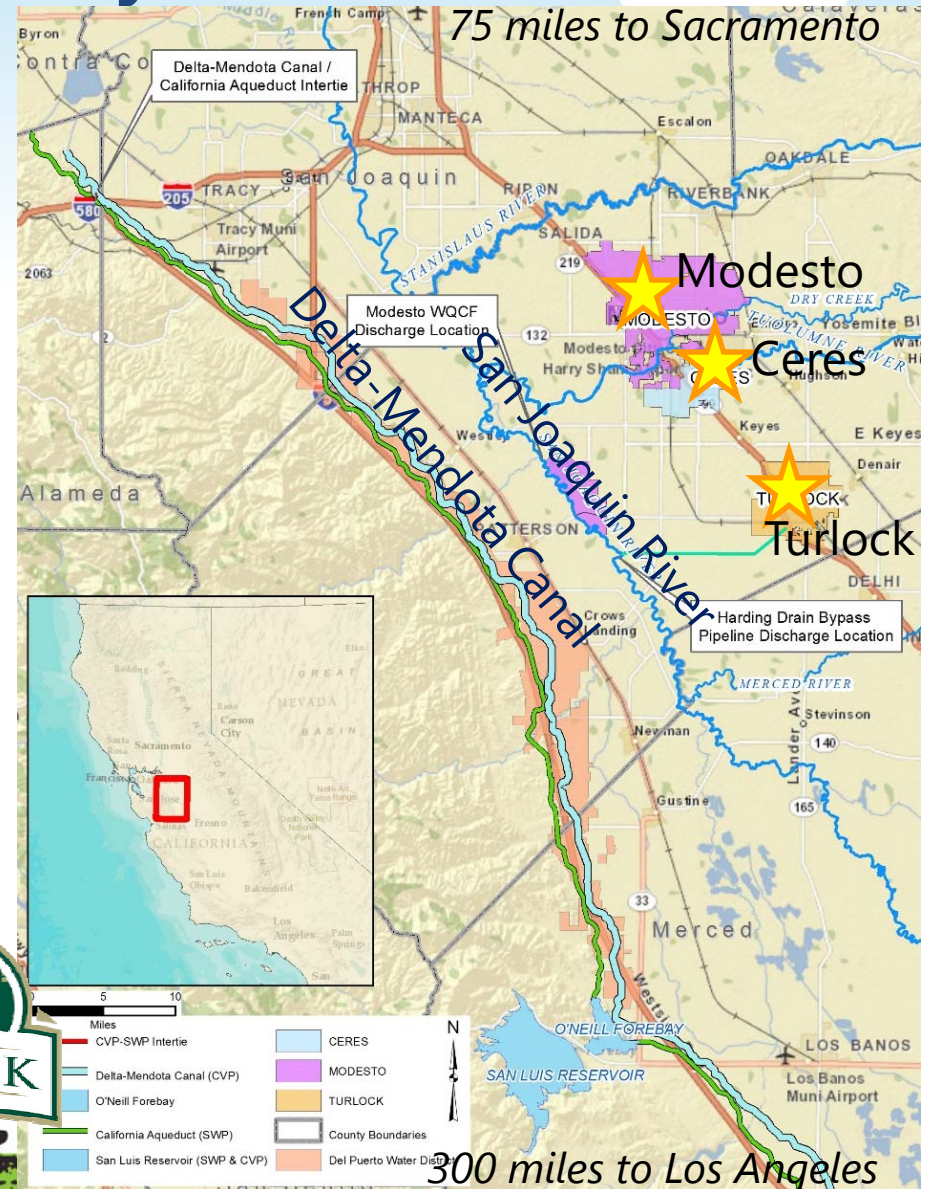
Introduction



North Valley Regional Recycled Water Program

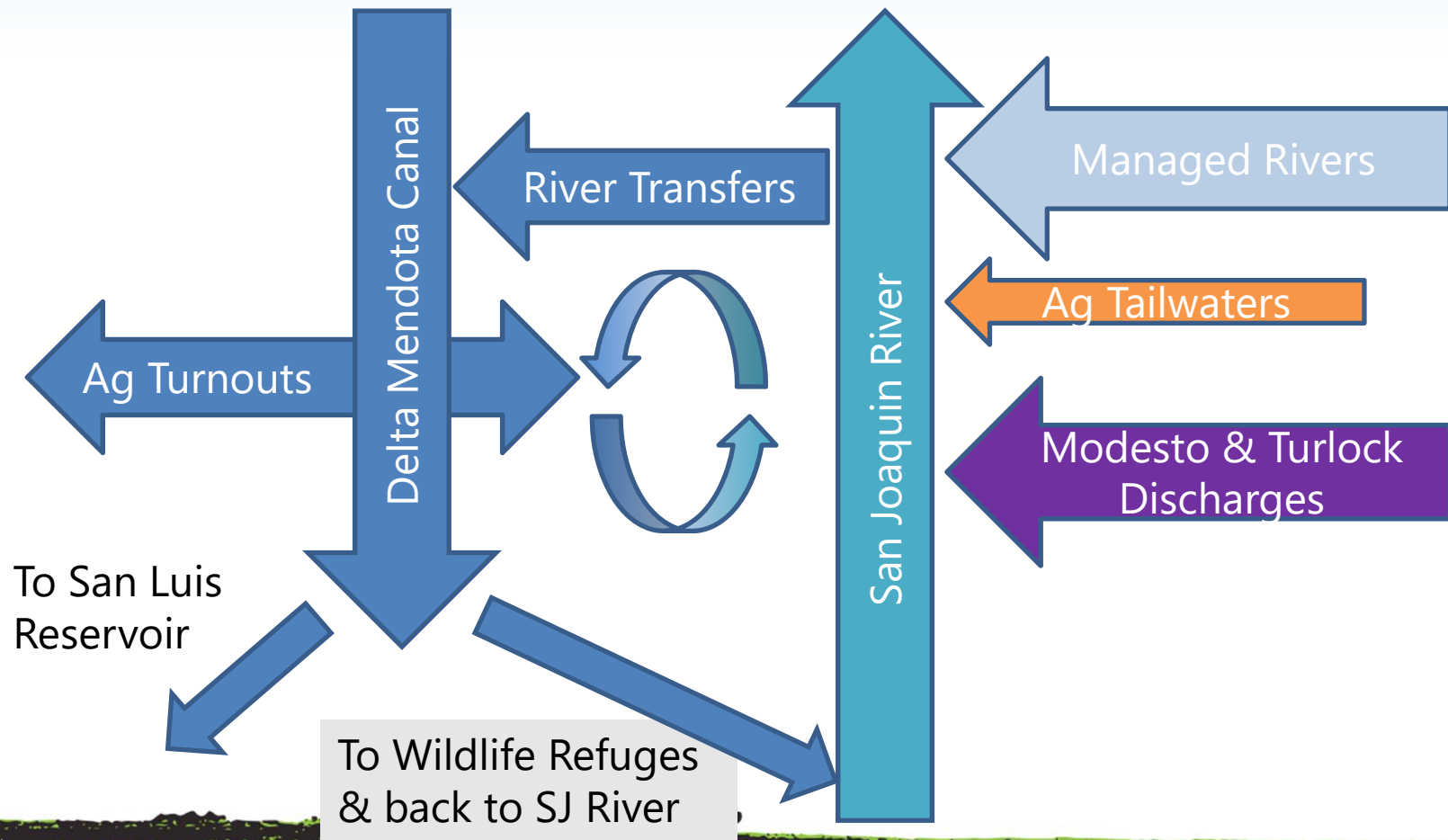
- Del Puerto Water District
- City of Ceres
- City of Modesto
- City of Turlock
- Stanislaus County

*Supported by the US Bureau of Reclamation (USBR)

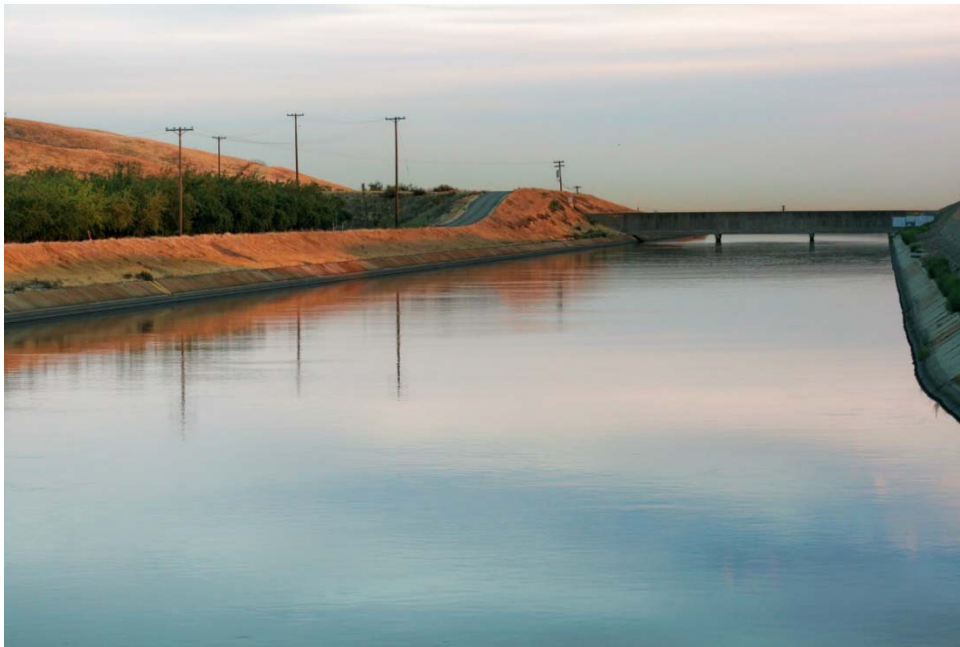


Current Operations

Sacramento-San Joaquin Delta



Delta-Mendota Canal



- Owned by U.S. Bureau of Reclamation (Federal) under Central Valley Project
- Operated by San Luis Delta-Mendota Water Authority
- Max capacity of 4,600 cfs
- Primary source of water to DPWD and refuges



Need for the NVRWWP



Separate and Distinct Challenges

■ Del Puerto Water District

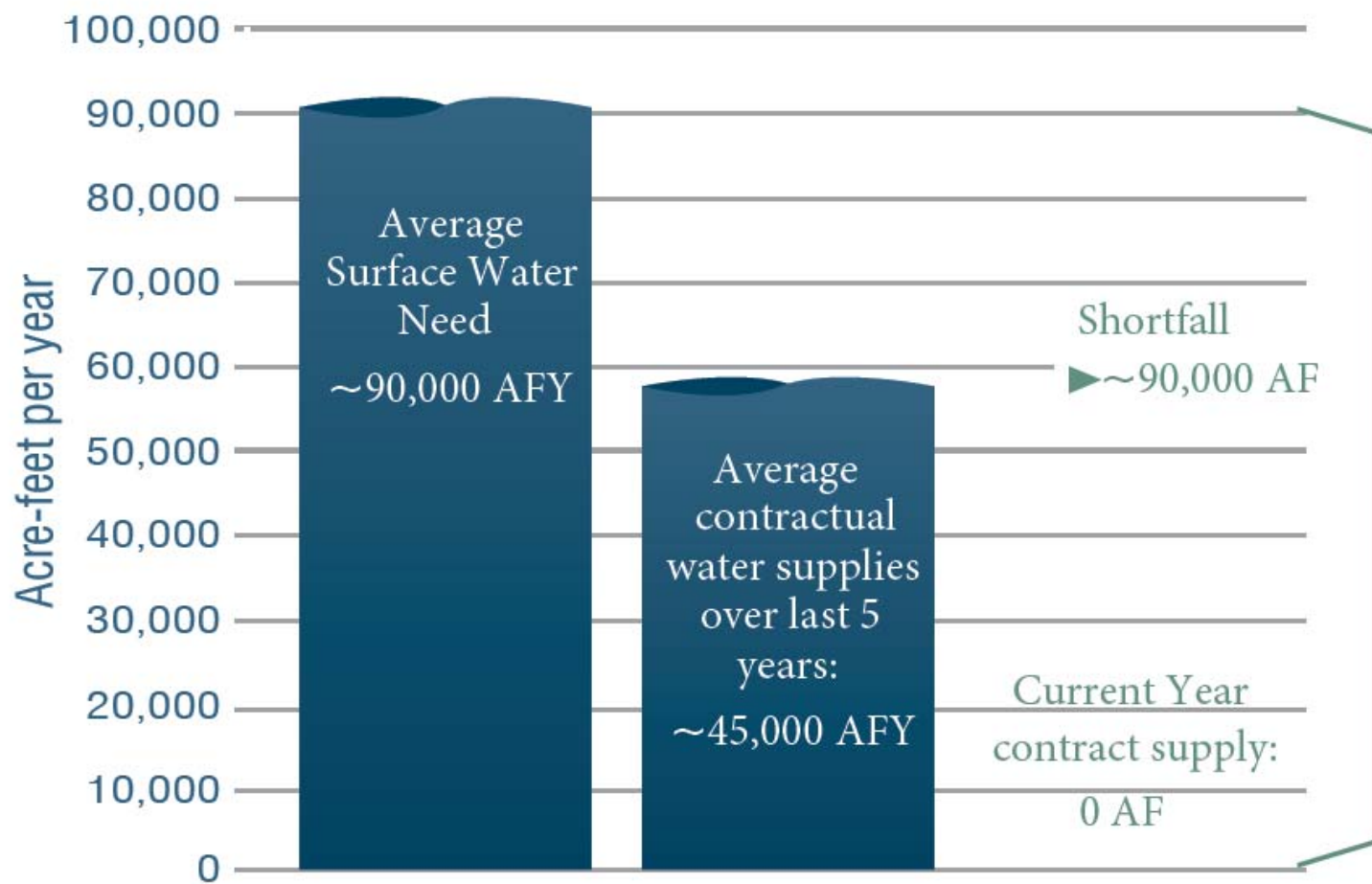
- Primary water source is Federal allocations from the Central Valley Project (CVP)
- CVP SOD allocations largely restricted due to drought, regulation, and environmental concerns
- Unreliable service

■ Cities of Modesto and Turlock

- Tertiary treated supply with minimal reuse opportunity
- Future treatment requirements of cold-water fishery (SJR) costly
- Using resource to generate benefits for their citizens



Del Puerto Customers Have Experienced Significant Shortages and Decreased Reliability in the Last 20 Years (Data as of 2014)



Primary Crops in Del Puerto

- Almonds (16,500 ac)
- Tomatoes (3,000 ac)
- Beans (3,000 ac)
- Apricots (2,500 ac)
- Barley/Oats (2,500 ac)
- Wheat (2,000 ac)
- Walnuts (2,000 ac)
- Various Fruit Trees (2,000 ac)
- Other – Misc. (3,500 ac)
- Fallowed (8,000 ac)
- Total = 45,000 acres



Modesto's Wastewater Story

- **Total WW flows: 25 MGD**
- **Two disposal methods for secondary-treated wastewater**
 - Limited seasonal discharge to San Joaquin River
 - Irrigation of 2,530 acres on City-owned ranch land
- **NPDES permit requires tertiary-treatment for year-round disposal to San Joaquin River**
 - \$150 million tertiary upgrade plant has just been completed to allow year round disposal
 - Compliance date is June 2018



Turlock's Wastewater Story

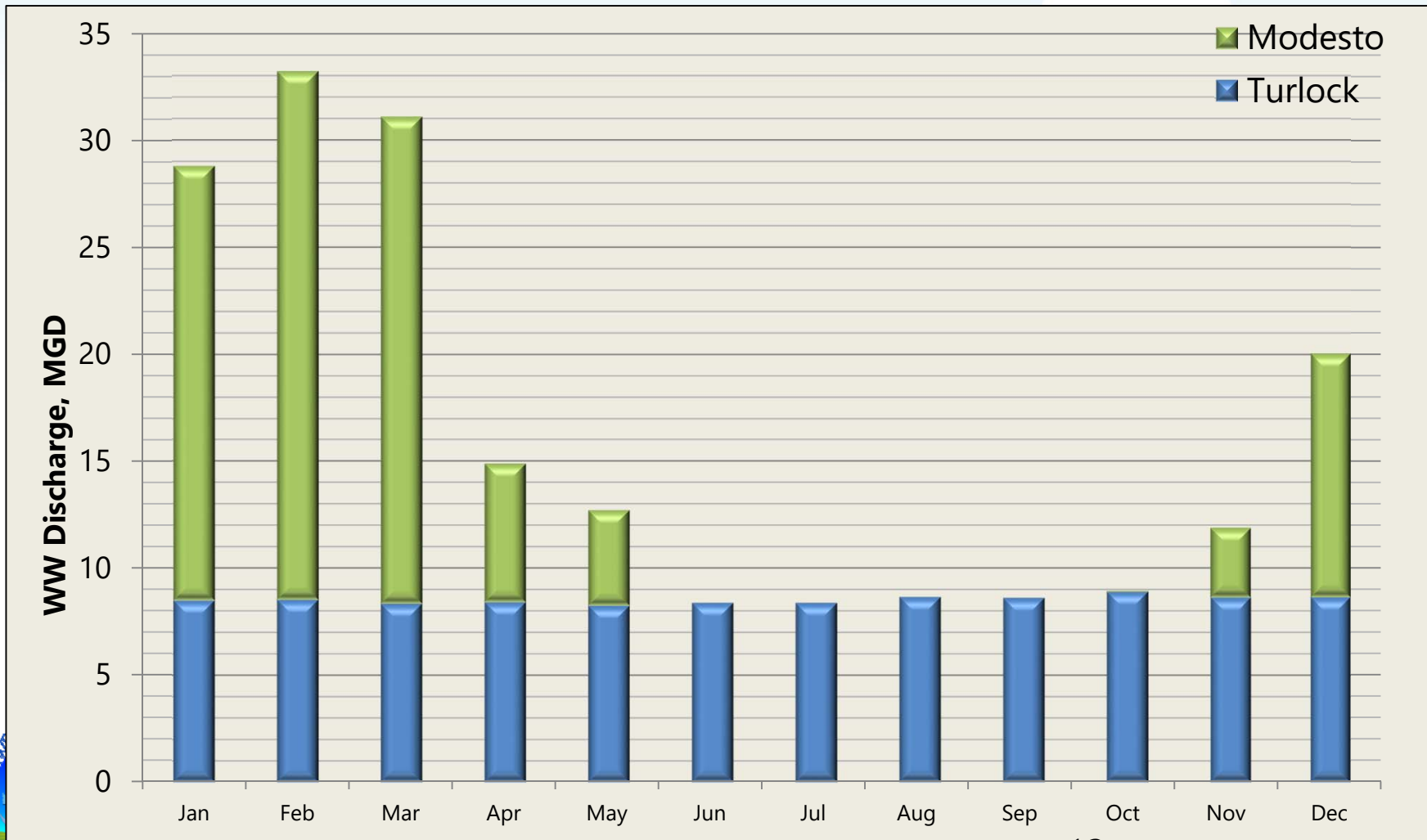
- Total WW flows: 10 MGD
- San Joaquin River disposal of tertiary-treated wastewater
 - Tertiary process - cloth media filters with chlorine disinfection
- Recently upgraded outfall from an open drain to a close pipeline for compliance with NPDES permit



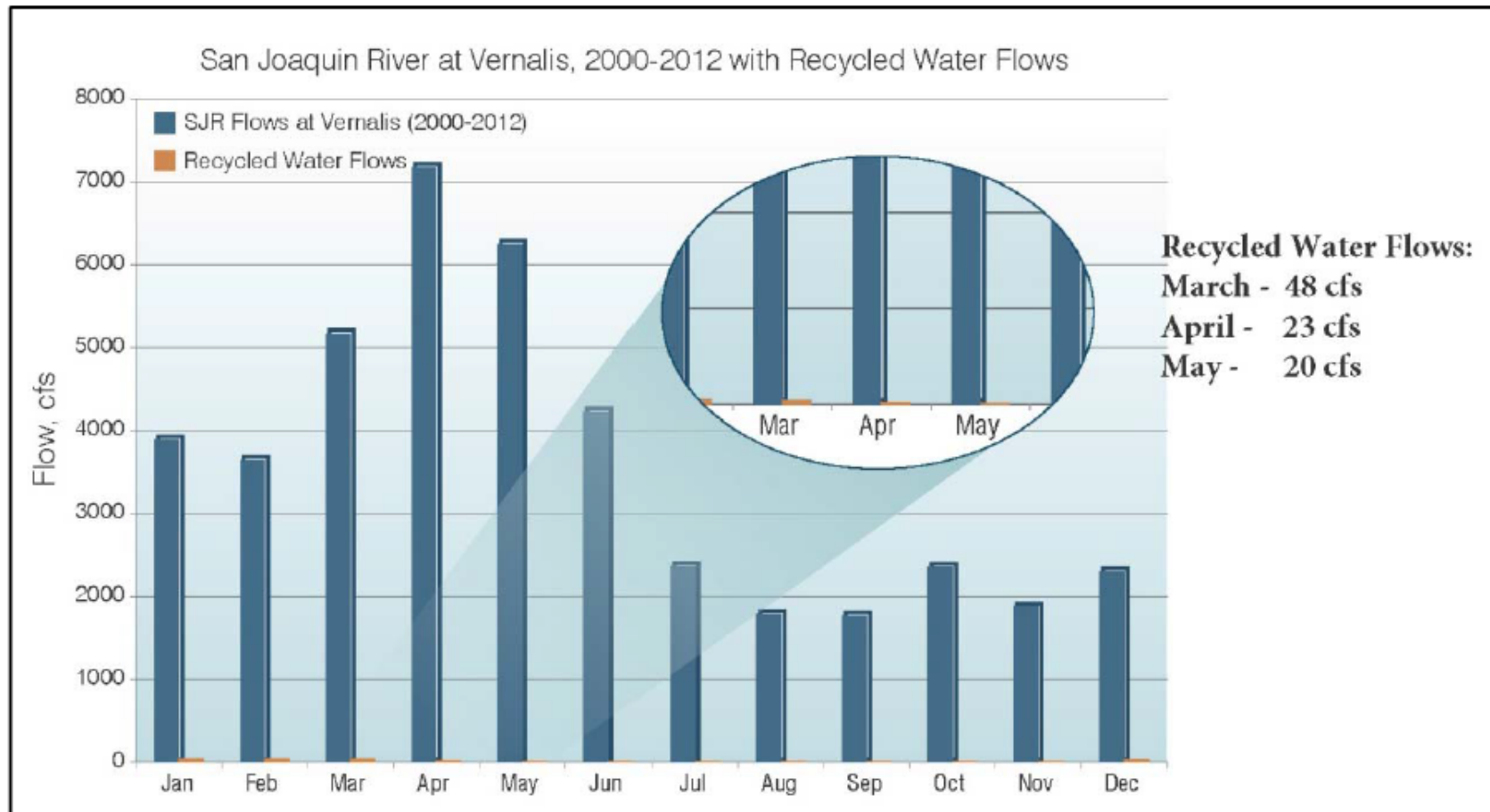
Average Monthly Discharges to San Joaquin River (2000-2014)

Annual Average Discharge = 18,000 AFY

Monthly Average Discharge Range = 13 – 50 cfs

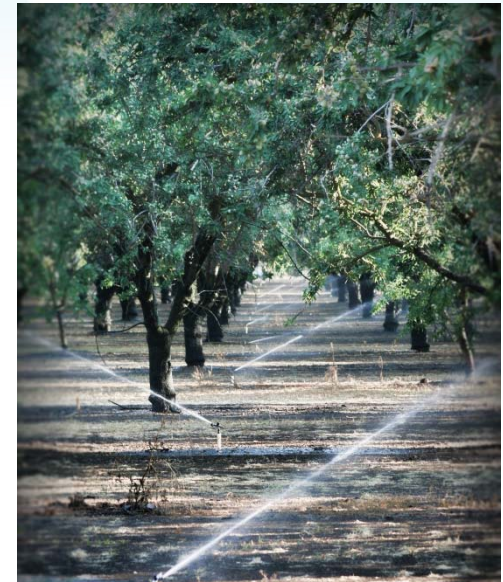


Cities discharges represent less than 1% of San Joaquin River Flows



North Valley Regional Recycled Water Program Partnership Goals:

- Provide a regional solution for a local water supply crisis
- Make recycled water available for agricultural irrigation and environmental beneficial use (wildlife refuges)
- Provide DPWD a long-term, reliable water supply to mitigate on-going and severe contractual water shortages
- Reduce reliance on Delta conveyance and groundwater pumping to meet unmet water supply needs



City Benefits:

- Year-round use of City resources
- Avoiding future treatment costs

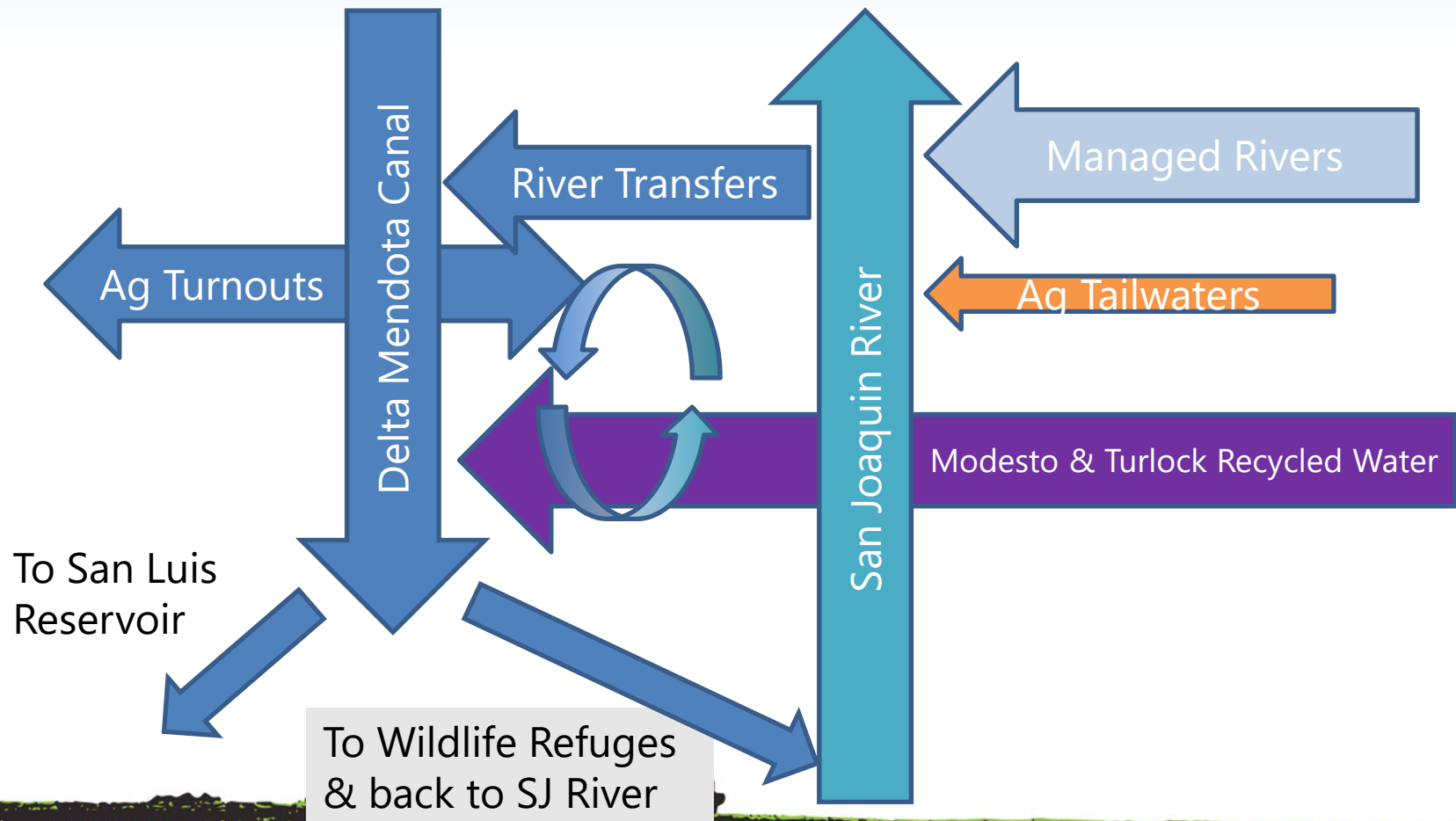


Conceptual Solution



Conceptual Solution

Sacramento-San Joaquin Delta

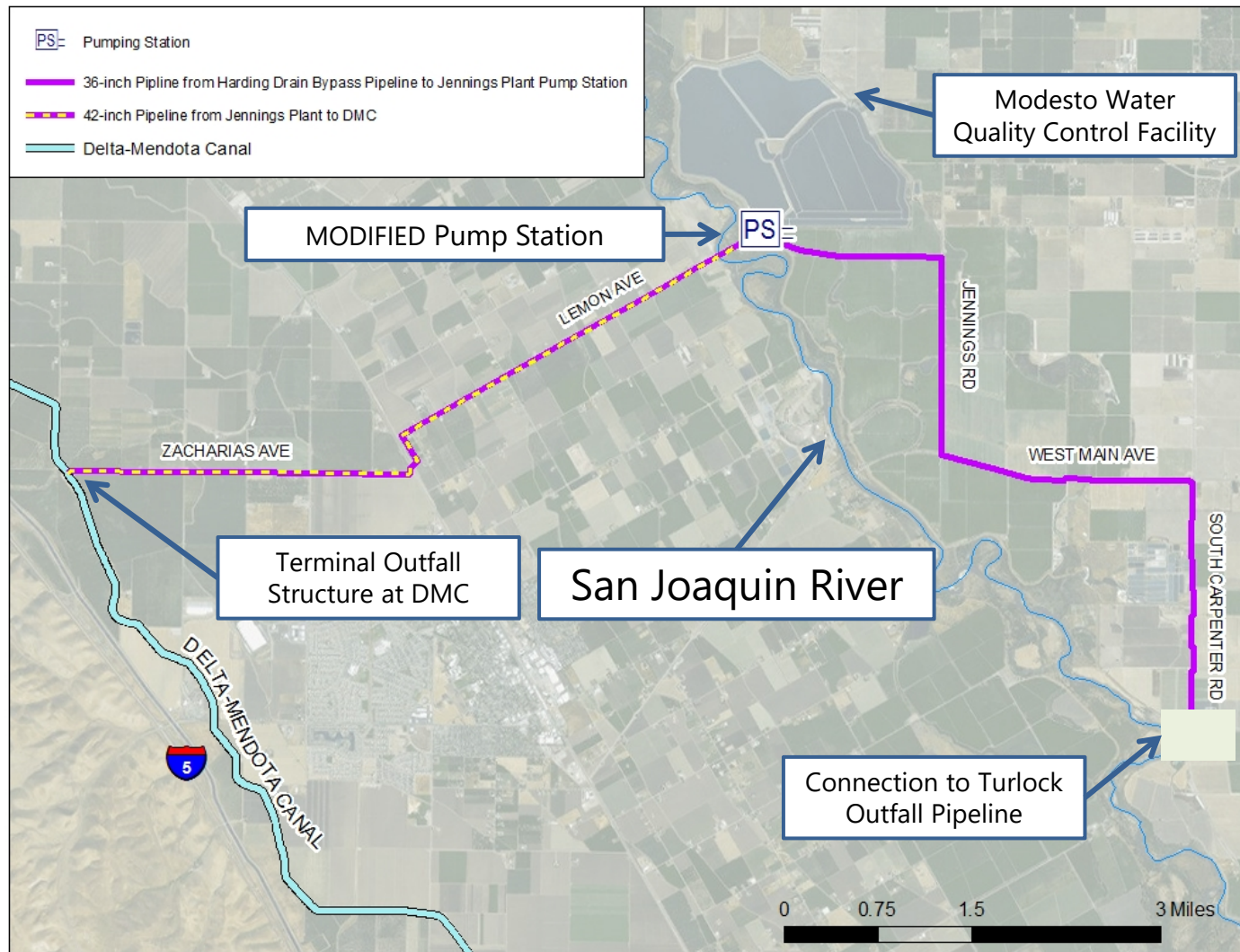


NVRRWP Objectives

- Establish an alternative, reliable, long-term water supply for DPWD
- Allow Cities to eliminate discharge to the San Joaquin River
- Provide storage of recycled water during non-irrigation season
- Deliver agricultural water to DPWD at a cost that supports regional economic sustainability
- Provide water for south of delta CVPIA designated wildlife refuges



Single Pipeline to DMC



Estimated Volumes and Project Costs

	Volume
Start Up (2018)	25,000 AFY
Build out	30,000-48,000 AFY

	Single Pipeline Alternative
Base Construction	\$76 M
Implementation Costs	\$22 M
Total Capital Cost	\$98 M

Depending on grants and financing mechanisms, the first year water cost is estimated at \$180-320 per acre-foot



Implementation Challenges



Implementation Challenges

- Engineering is the Easy Part of This Project
- Moving Recycled Water Out of the San Joaquin River
 - Securing Water Rights
 - Protecting anadromous fisheries
- Moving Recycled Water Into the DMC
 - Obtaining a New NPDES Permit
 - Approval for Use of USBR Facilities



Water Rights Process

- Local Agency Files Wastewater Change Petition
- Local Agency Releases Draft EIR
(Certified Final EIR Required for SWRCB to Issue Water Right)
- Petition Noticed
- Protests Filed, if any
 - Negotiate Protest Resolution, or
 - SWRCB Water Rights Hearing
- SWRCB Issues Water Right



Securing Water Rights

- Modesto and Turlock filed Section 1211 Petitions with the State Water Board (Wastewater Change Petitions)
- Removal of discharges from the San Joaquin River requires evaluating both flow and fish habitat impacts
- Work showed no significant impacts – confirmed by BO from NMFS and USFWS



Basis of Protests

- Protests varied widely and were sometimes conflicted each other
 - Exporting local groundwater (don't discharge to river!)
 - Reduction in flows to Delta (do discharge to river!)
 - Keep status quo (don't discharge to DMC!)
 - Do the project (but give me some water too!)



Obtaining a New NPDES Permit

- Use of the DMC creates an unusual permitting scenario
 - DMC is a concrete-lined engineered channel
 - More importantly, the DMC is a Water of the State
- Permit therefore is an NPDES Permit with the DMC as the receiving body



Approval Process Required

- Regional Board issued a joint NPDES permit in February 2016
- Issuance of NPDES permit was final action that triggered USBR to:
 - Issue a Record of Decision finalizing EIS
 - Sign an exemption to allow recycled water to be directly introduced into a Federal facility
 - Execute a long-term contract with Del Puerto (44 year contract in signed August 2016)



How Program Benefits are Shared

- Modesto and Turlock each hold an SRF loan for capital costs
- Del Puerto has Water Sales Agreements with Modesto and Turlock to purchase recycled water at a pre-negotiated price
 - Covers annualized capital costs and O&M
 - Includes a premium payment per AF (revenue generation for cities)
- Interest savings from grants shared among three partners



Thanks to all the NVRRWP Participants

- Del Puerto Water District
- City of Ceres
- City of Modesto
- City of Turlock
- Stanislaus County
- Basin Research
- Carollo Engineers
- Chuck Hanson
- Don Evans
- Horizon Water & Env.
- Katz & Assoc.
- Larry Walker & Assoc.
- Meyers-Rados Joint Venture
- Richard Smith
- USBR



Questions?

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