

Merced Irrigation District's Public Comments

**State Water Board's September 2016
Draft Revised Substitute Environmental Document in
Support of Potential Changes to the
Water Quality Control Plan for the
San Francisco Bay/Sacramento-San Joaquin Delta Estuary**

State Water Board's December 19, 2016 Public Meeting in Merced, California

Introductory Comments

December 19, 2016

MeID's Public Comments

Slide 2

SED Does Not Comply With The Law (1 of 2)

- No evidence of water quality violation by MeID.
 - Without a water quality violation, there is no justification for the extreme relief and remedies sought against MeID
 - Does not account for other factors that impact fish populations, including habitat, predation, and diversions by other water users not subject to the flow requirements
- Board has not demonstrated that the flow restrictions will actually help restore fish populations or improve water quality in the Bay-Delta.

SED Does Not Comply With The Law (2 of 2)

- The Project will result in direct violations of Sustainable Groundwater Management Act (SGMA) by requiring increased pumping at the exact time that SGMA limitations and restrictions on groundwater use will be imposed.
 - Critically over-drafted groundwater basin

- CEQA violations:
 - Project definition and components – fatal flaw
 - Failure to analyze non-flow alternatives; failure to analyze negative impacts
 - Public's ability to clearly understand proposal, and provide written and oral comments has been substantially compromised

MelD's Assumptions of Board's Proposed Project

- Merced River flow requirement – 40% of unimpaired flow measured near Stevinson.
 - February through June
 - 7-day running average
- Vernalis flow requirement – 1,000 cfs.
 - If 40% unimpaired flow is not enough, MelD has to contribute 24% of whatever is needed to get to 1,000 cfs
- Lake McClure storage requirement – minimum of 300,000 acre-feet.
- NOT ASSUMED – Adaptive Adjustments (flow shifting), physical enhancements or adaptive management.

Violation of Due Process, Use of FERC Authority

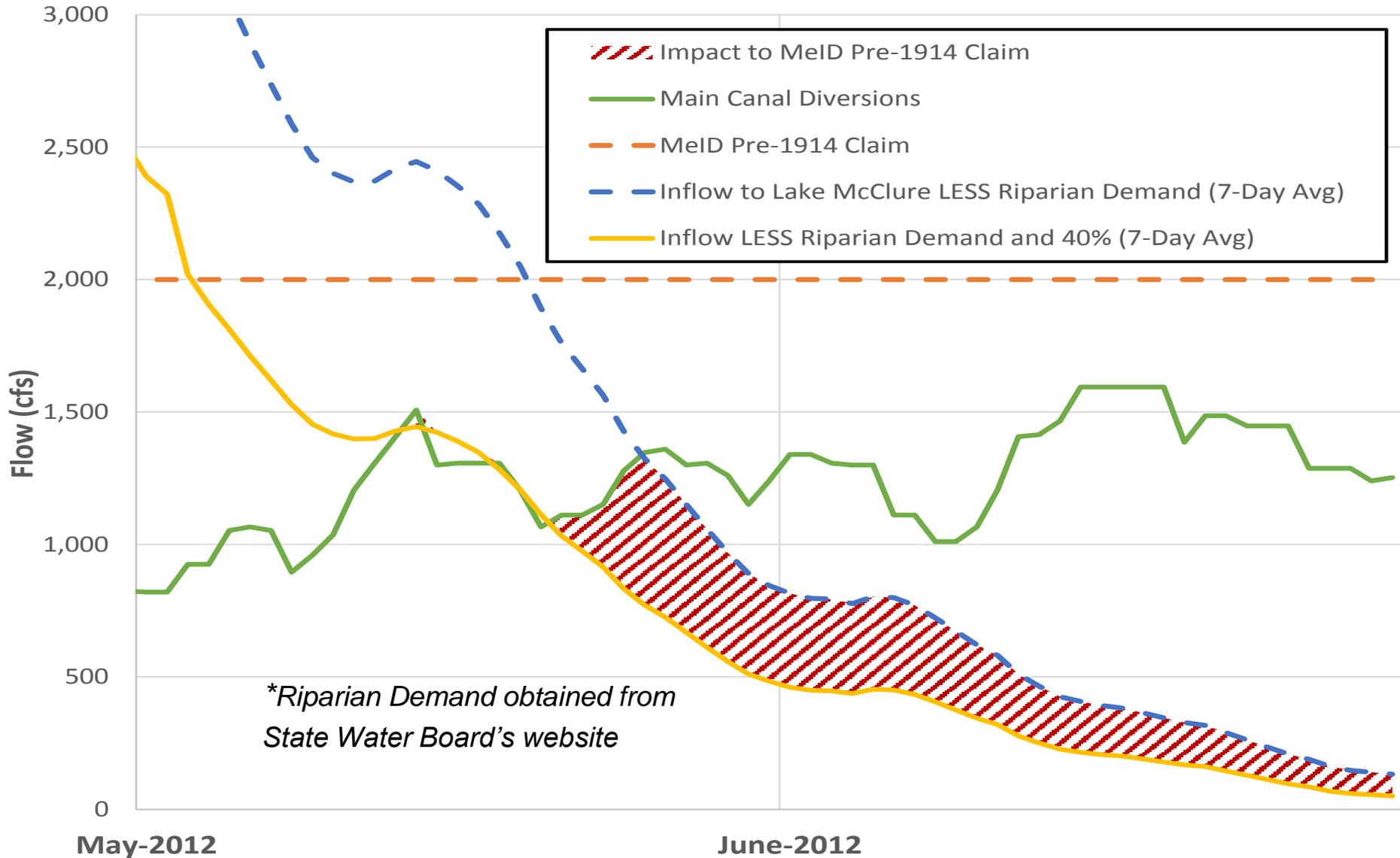
- The Board's plan to restrict and modify MeID's water rights without following the established procedure is in direct violation of the law, and prior decisions involving the Bay-Delta.
 - Violates Due Process rights

- Inappropriate use of FERC authority.
 - The Clean Water Act (CWA) section 401 water quality certification is limited, and is not intended to implement programs and projects not directly related to the operation of a FERC-licensed facility
 - The Board attempts to use a federal process for licensing dams and other hydroelectric facilities in a sneaky, deceptive and underhanded maneuver to try to implement the Project without public involvement, and without following the established process for altering water rights

Impacts to MeID's Pre-1914 Water Rights Claims

- MeID has senior appropriative water right on the Merced River with a 1857 priority.
 - Allows MeID to divert unimpaired flow after consideration of riparian demand
- The Project violates the water right priority system, and reallocates water away from MeID's senior rights, in violation of the requirement that more junior water right holders must give up their water first.
 - Feb-Jun flow requirement of 40% of unimpaired flow will substantially impact MeID's pre-1914 water rights
- The Board will be responsible to enforce curtailment of all junior diversions when MeID's pre-1914 water rights are impacted.

Impact to MeID's Pre-1914 Water Right Claims



Summary of Impacts to MeID's Pre-1914 Claims

- Impacts to MeID's Pre-1914 Water Right Claims would occur in approximately 4 out of 5 years, and in all water year-types.
- More than half the impact by volume occurs in June.

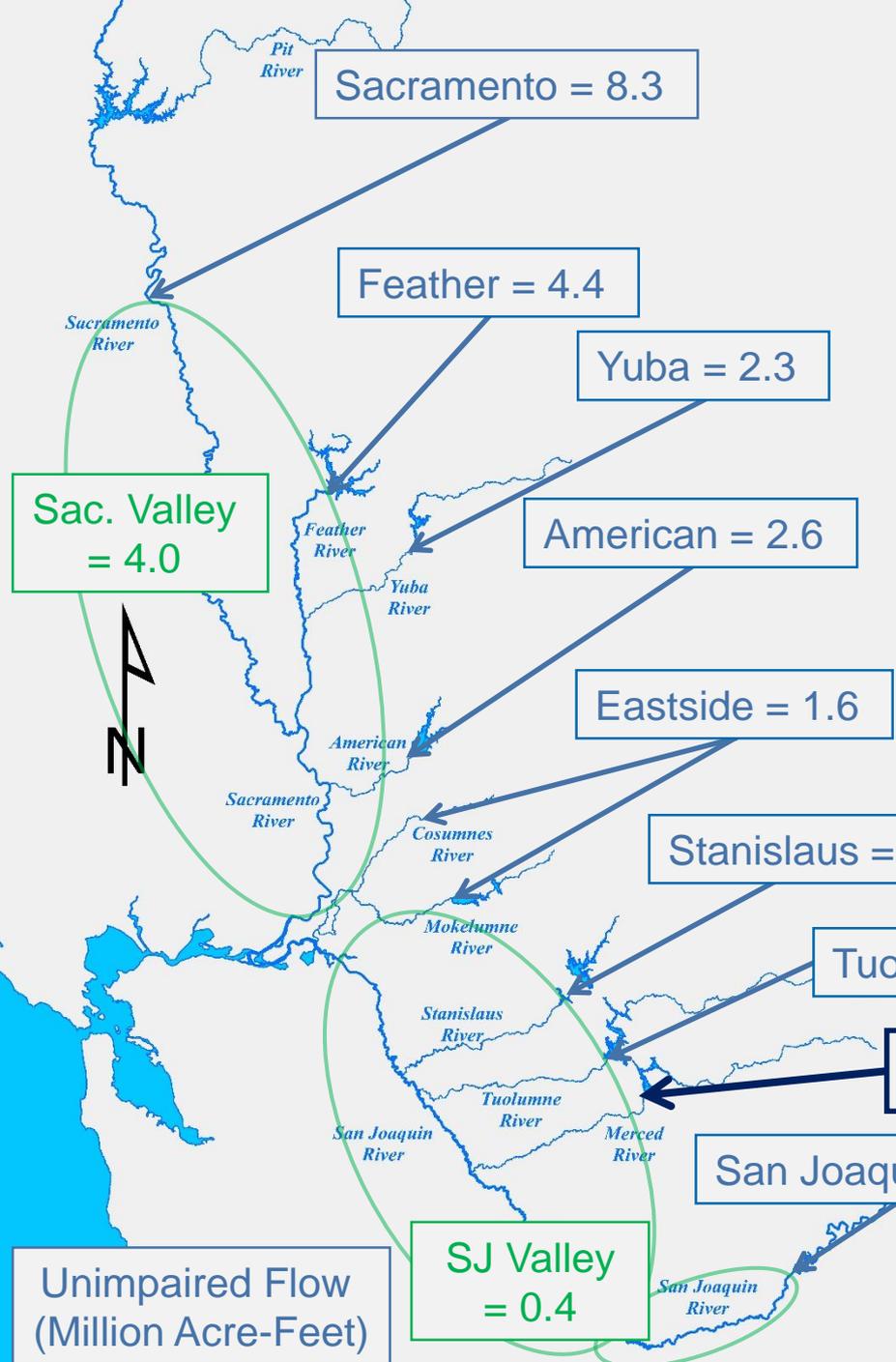
Water Rights and Flow Shifting

- Adaptive Adjustments include “shifting” a portion of a Feb-Jun 40% flow requirement to other months.
- Requires MeID to store water in our reservoir for fish, wildlife and recreation purposes.

Merced River as Delta Tributary

- Lake McClure inflow is approximately:
 - 3% of total 29.3 million acre-feet of unimpaired Bay-Delta inflow
 - 16% of total 6.1 million acre-feet unimpaired San Joaquin River inflow to the Bay-Delta

SOURCE: California Central Valley Unimpaired Flow Data, Fourth Edition, CA Department of Water Resources, November 2006.

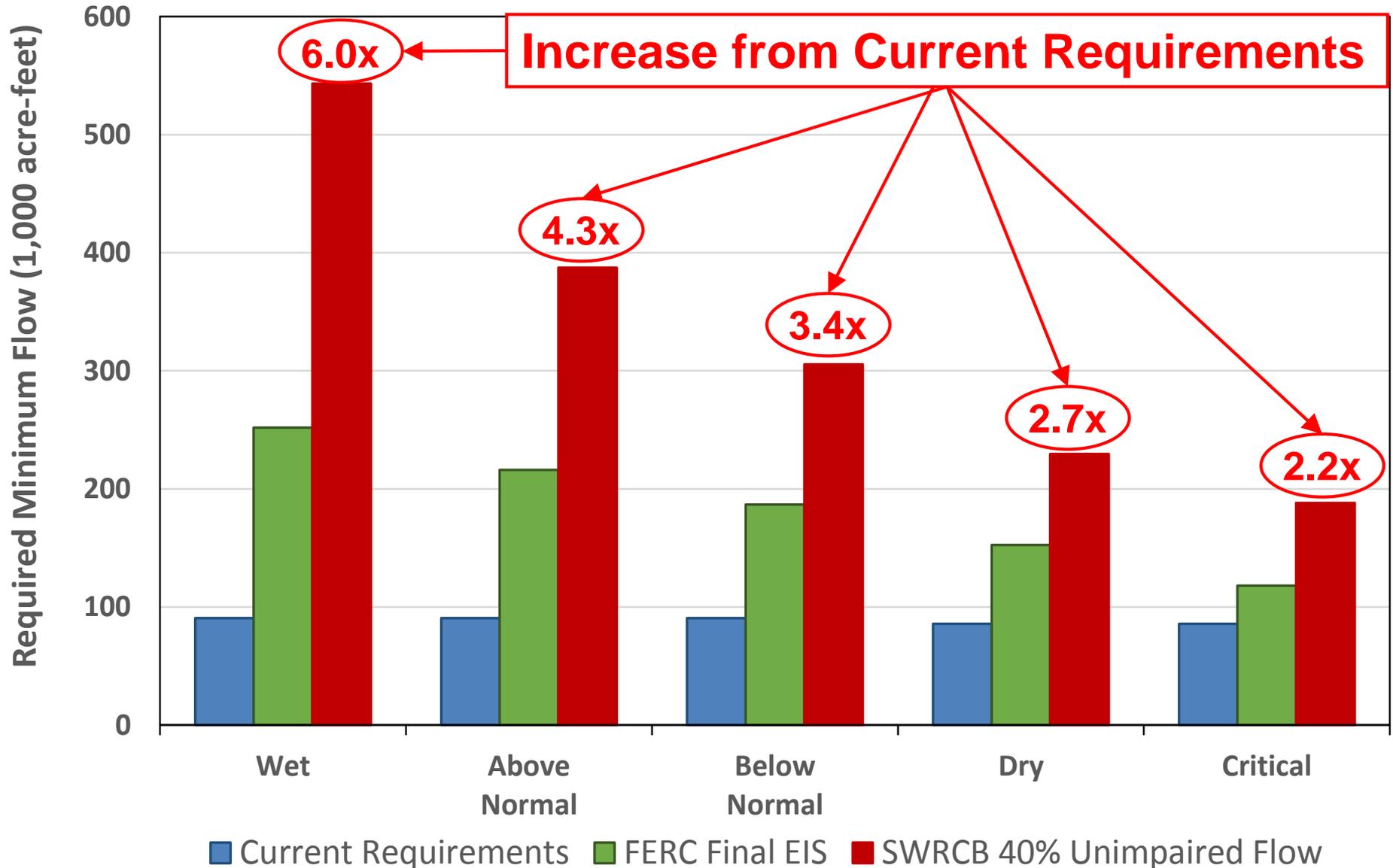


Unimpaired Flow
(Million Acre-Feet)

Public Comments

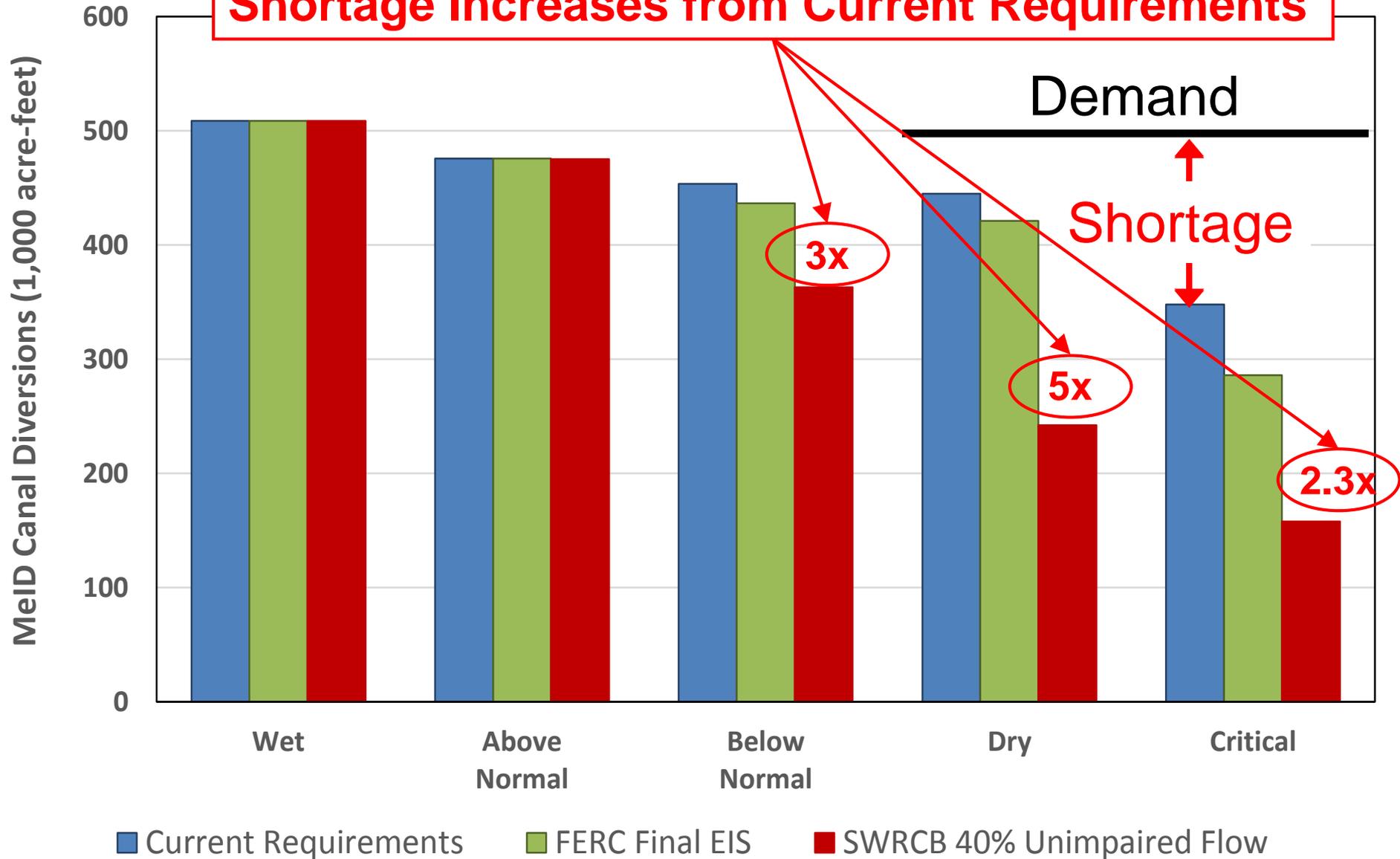
Slide 11

Comparison of Minimum Flows



Water Supply Impacts

Shortage Increases from Current Requirements



Operational Issues

- 7-day running average minimum flow requirement.
- Compliance point is more than 50 river miles downstream of MeID's last point of diversion/control.
- Annual Adaptive Operations Plan required in January.
- Multiple issues associated with flow shifting.
- Implementation in and through the Bay-Delta is not described.

SED Has Multiple Technical Problems

- Project Alternatives and Adaptive Adjustments need definition to allow for adequate analysis.
- Parameters used in analysis are not described in Alternatives.
- Modeling used to eliminate, not disclose impacts.
- Significantly underestimates export of additional Lower San Joaquin River flows at State and Federal Bay-Delta pumping plants.

SGMA Identified Undesirable Effects



Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply



Significant and unreasonable degraded water quality



Significant and unreasonable reduction of groundwater storage



Significant and unreasonable land subsidence



Significant and unreasonable seawater intrusion

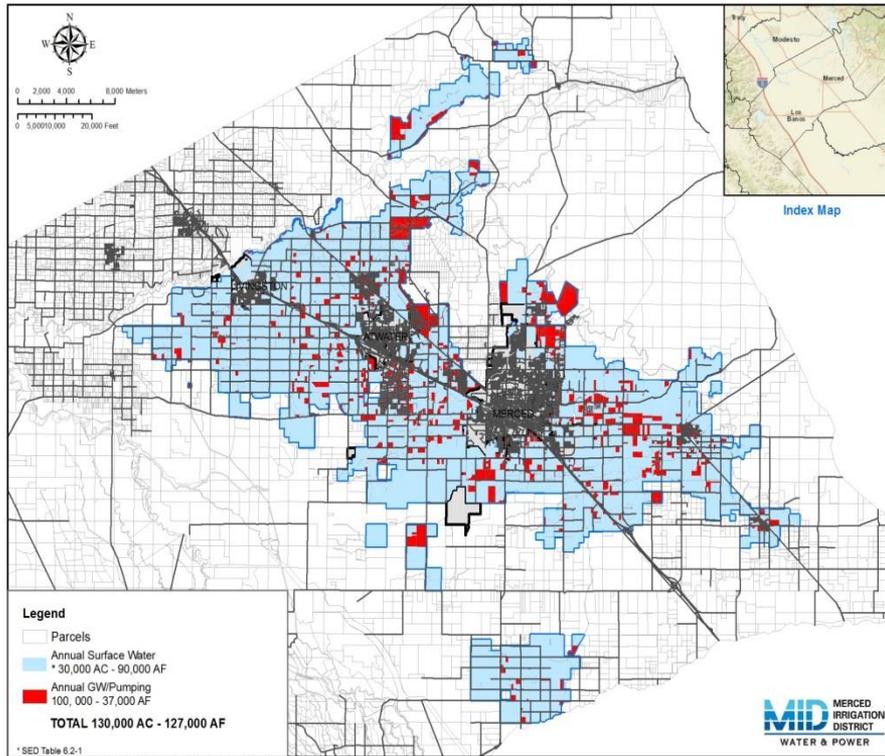


Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

SED Did Not Analyze the Following Impacts:

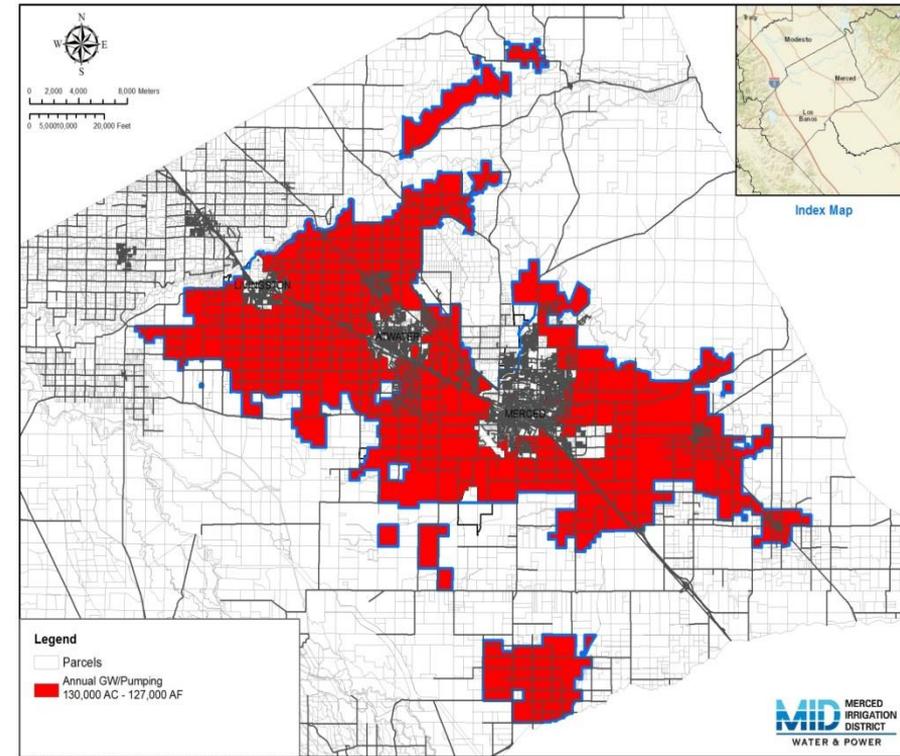
- Water rights implications.
 - Migration of groundwater leaving the basin
- Groundwater availability decreases.
- Groundwater quality (drinking) decreases.
 - Entire basin impacting 150,00 population in a disadvantaged area
- Recharge goes away under the SED.
 - MeID's water rights/distribution system recharge no more
- Subsidence increases dramatically.
 - Proximity to urban areas and essential infrastructure

Areas Relying on Groundwater Pumping



Before SED

December 19, 2016

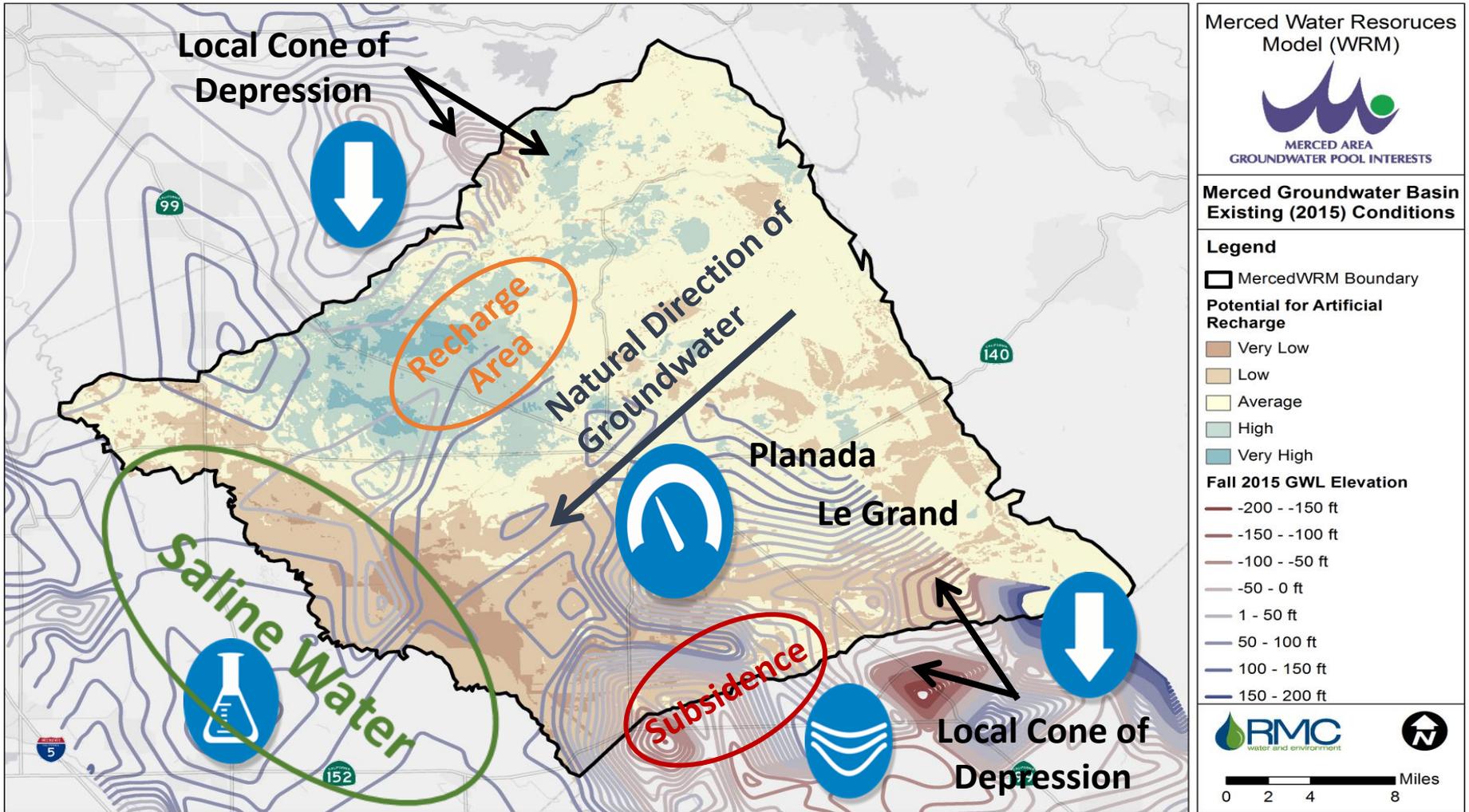


After SED

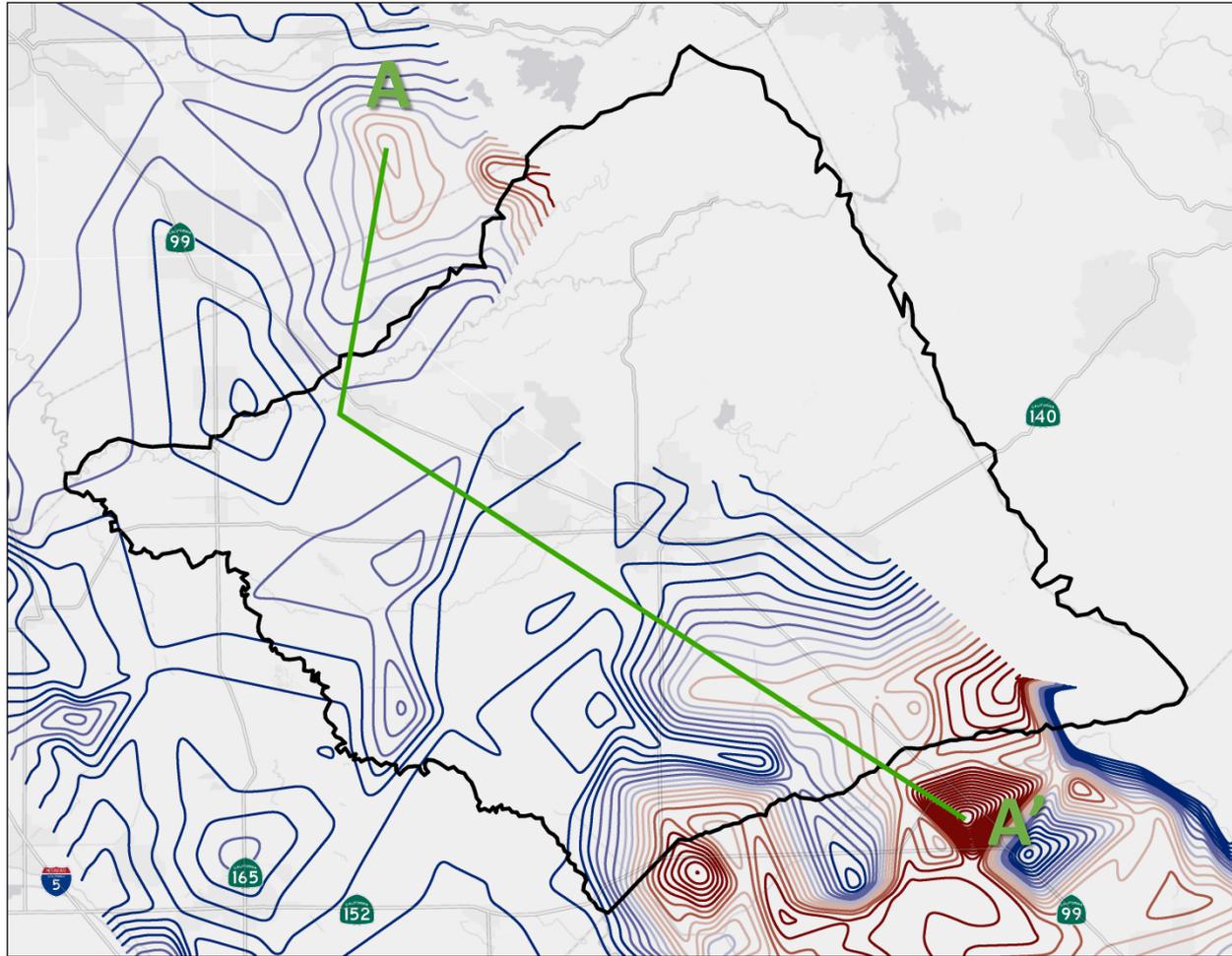
MeID's Public Comments

Slide 18

Merced Sub-basin Existing Conditions



Merced Sub-Basin Existing Conditions [GW Elevation Contours – DWR Fall 2015]



Merced Water Resources Model (WRM)



MERCED AREA
GROUNDWATER POOL INTERESTS

2015 DWR GWL
Cross Sectional Location

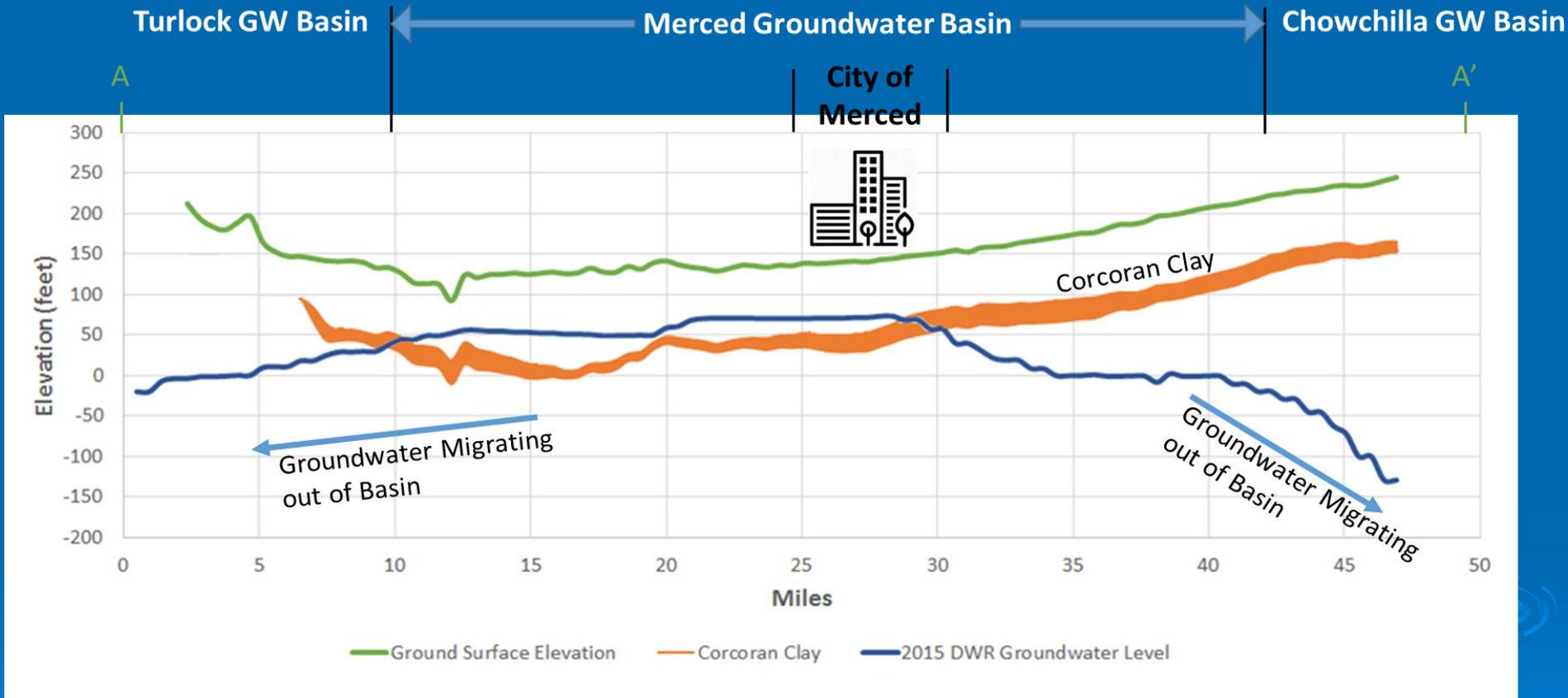
Legend

- Cross Section A-
- ▭ MercedWRM Boundary

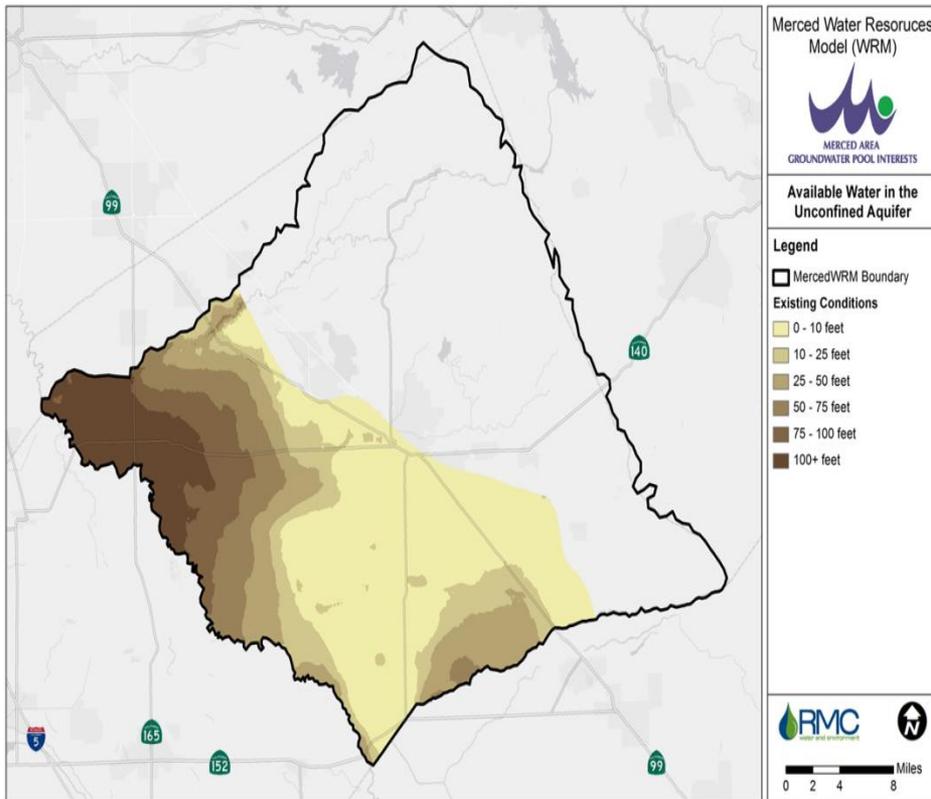


0 2 4 8 Miles

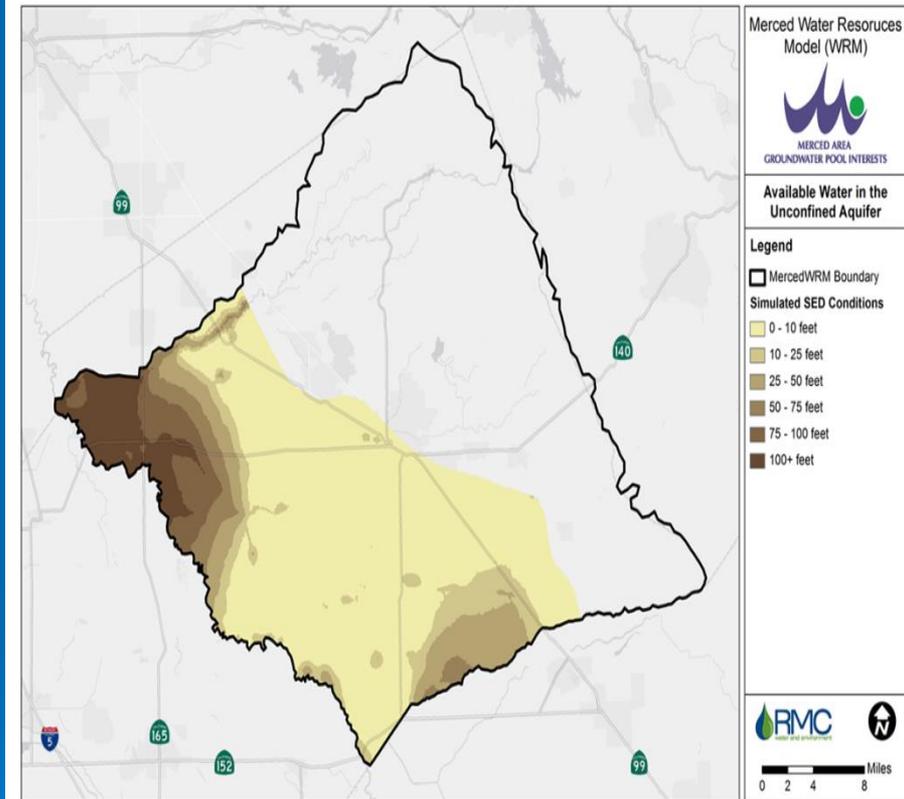
Merced Sub-basin Existing Conditions [Groundwater Level Profile – DWR Fall 2015]



SED Impacts to Groundwater Availability [GW Elevation above the Corcoran Clay]

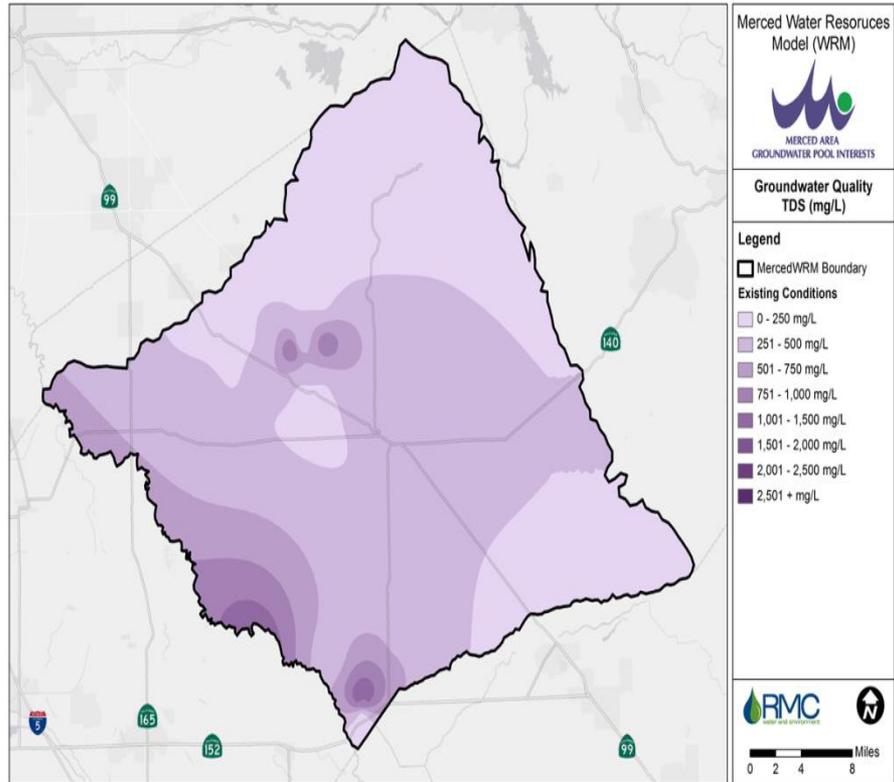


Before SED

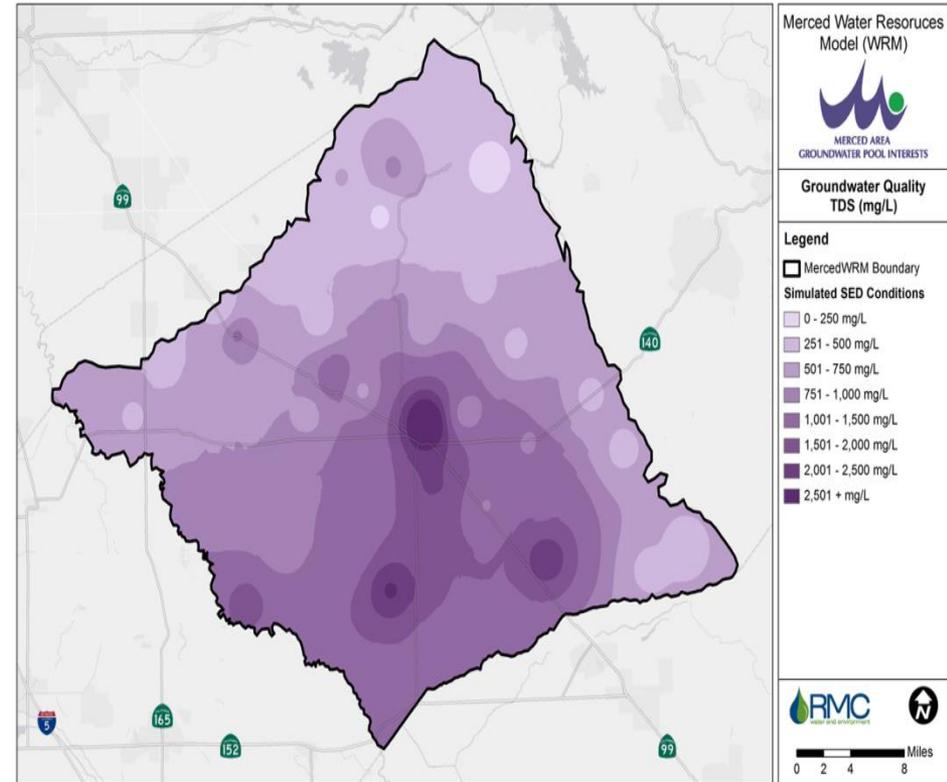


After SED

SED Impacts to Groundwater Quality [Salinity]

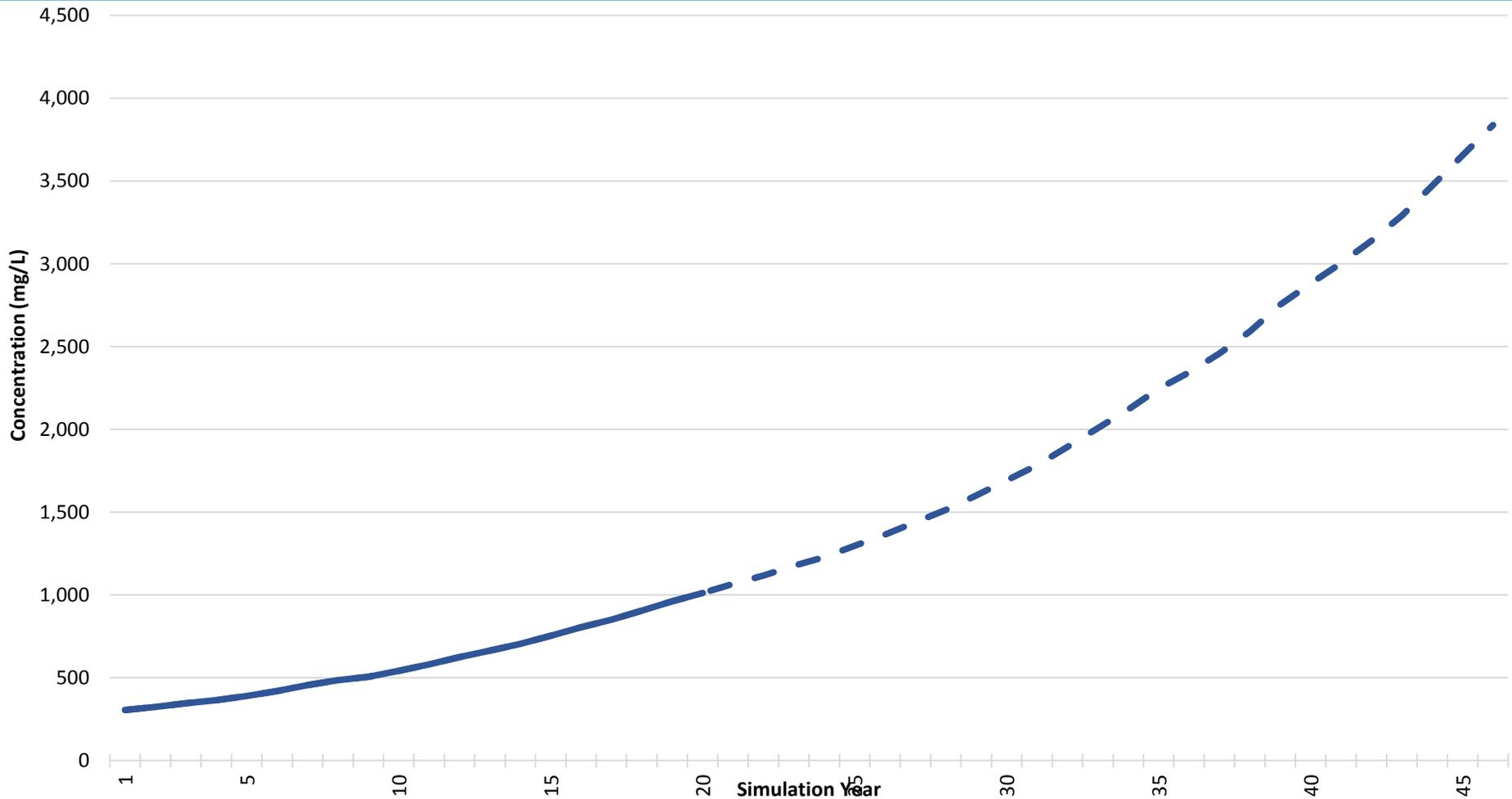


Before SED

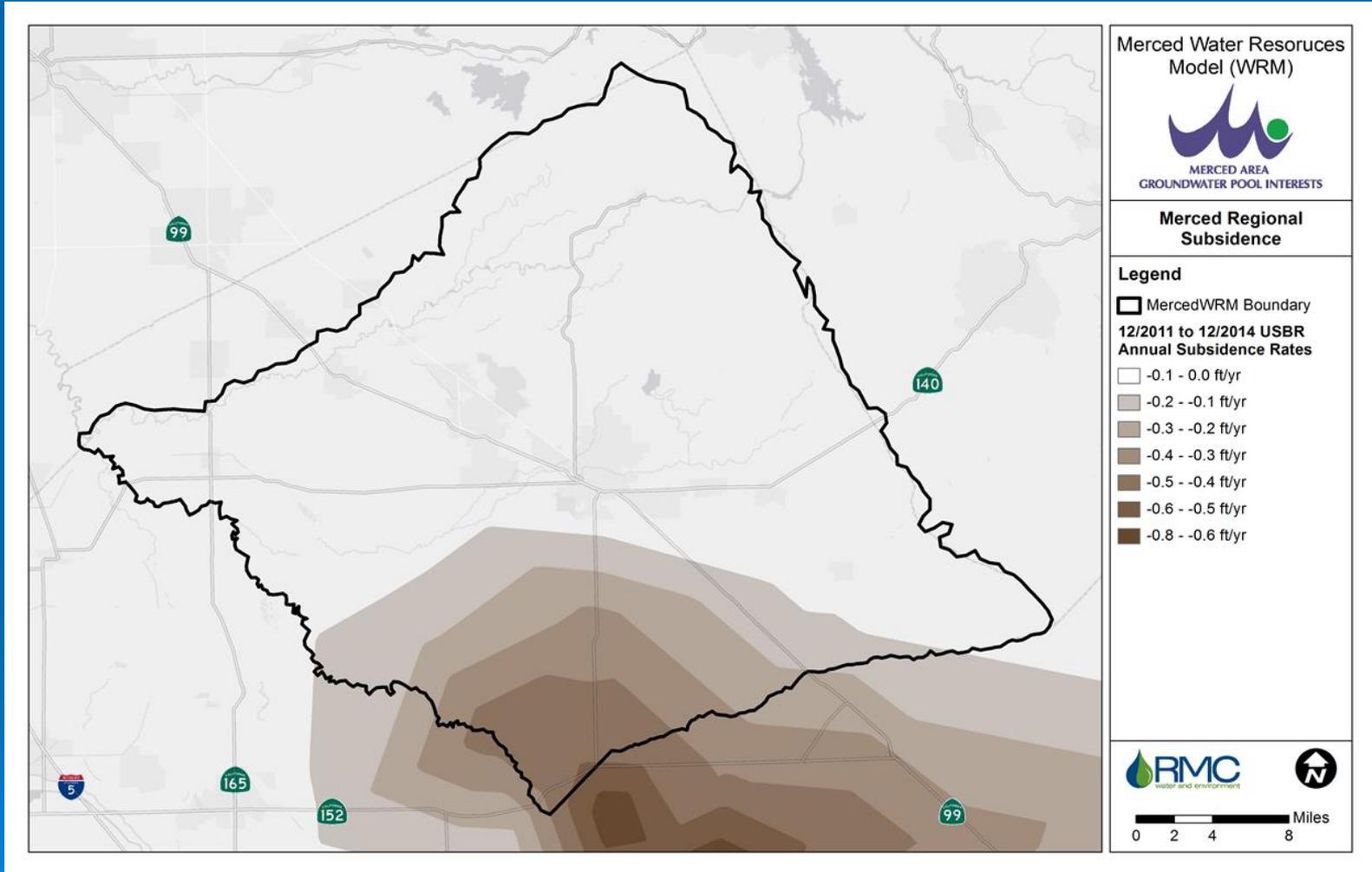


After SED

SED Impacts to Groundwater Quality [City of Merced – TDS under SED Scenario]



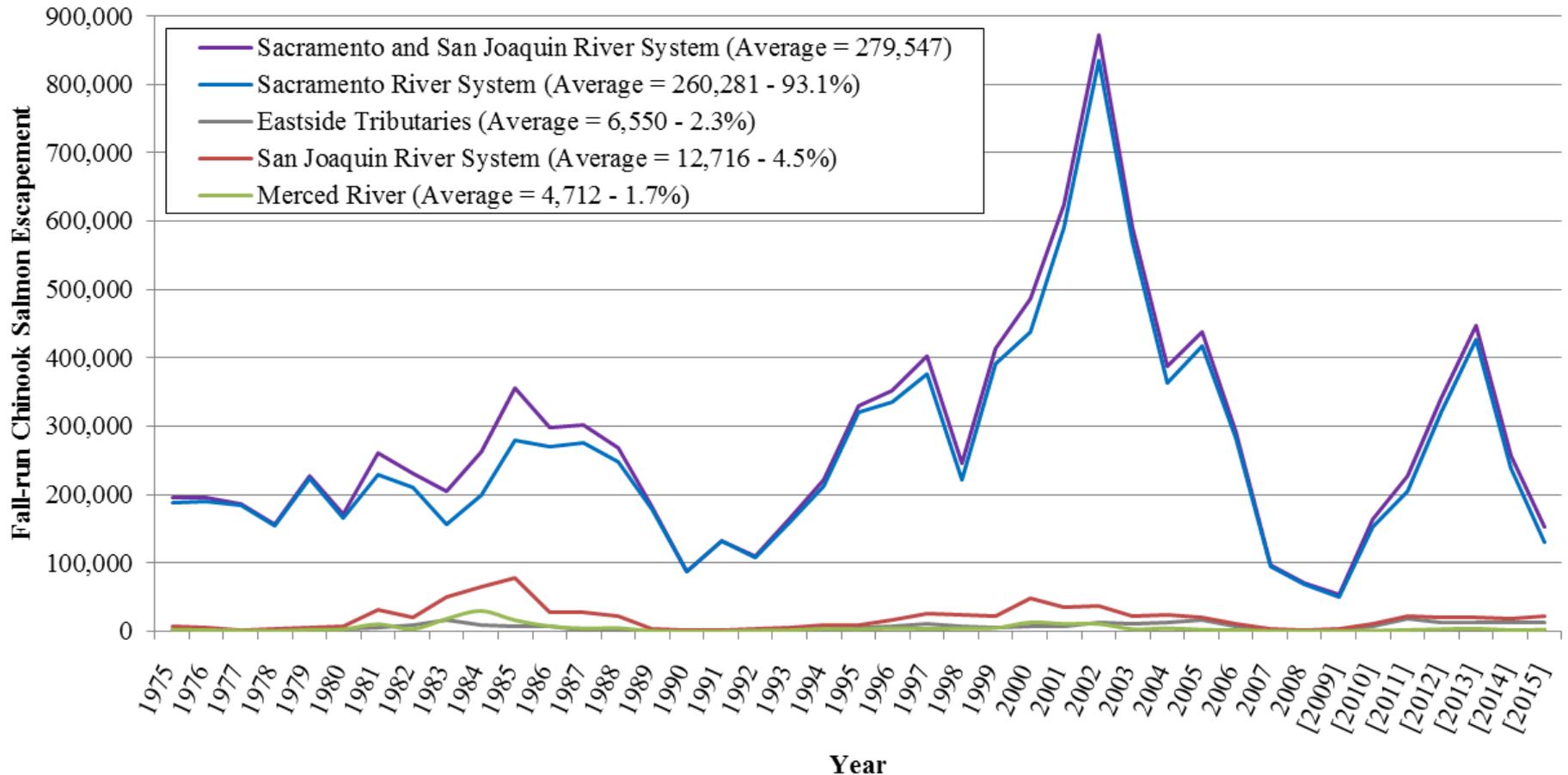
Regional Subsidence



Summary of SED Impacts to Groundwater Basin

- Water rights implications.
- Groundwater availability.
 - Exhausts groundwater supply above Corcoran clay.
- Groundwater quality.
 - Population and Disadvantaged Communities
- Increased subsidence.
 - Encroaching on urban areas and critical infrastructure

Central Valley Fall-Run Escapement



SOURCE: CDFW 2016. California Central Valley Chinook Population Database Report. Chinook Salmon Escapement. April 11, 2016. Brackets indicate years with preliminary estimates.

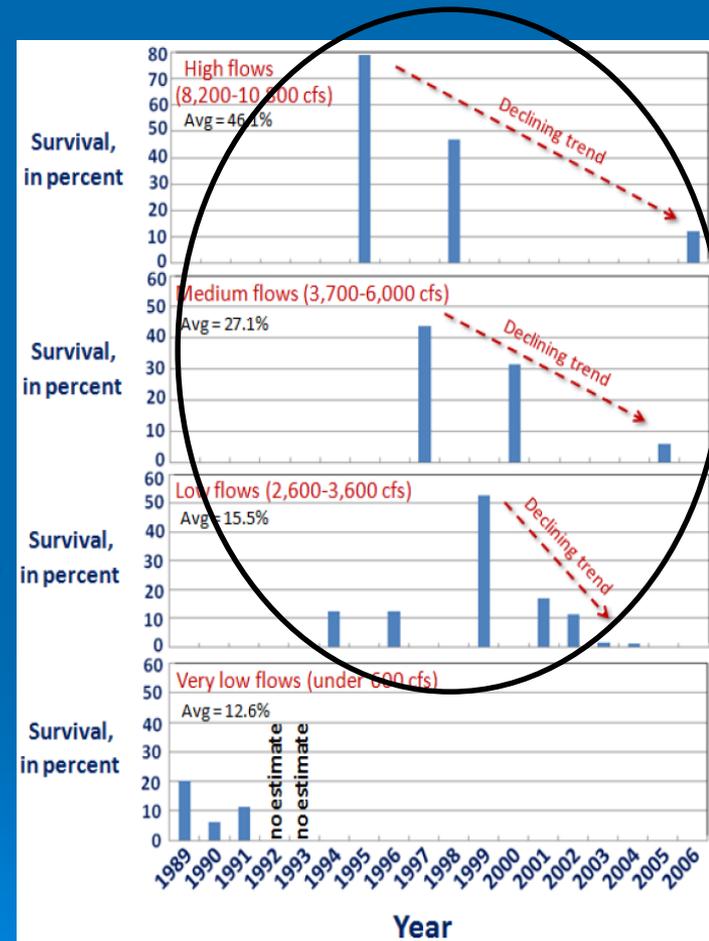
SED Does Not Support Fish Conclusions

- The Board's Alternatives would increase fall-run Chinook salmon escapement from the Merced River by ~400 fish, most of which would be of hatchery origin.
 - 1,103 new fish from SJR – The SED's estimate of increased Sn Joaquin River escapement with the 40% unimpaired flow Alternative
 - 408 of the new fish would be from the Merced River – Assuming Merced River is 37.1% of the total SJR escapement (slide 27)
 - ~40-80 of the new fish from the Merced River would be naturally-produced - Assuming 80-90% of the Merced River fish are hatchery-produced
- The SED makes unsupported claim that Alternatives would buffer SJR Chinook populations from catastrophes (e.g., recent drought).
- The SED does not adequately address adverse impacts to CV steelhead DPS critical habitat in the Merced River (should use best available science!).
 - The SED Alternatives would increase summer temperatures in Merced River (based on SED and Merced River Operations and Water Temperature Models)
- The SED does not adequately address adverse impacts to Lake McClure fish.

SED Does Not Support Habitat Conclusions

- The SED ignores the Bay-Delta.
 - Bay-Delta habitat conditions are critical to the survival of juvenile salmonids
 - Bay-Delta conditions (hydrology, water operations, predation, etc.) appear to be controlling juvenile survival (not flow at Vernalis)

- The SED ignores unsuitable thermal habitat conditions in the SJR, overestimating benefits of the Alternatives.
 - The SED Alternatives fail to meet core rearing 7DADM criteria in the SJR in May
 - The SED Alternatives fail to meet smoltification 7DADM criteria in the SJR in April, May & June

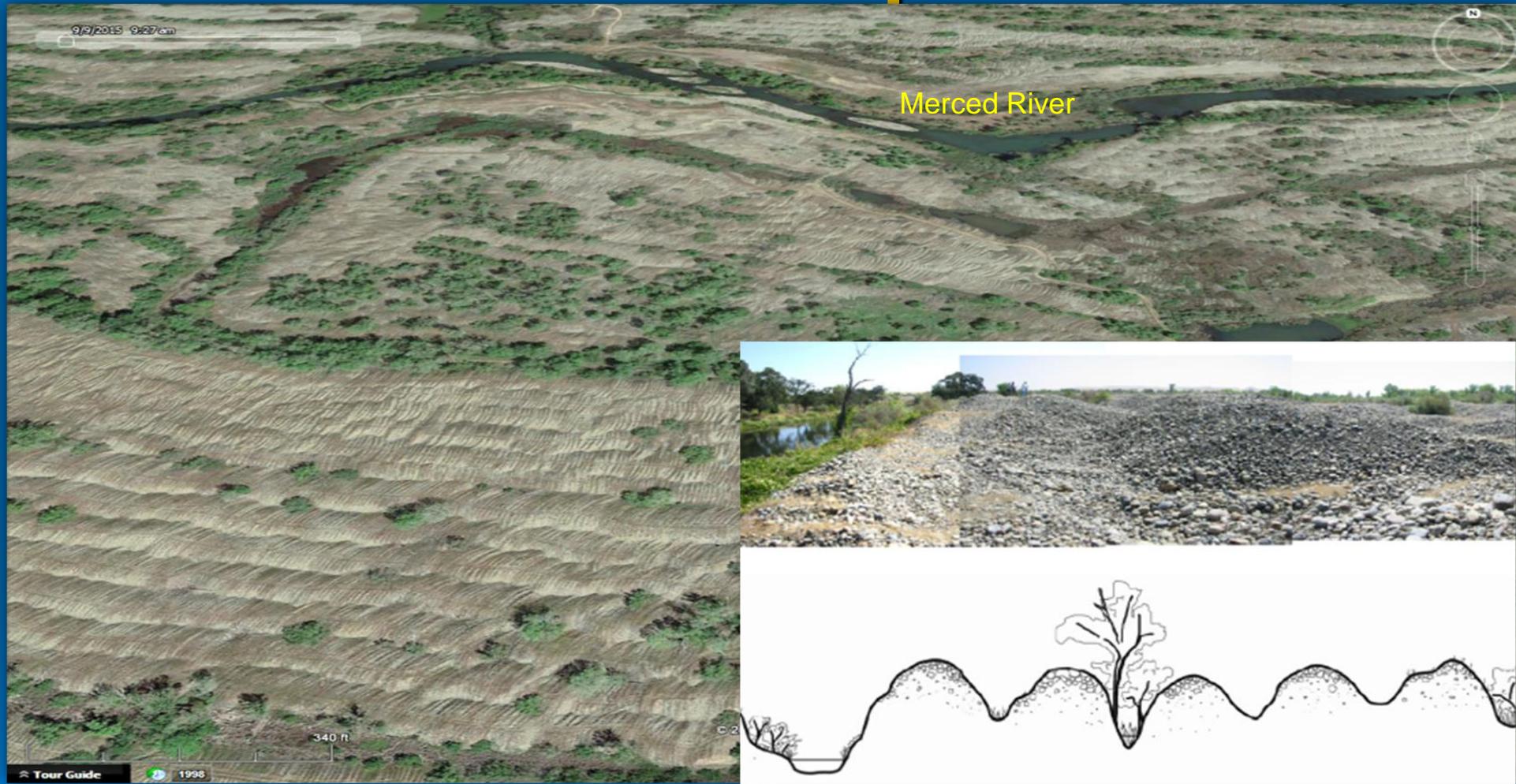


SOURCE: Hankin et al. 2010 (VAMP Peer Review)

SED Inappropriately Relies on “Floodplain” Inundation Benefits

- The SED claims substantial benefits to juvenile salmonids in the Merced River associated with “floodplain” inundation, but the analysis is not objective, and the conclusions are misleading.
 - The SED does not even define “floodplain”
 - The SED uses a very coarse methodology with little documentation
 - The SED does not provide spatial distribution of floodplain inundation
- The SED does not evaluate any key components of floodplain habitat such as physical habitat quality, nutrients and food production, hydraulics (depth and velocity), duration and timing of inundation, water temperatures, and potential for stranding, isolation and predation.
- Inundation of areas outside of the main channel does not equate to suitable floodplain habitat for salmonids (next slide).

Dredge Windrow/Dredge Tailings Not Suitable “Floodplain” Habitat



SOURCES: Graphic, Stillwater Sciences 2006. Image, Google Earth 2016

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MeID's Public Comments

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SED Is Not Adequate Technically (1 of 2)

- The Board's use of a monthly flow model is misleading and not biologically justifiable.
- The Board's water temperature evaluation includes unsubstantiated water temperature "significance criteria," and is not biologically meaningful.
 - Use of 1°F difference in average 7DADM temperature as a significance criterion is not appropriate (1°F improvement in water temperature is not biologically meaningful if the starting water temperature is 80°F)
- The SED has insufficient information to fully evaluate impacts associated with the Alternatives.

SED Is Not Adequate Technically (2 of 2)

- The SED includes misleading information regarding the presence of steelhead in the Merced River.
 - No data indicate a steelhead population in the Merced River
- The SED includes many misleading and inconsistent statements and discussions, and uses insufficient, incorrect or inappropriate references.
- The SED includes various inaccuracies and outdated information regarding fish species' regulatory status and abundance.

Project Goals are Unfounded and Not Met

- Proposed Project conflicts with the stated fundamental Project purpose.
 - “Flow-shifting” to months outside of Feb-June conflicts with fundamental purpose of establishing Feb-June flow objectives
- The SED fails to demonstrate that the Project would maintain “viable” native fish populations.
 - No viability analyses were conducted
 - The SED confuses population viability with simple metric of abundance
- Project goals fail to account for existing local ecological and biological conditions.
 - The SED fails to recognize that fish habitat suitability is based on the interaction of flow, temperature and structural habitat conditions (not flow alone!)

Closing Comments

- Perception Problems
- Merced River S.A.F.E. Plan
- Reservoir Benefits
- Alternate Fair and Understandable Process
- Delta Destruction Ownership
- Settlements?