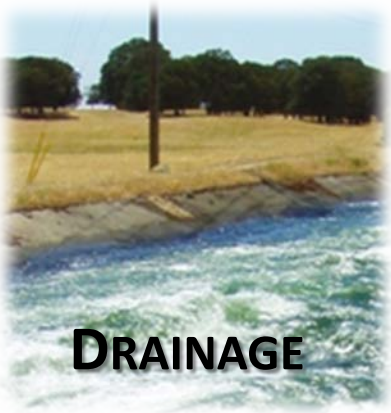
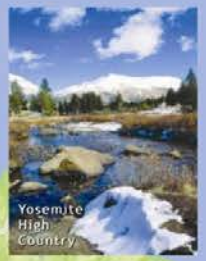
MERCED IRRIGATION DISTRICT

WATER & POWER



Merced Irrigation District Watershed



Merced River Watershed Area
1,037 sq. miles

Total Acres In-District:	**154,000**
Acres Irrigated In-District:	**115,000**
SOI/Commitment Acreage:	**60,000**
Water Users:	**2,223**
Total Miles of Canals:	**723**
Miles of Concrete Lined Canals:	**139**
Miles of Pipelined Canals:	**81**
Miles of Drains:	**34**
Groundwater Extraction Wells:	**185**
Boosters:	**46**

MERCED IRRIGATION DISTRICT
WATER & POWER

0 mi 2 mi 4 mi

CANAL CREEK RIVER MERCED I.D. WATERSHED HIGHWAY

Who We Serve

Merced Irrigation District and Communities

Merced

Atwater

Livingston

Cressey

Le Grand

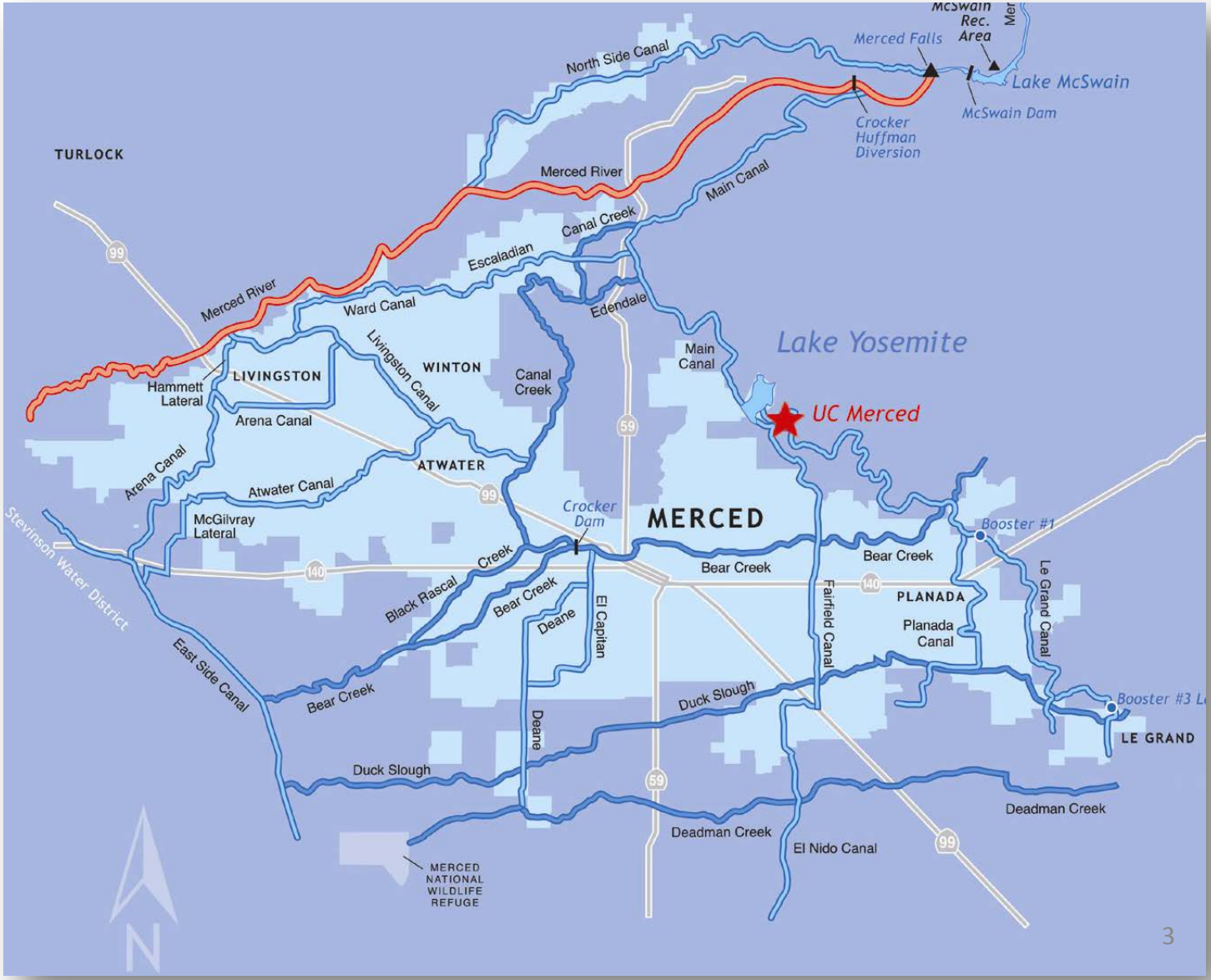
Winton

Franklin-Beachwood

Planada

Tuttle

El Nido



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Who We Serve

In-District

- Total District Acreage = 154,000 acres
- Total Irrigated Acreage = 115,000 acres
- **Average Farm Size = 49 acres**
- **Small Family Farms**
- Over 50 Types of Crops
- Estimated Crop Value = $221M
- Direct Agriculture Impact = 1/3 of Merced Economy

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Who We Serve

- **San Joaquin Valley Continues to be Among Hardest Hit Regions in Nation from Recession**
- **Especially True in Merced**
  - Foreclosure and Unemployment Rates Within Top 10 for Entire Country
  - More Than a Fourth of Our Residents Live Below Poverty Level – Twice That of Rest of State
  - Half Per Capita and Half Household Income as Rest of State

Economic Impacts

SED Analysis

- Devastating Impact on Local Economy
- Approximately $23.5 Million Annual Losses to Communities that Depend on Merced ID
- Could See **Direct** Loss of 160 Jobs
- Indirect Loss Even Higher

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Economic Impacts

Applied to Merced Irrigation District			
	Acreage	**Percent of District**	**Family Farm Equivalent**
Irrigated Acreage	115,000		
Average Annual Fallowing	44,621	38%	**890**
Critical Dry Year Fallowing	70,000	61%	**1,429**

Reality - Small family farms can't survive as assumed in draft SED

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Economic Impacts

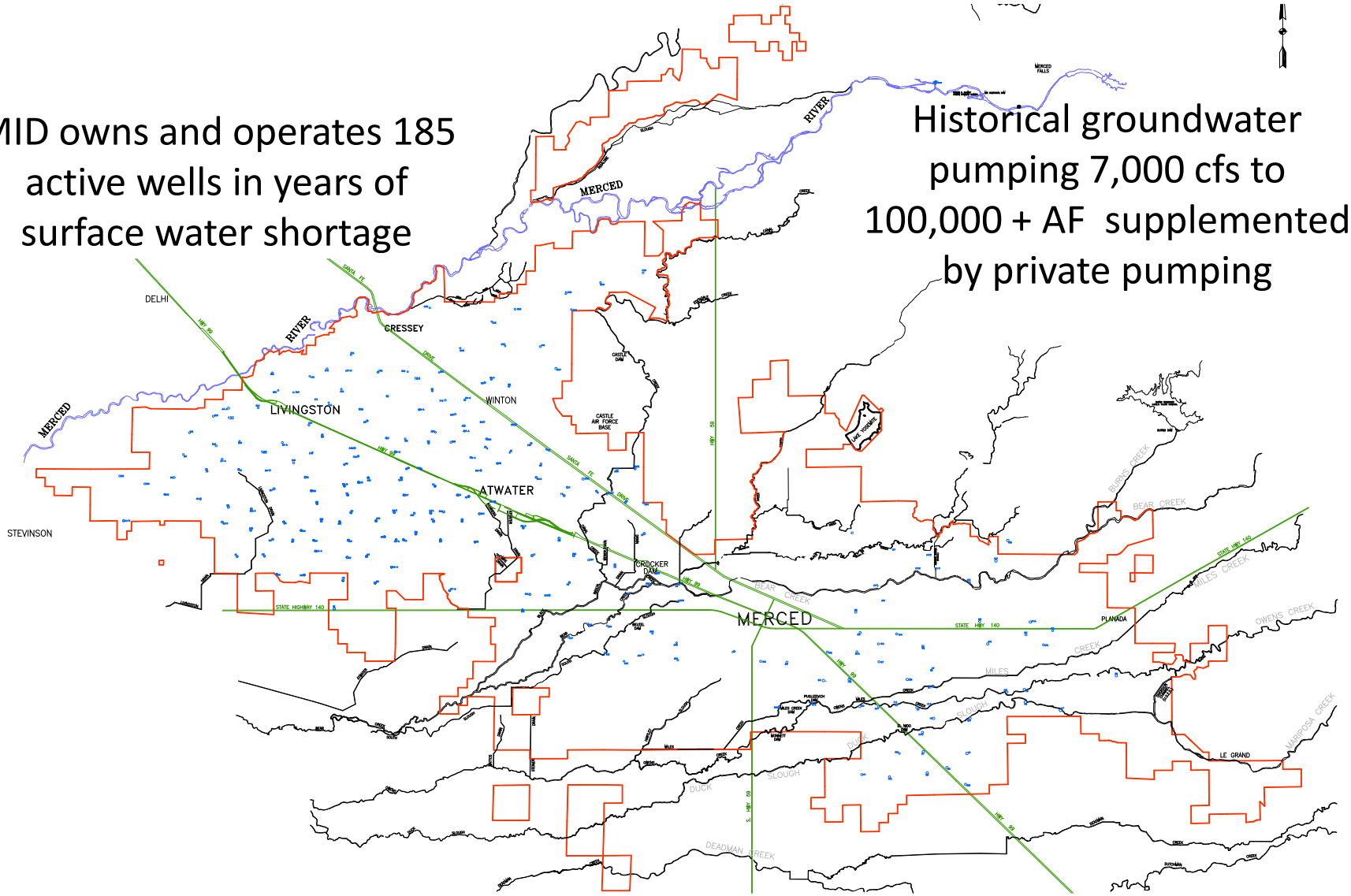
District/Regional Economics

- **Loss of Revenue**
  - Reduced Surface Water Sales
  - Reduced Hydropower Revenue
  - Reduced Customer Base
- **Impacts Operations and Maintenance**
- **Stranded Capital Costs**
- **Water Removed Has a Value**
  - Communities Required to Reinvest in a Different Water System
  - Significant Cost to Salvage What is Left

Groundwater Impacts

MID owns and operates 185 active wells in years of surface water shortage

Historical groundwater pumping 7,000 cfs to 100,000 + AF supplemented by private pumping



Merced ID – A Conjunctive Use District

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Groundwater Impacts

Conjunctive Use

- Coordinated Use of **Surface Water** and **Groundwater**
- Actively Managing **Underground Aquifer as Reservoir**/Bank
  - During Normal and Wet Years **Surface Water** is Applied to Maximum Acreage Possible
  - Minimizes Need for Groundwater Pumping
  - Recharging, or “Banking,” Surface Water in the Aquifer
  - Withdrawals from “Bank” are Made During Years of Limited Surface Water Supply

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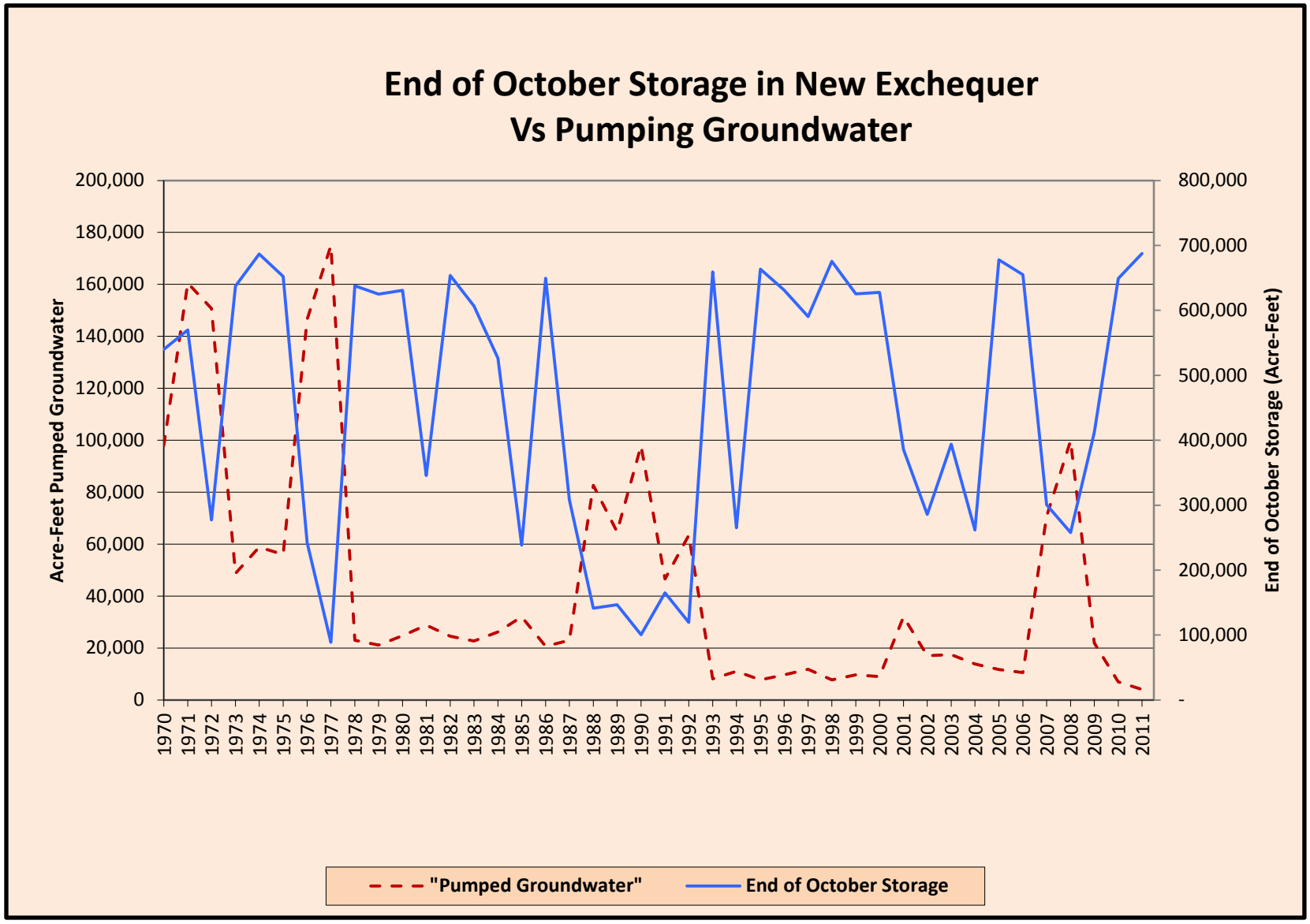
Groundwater Impacts



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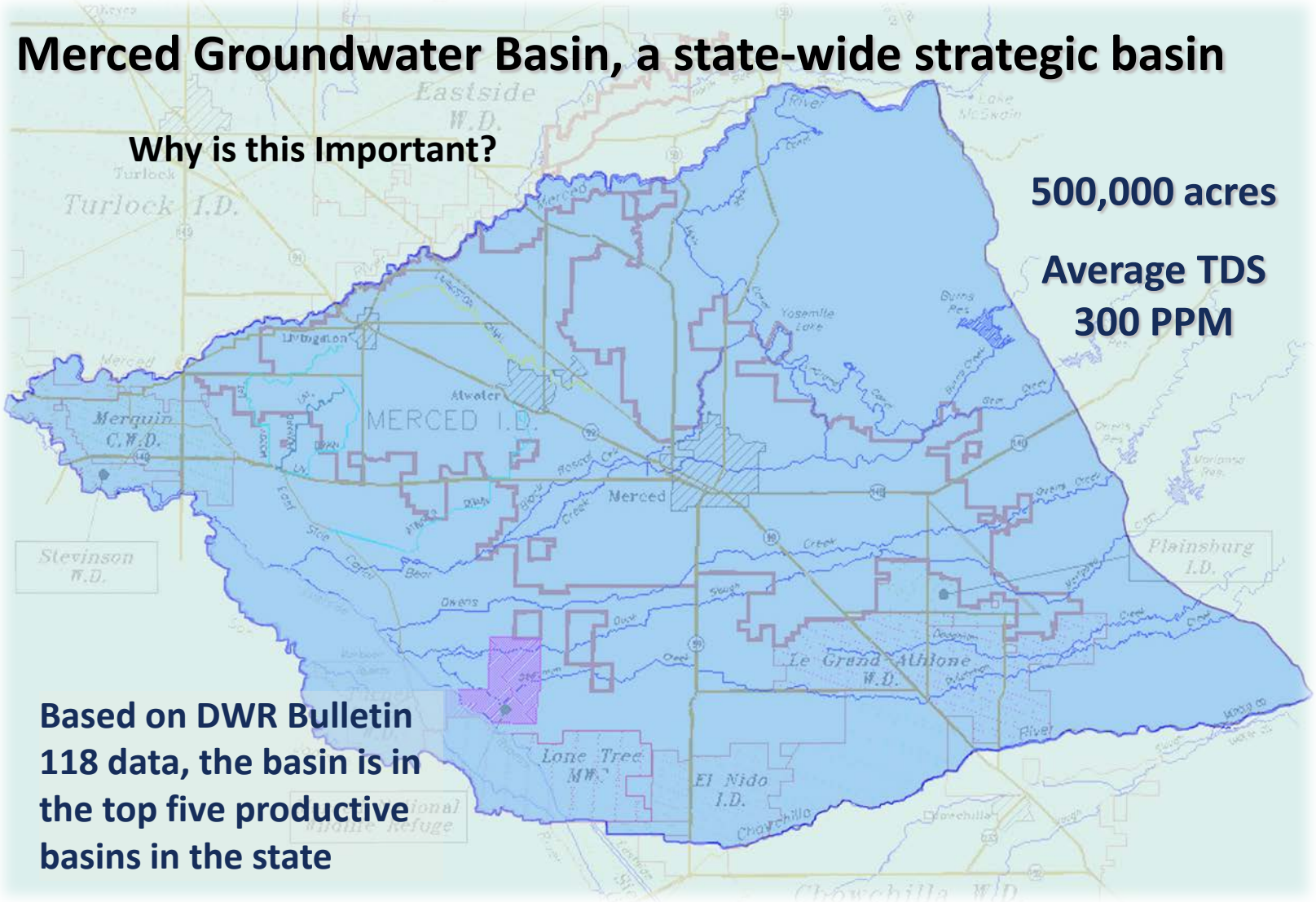
Groundwater Impacts

Regional Water Resource Management

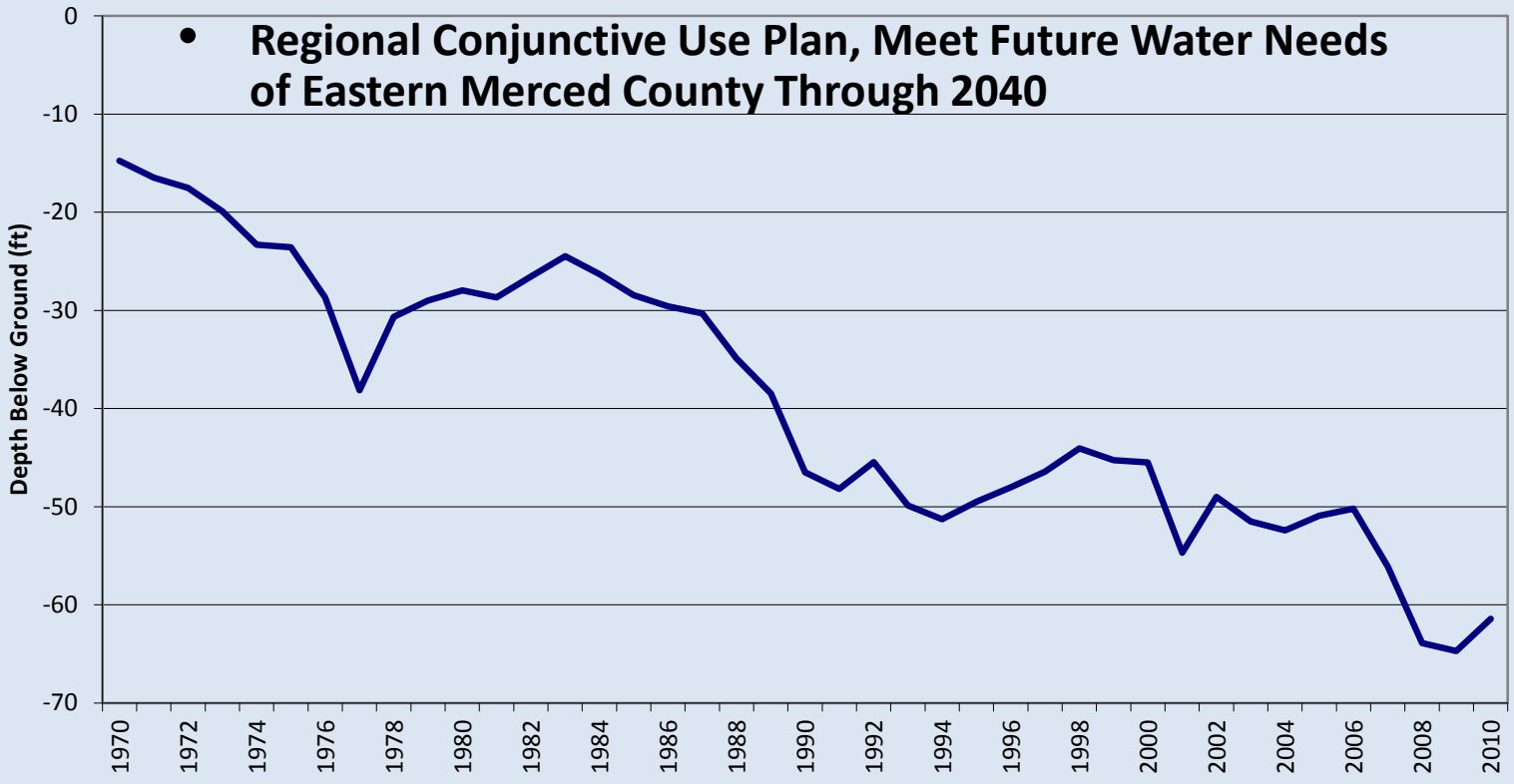
- Merced Water Supply Plan
- Surface Groundwater Optimization Program (SUGWOP)
- Merced Area Groundwater Pool Interests (MAGPI)
- Integrated Regional Water Management Plan (IRWMP)
- Surface Water/Groundwater Model for the Merced Basin

Groundwater Impacts



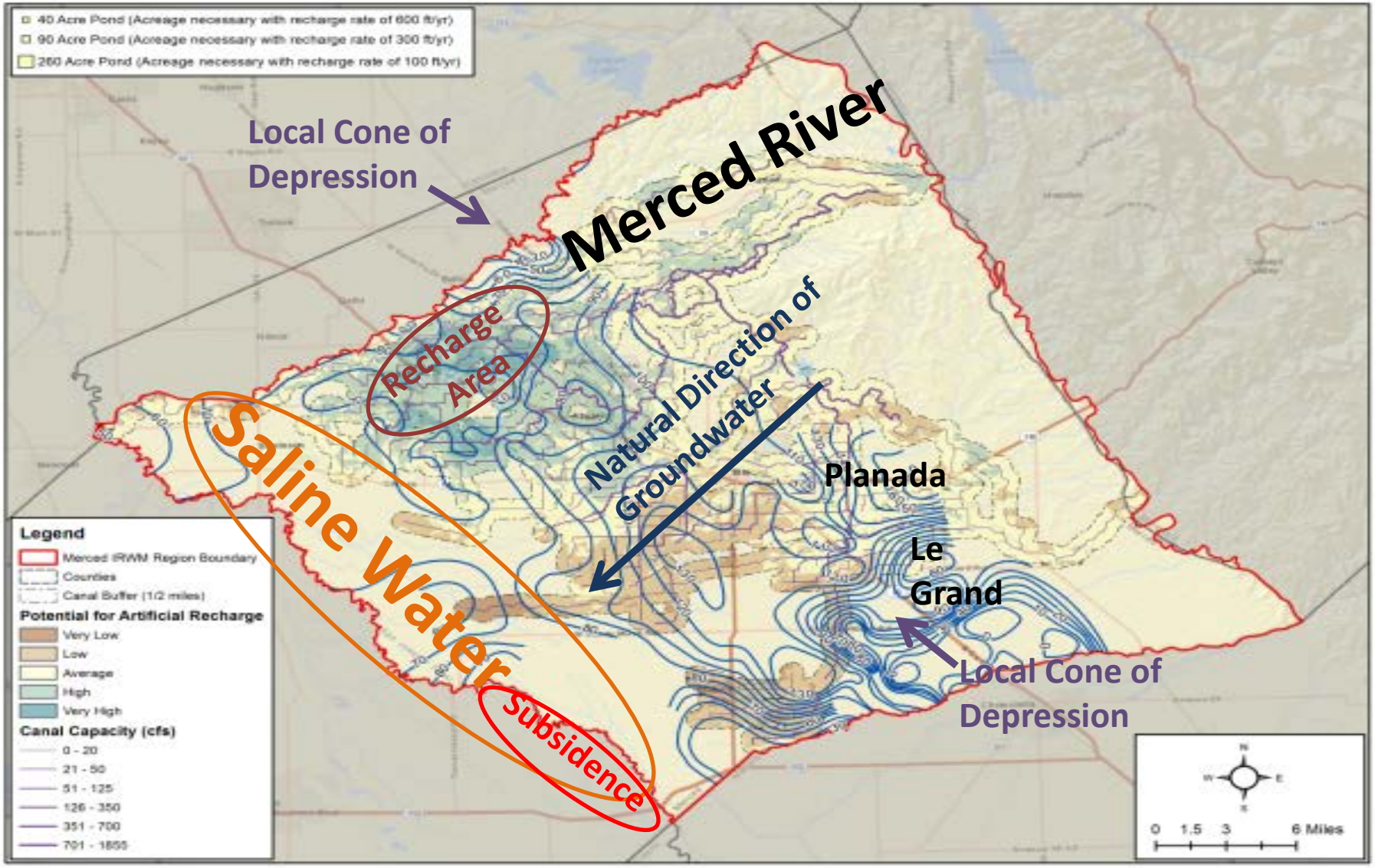
Groundwater Impacts

Merced Water Supply Plan, *a regional cooperative effort*

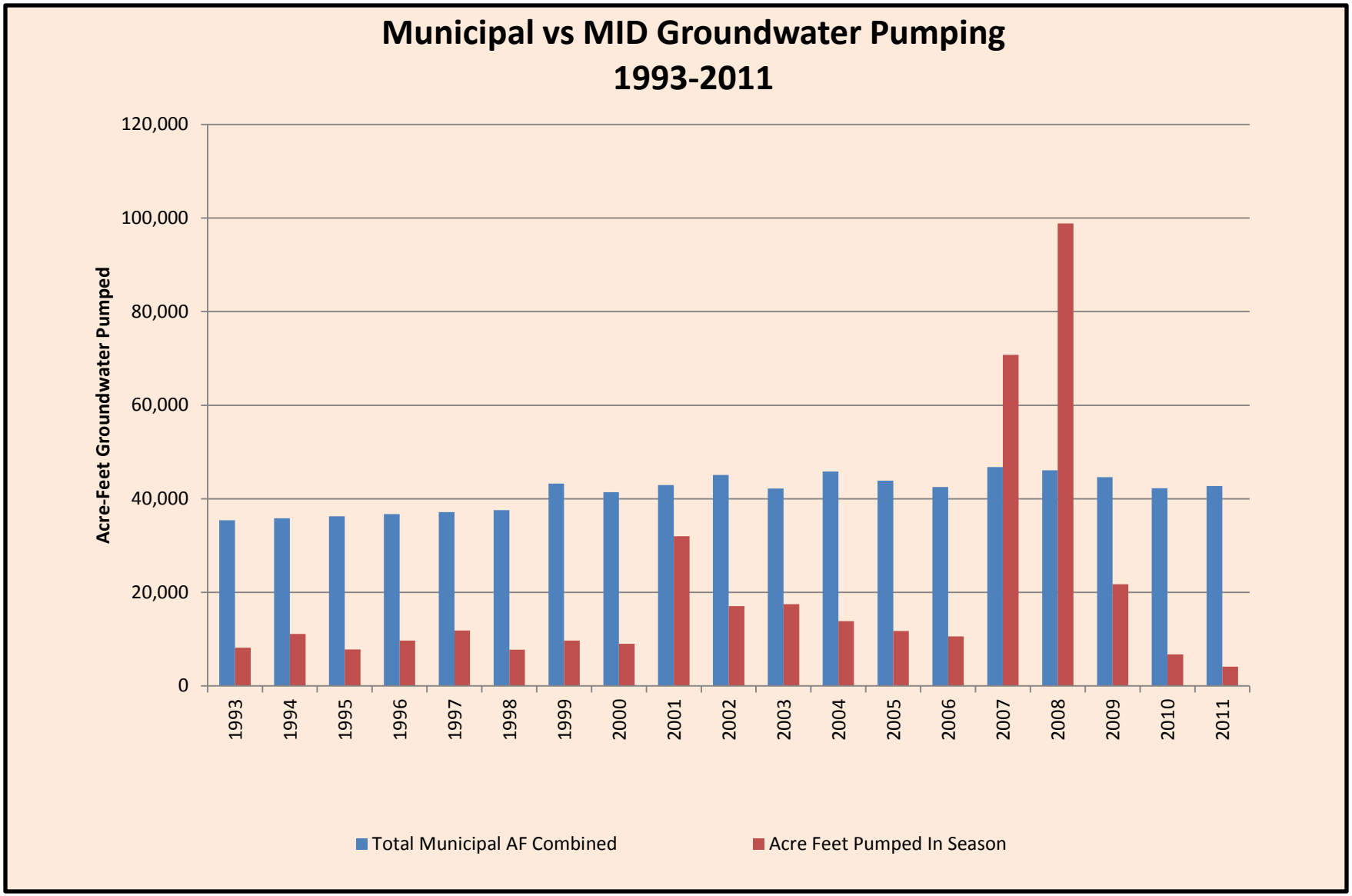


MID Static Groundwater Levels
December Average

Groundwater Impacts



Groundwater Impacts



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Groundwater Impacts

MAGPI Membership

Black Rascal Water Company
Lone Tree Mutual Water Company
Meadowbrook Water Company
Merquin County Water District
Winton Water & Sanitary District
Planada Comm. Services District
Le Grand-Athlone Water District
Le Grand Community Services District

City of Atwater
City of Livingston
Stevinson Water District*
Merced Irrigation District*
City of Merced
County of Merced
Turner Island Water District

East Merced RCD – Member at Large

*Also a surface water purveyor

Working together to manage the basin

MERCED IRRIGATION DISTRICT
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Groundwater Impacts

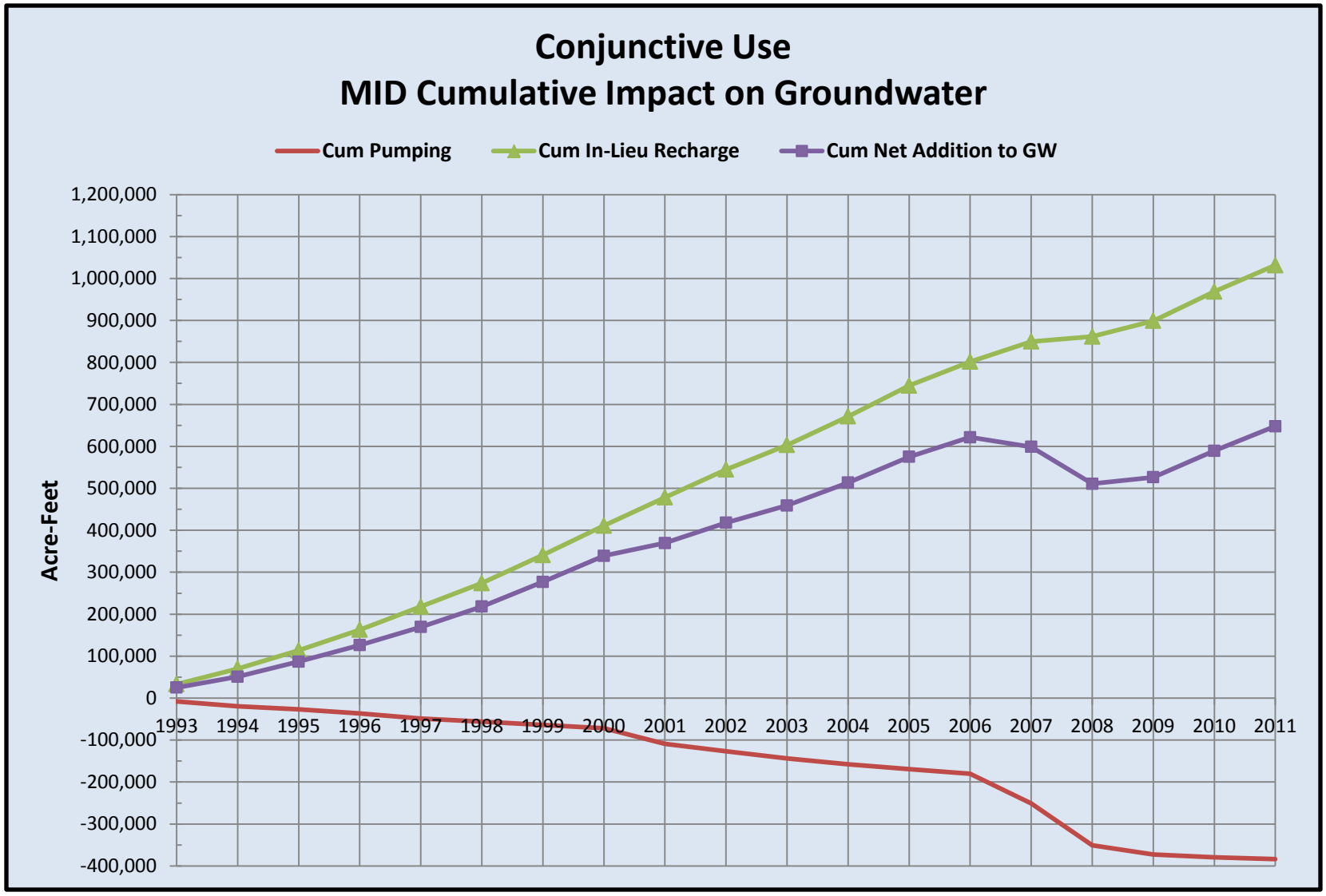
- **MAGPI Vision**
  - Maximize Conjunctive Water Management for Reliable Local, Regional and State-Wide Water Supply
    - Expand Use Of **Surface Water**
    - Expand **Groundwater** Production Capability
    - Continue **Water Conservation** Efforts
    - Monitor Groundwater

Groundwater Impacts

Surface and Groundwater Optimization Program (SUGWOP)

- Groundwater Management
  - Intentional Recharge Basins
  - Low-Head Boosters Replacing Deep Wells
  - MID Incentive Programs
- Surface Water Conservation/Water Quality
  - Measurement
  - Automation/Control
  - Regulating Basins
  - Pipeline Select Open Laterals
  - Irrigation Efficiency Programs
  - Operation Discharge Recovery

Groundwater Impacts



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Groundwater Impacts

- **Draft SED States**
  - MID Capacity for Pumping Groundwater = 180,000 AF
- **That Was 40 Years Ago**
  - Due to Dropping Groundwater Levels, Capacity = 100,000 AF
  - Aquifer is Already Stressed and Proposed Action Will Drive More People to Aquifer, Further Reducing Yield

Groundwater Impacts

- Unravel Decades of Regional Water Supply Collaboration Within a Self-Sustaining Proactive Region
- Result in Over-Draft of Groundwater Basin and Deterioration of Groundwater Quality
- Only Source of Drinking Water for Residents in Merced, Atwater and Livingston, as Well as Other Disadvantaged Communities in the Region

Water Supply Impacts

Total Canal Deliveries (1,000 acre-feet)			
Year Type	Current Requirements	SWRCB SED & Current Req.	Difference
W	488.4	488.4	0.0
AN	494.6	493.1	-1.4
BN	498.3	474.7	-23.6
D	498.6	463.5	-35.1
C	354.9	284.7	-70.2
All Years	**466.7**	**443.5**	**-23.3**

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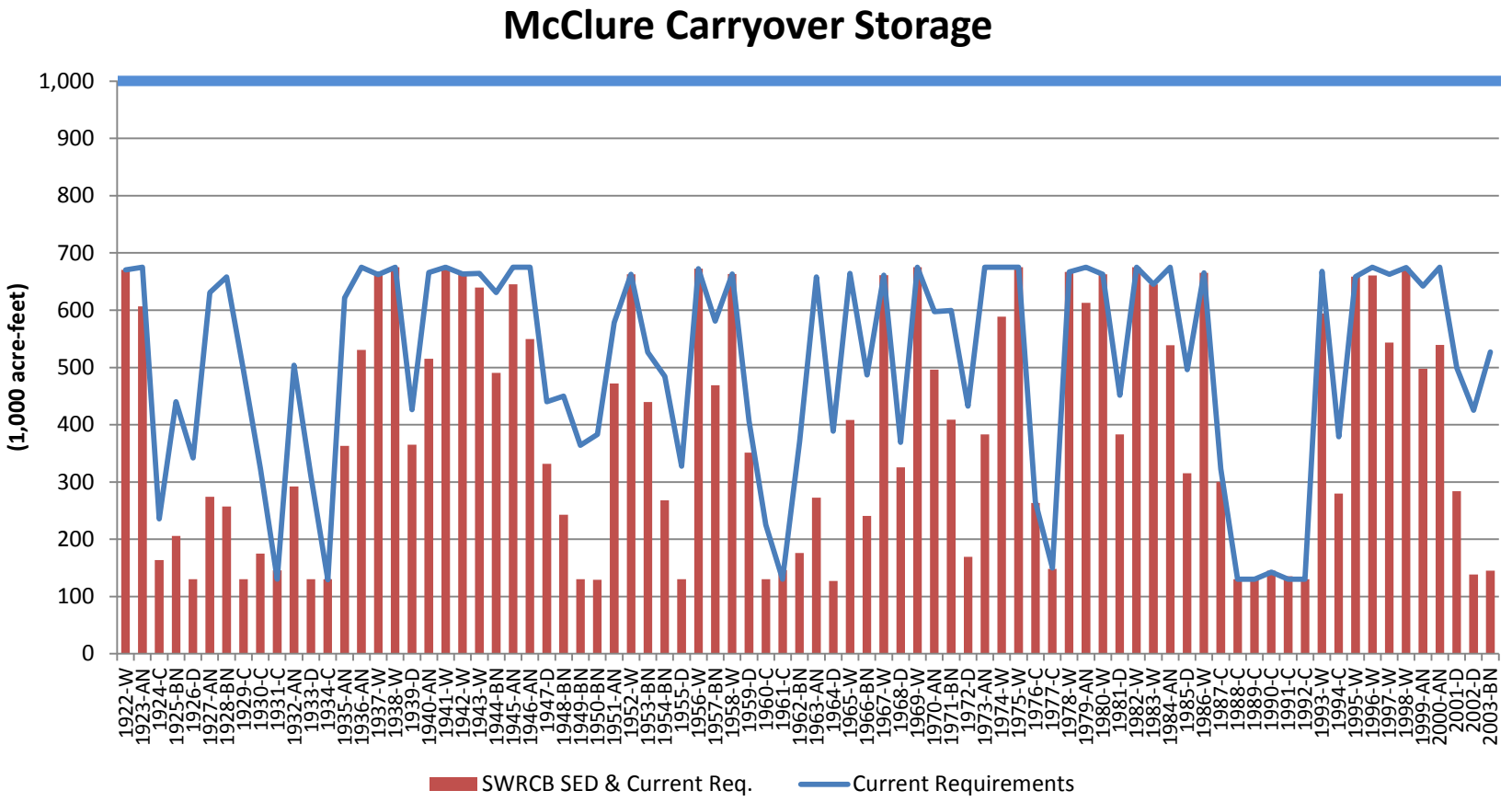
Reservoir Impacts



- **Lake McClure Smallest Tributary Reservoir, Generally Filled and Drawn Down Each Year per Draft SED**

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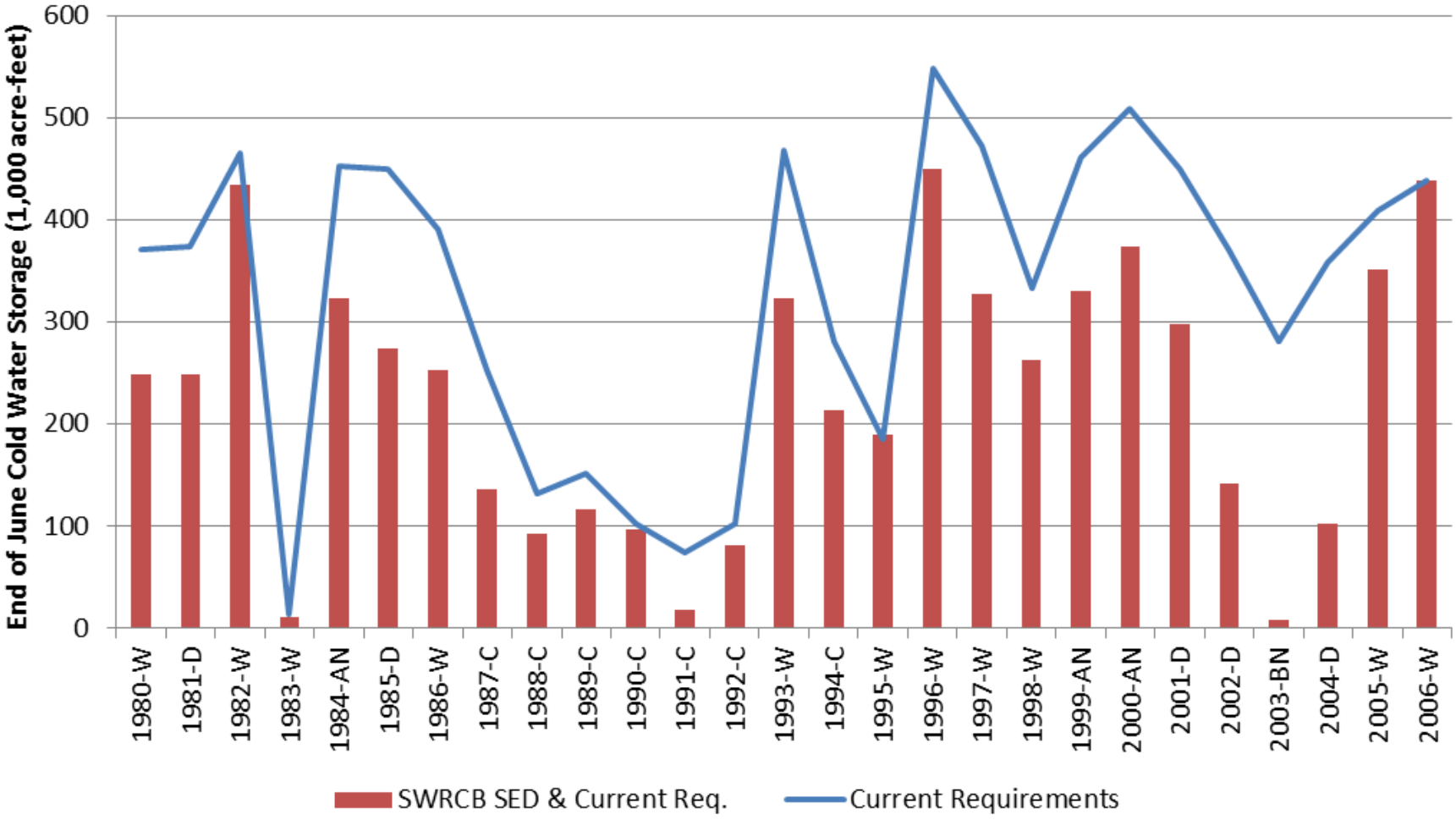
Recreation Impacts

- **Recreational Impacts at Lake McClure**
  - Recreation Facilities Rendered High and Dry
  - Recreation Driven in Large Part by Lake Levels
  - Severely Limits Shoreline Access
  - Reduced Visitation

Cold Water Pool Impacts

Average Annual Reduction in Cold Water Storage at End of June of 100,000 AF



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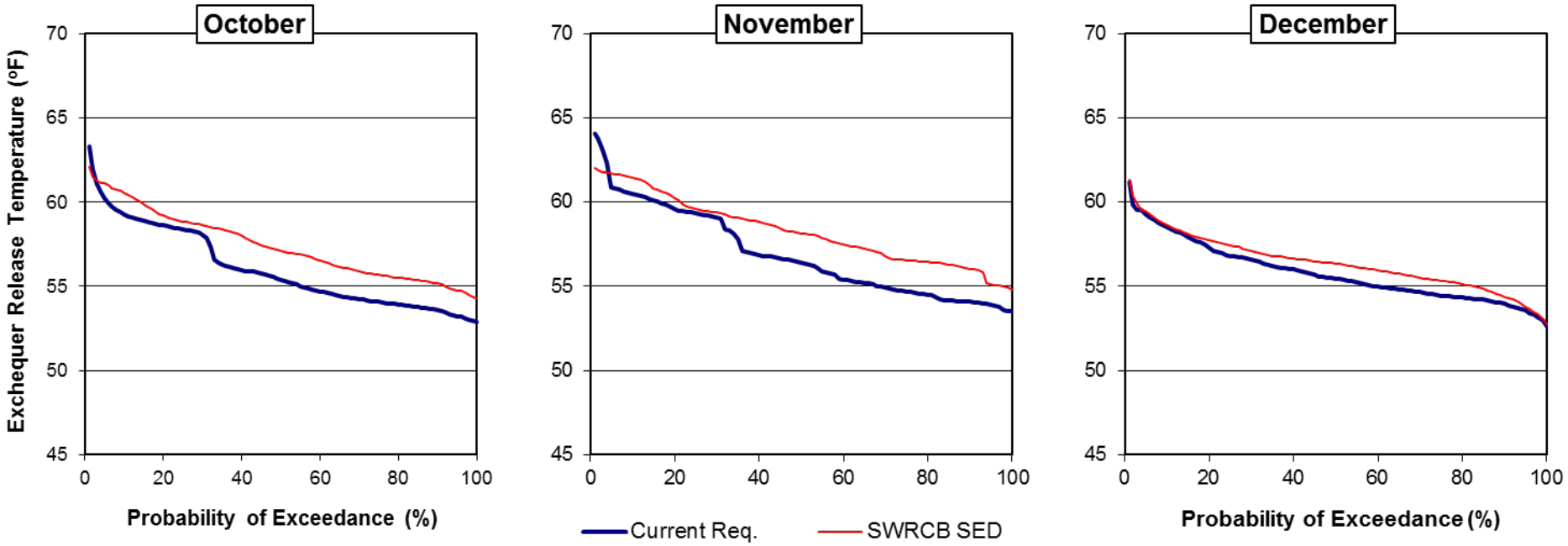
Cold Water Pool Impacts

Higher Release Temperatures from New Exchequer Reservoir when Fall-Run Chinook Return to Spawn



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Merced River Chinook Salmon Impacts

FERC Study Results (Current Conditions)

- Spawning
  - Spawning Timing As Expected
  - Egg Viability is High in Merced River
- Rearing
  - Habitat Availability Generally Exceeds 80% Through May
  - Fry, Pre-smolt And Smolt Abundance Consistent With Escapement
- Outmigration
  - **SURVIVING OUTMIGRATION IS WELL BELOW EXPECTED UNDER EXISTING FLOWS AND TEMPERATURES**

Merced River Chinook Salmon Impacts

- **Spawning Impacts**
  - Temperatures During Spawning Would Increase
  - Delay Spawning and Timing of Subsequent Life Stages
  - Decrease Survival
- **Rearing Impacts**
  - Rearing Habitat Availability Will Not Increase and Potentially Decrease With Warmer Temperatures
- **Outmigration Impacts**
  - Timing of Outmigration Will Be Delayed
  - Decreasing Survival Potential and Production

Merced River Chinook Salmon Impacts

- Draft Flow Objective Can Adversely Affect Viability of Merced River Chinook Salmon
- Conflicts with Stated Purpose
- Request SWRCB Study and Disclose These Impacts and Provide Rational on Why Benefits of Spring Releases Outweigh These Impacts

Conclusion

Merced ID Voices Strong Opposition to Draft SED

- Unravel Decades of Sustainable Regional Conjunctive Use and Regional Water Supply Collaboration
- Results in Over-Drafting of Groundwater Basin
- Cost Jobs, Economically Devastates an Already Struggling Region and Destroys a Way of Life for Thousands of Small Family Farmers
- Presents Unilateral Demands Without Quantifying Benefit or Goal to be Achieved

Conclusion

Merced Irrigation District Requests

- Pursue Comprehensive Solution Consistent with Delta's Co-equal Goals
- Prioritize Non-Flow Measures Before Demanding Flow Increases that Threaten Economic Vitality of Already Distressed Counties, Cities, and Small Family Farms

Thank You for Consideration of Our Concerns