# Bay-Delta Plan Hearing

## Recirculated Draft Phase 1 Substitute Environmental Document (SED)

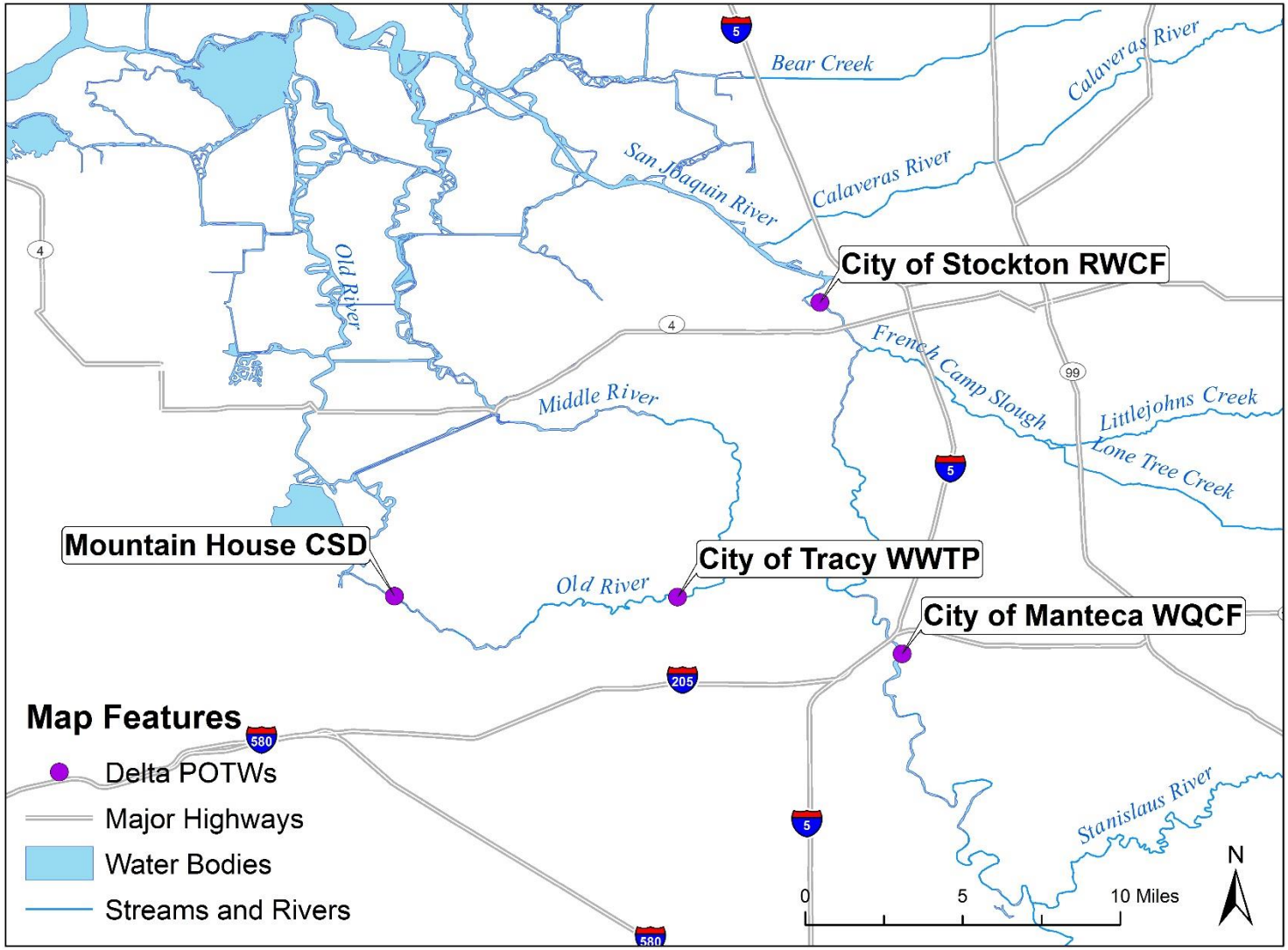
December 16, 2016, Stockton, CA

**Testimony by: Central Valley Clean Water Association (CVCWA) Panel**

# CVCWA Panelists

- CVCWA
  - Debbie Webster (CVCWA), Tom Grovhoug (LWA)
  - Tess Dunham, Esq.
- City of Tracy Wastewater Treatment Plant
  - Steve Bayley (City of Tracy)
  - Melissa Thorme, Esq.
- City of Stockton Regional Wastewater Control Facility
  - Robert Granberg (City of Stockton)
- City of Manteca Water Quality Control Facility
  - Heather Grove (City of Manteca)

# Southern Delta POTWs



# POTW Concerns

- SED assumes the 1,000 µmhos/cm EC objective will be applied as end-of-pipe effluent limits for POTWs
- Effluent limits of 1,000 µmhos/cm would require installation of Reverse Osmosis (RO) treatment at POTWs
- RO Impacts include:
  - Increased energy consumption
  - Increased GHG emissions
  - Brine disposal challenges
  - Local socioeconomic impacts

  SED concludes **RO would have significant and unavoidable impacts**

- **RO would not measurably improve EC levels in South Delta**

# POTW Request

Work with CVCWA to modify the SED to include an implementation plan for the incorporation of the proposed WQOs in NPDES permits for POTWs

# POTWs have a *de minimis* impact

- SED Finding:

  **"Overall, the WWTPs have only a small effect on southern Delta salinity"**

  San Joaquin River Flows and Southern Delta Water Quality Substitute Environmental Document, Chapter 13 – Service Providers, p. 13-23, September 2016

# POTWs have a *de minimis* impact

- DWR Modeling Results (2007) key findings:

  "…the City of Tracy discharge under reasonable worst-case conditions has **limited impacts** on the salinity problem in the southern Delta as compared to other sources of salinity in the area entering from the San Joaquin River, agricultural activities, and groundwater accretions."

Appendix C: Technical Report of the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives, p. 4-10, September 2016 (emphasis added)

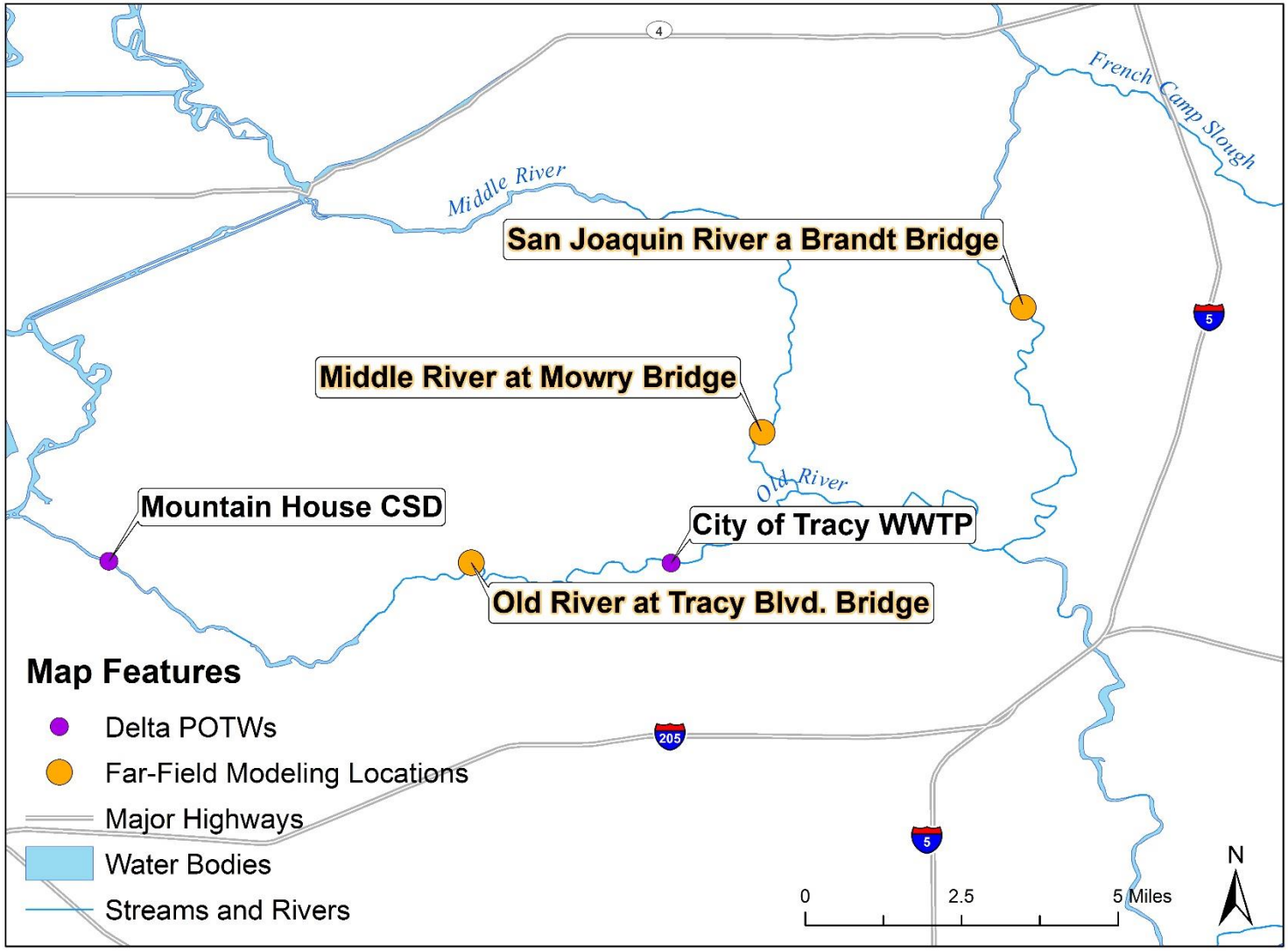
# POTWs have a *de minimis* impact

- SED Finding:

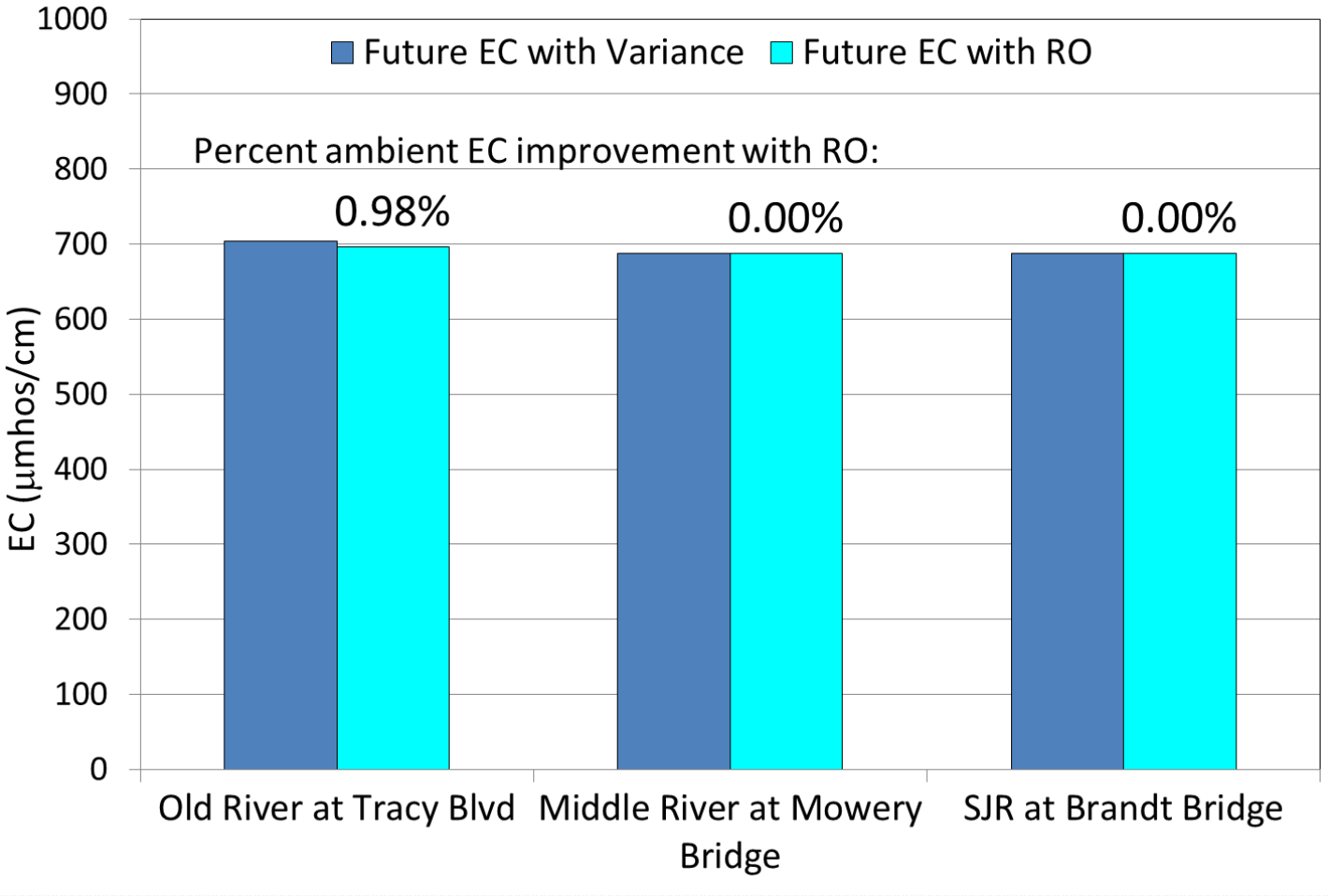
  "The results demonstrate that the salt load from point sources in this part of the southern Delta is a **small percentage of the salt load** entering from upstream."

SED Appendix C: Technical Report of the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives, p. 4-11, September 2016 (emphasis added)

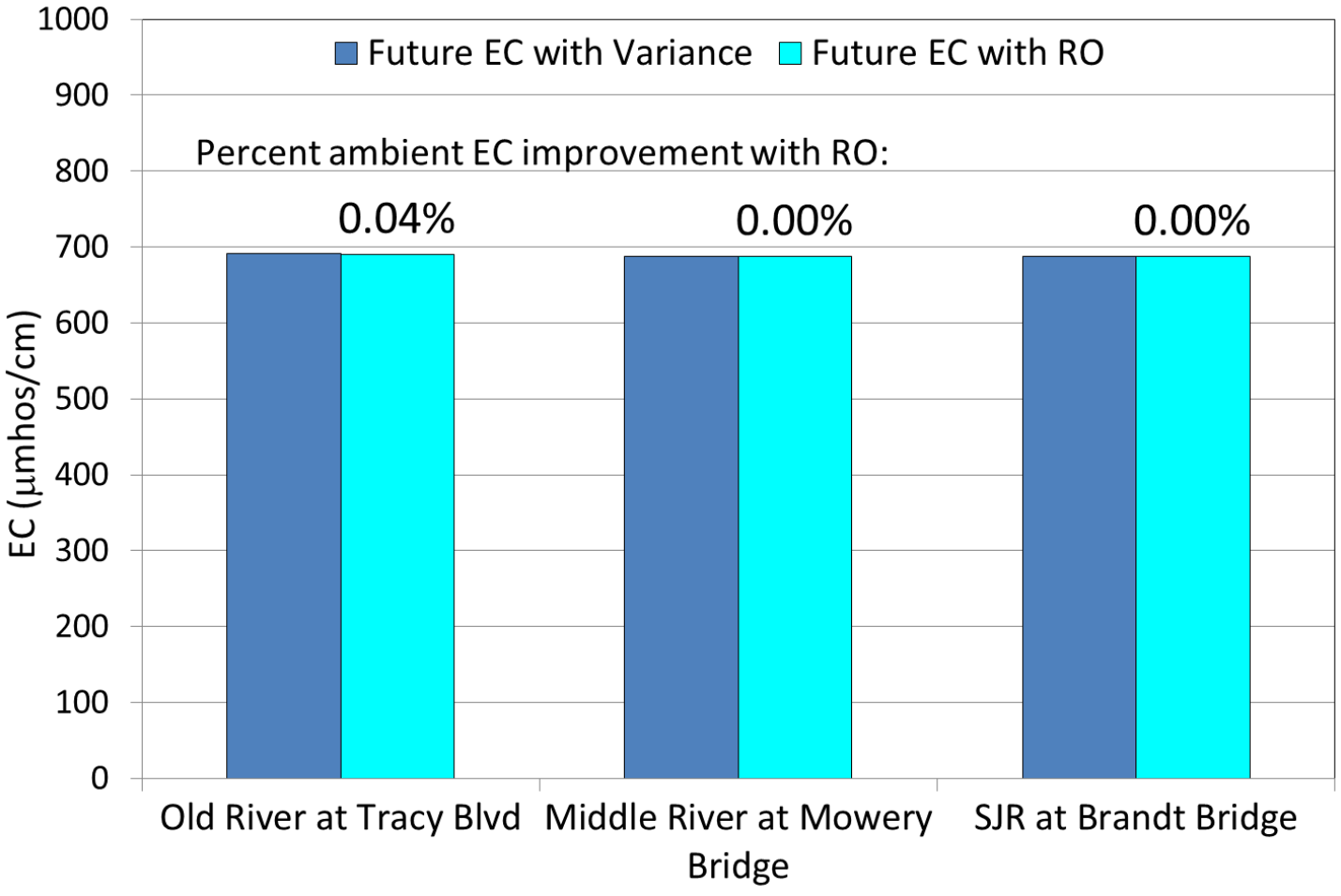
# DWR Modeling (2007)



# DWR Modeling (2007): City of Tracy WWTP – Far-Field Impacts



# DWR Modeling (2007): Mountain House CSD WWTP – Far-Field Impacts



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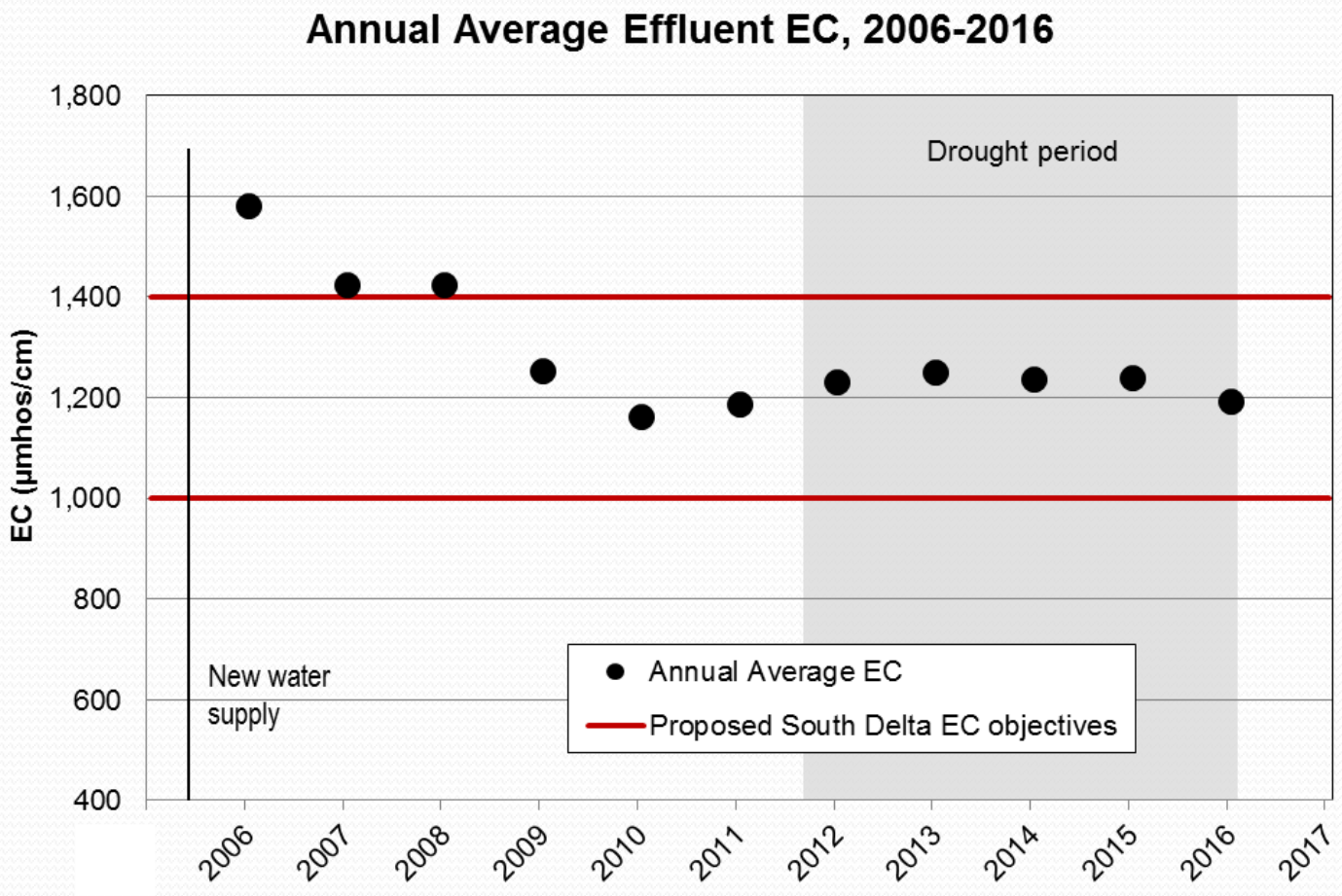
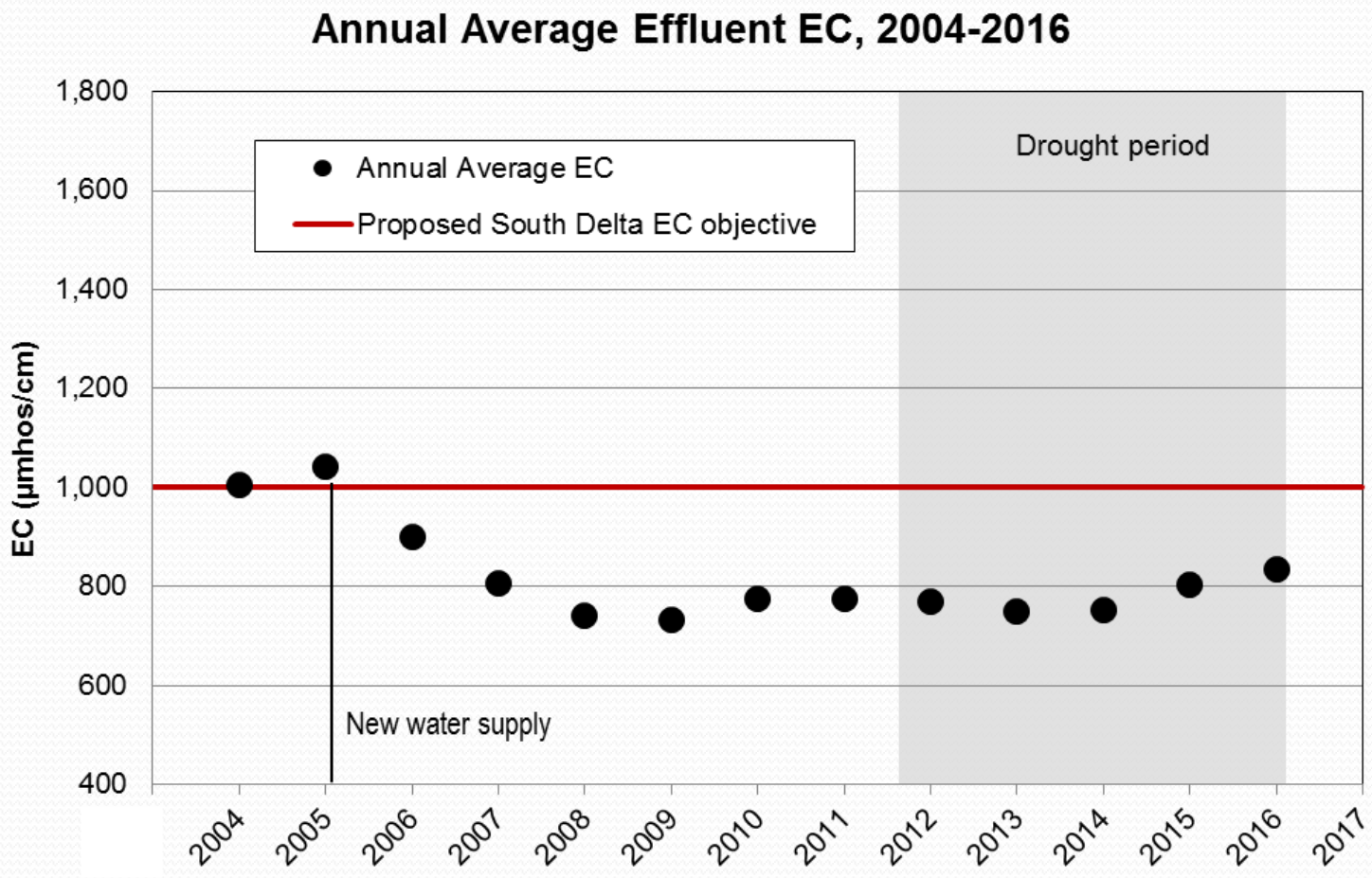
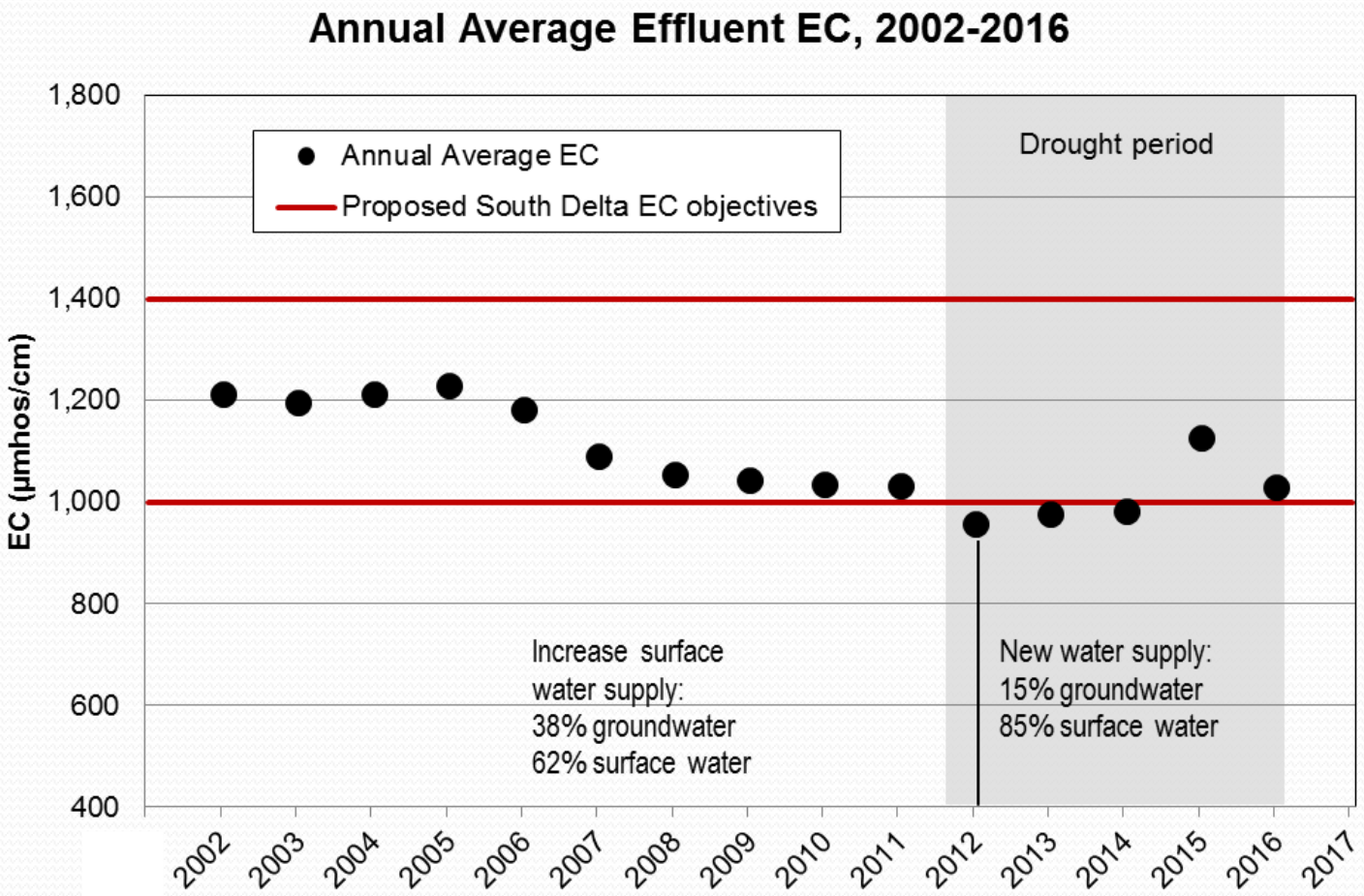
# City of Tracy WWTP



# City of Manteca WQCF



# City of Stockton RWCF



# Compliance Actions in SED Already Implemented

Source Water Supplies & Source Control

- POTWs have already obtained significant new source water supplies at substantial cost.
- POTWs have already implemented salinity source control programs/pretreatment
- POTWs have salinity source control requirements in existing NPDES permits.

***Salinity reductions from these actions have already been achieved***

# Cost of Surface Water Supplies to Reduce Salinity

- Investments made in new source water supplies:
  - City of Tracy: $80 million
  - City of Manteca: $43 million
  - City of Stockton: $221 million
- Surface Water Supplies are becoming less available and proposed Flow Restrictions may adversely impact ability to access this less saline water
- Groundwater use increases effluent salinity

# Suggested Compliance Actions in SED

- ☑ New source water supplies—develop and utilize alternate low-salinity municipal water supplies
- ☑ Salinity pretreatment programs—implement industrial and residential salinity source controls
- ❑ Desalination [RO]—construct and operate salinity removal facilities at municipal wastewater treatment plants

# Reverse Osmosis is Not a Reasonable Compliance Action

- Reverse Osmosis
  - Increased energy consumption
  - Increased GHG emissions
  - Brine disposal challenges
  - High Costs
  - Local socioeconomic impacts

***No Receiving Water Quality Benefits for Salinity***

# Greenhouse Gas Emissions

Estimates of Additional Greenhouse Gas (GHG) Emissions Associated with the Operation of RO Treatment Systems.

| Discharger | Effluent Treated with Reverse Osmosis (RO) (MGD) | Estimated Daily Electricity Usage for RO Treatment (kWh) | Estimated Annual $CO_2$ Emissions (metric tons) |
|---|---|---|---|
| City of Tracy | 8.3 | 91,300 | 12,244 |
| City of Stockton | 23.8 | 261,800 | 35,109 |
| Mountain House | 1.9 | 20,900 | 2,803 |

# RO Cost Estimates

Planning Level Cost Estimates for Partial Reverse Osmosis (RO) Treatment.

| Discharger | RO Treatment (MGD) required to meet 1,000 µmhos/cm EC Limit | Cost ($ Million) | | |
|---|---|---|---|---|
| | | Capital | Annual O&M | Total Annual |
| City of Tracy | 8.3 | $52.3 | $5.2 | $8.7 |
| City of Stockton | 23.8 | $150.1 | $14.8 | $24.9 |
| Mountain House | 1.9 | $12.0 | $1.2 | $2.0 |
| | **Total** | **$214.4** | **$21.2** | **$35.6** |

# Recommended SED Changes

(CWC Sections 13241 and 13242 Objective and Implementation Language)

- Key Alternatives That Must be Considered for POTWs:
  - Implement EC objective within waterbody rather than end of pipe
    - Use of EPA TSD method for determining RP
    - Use of Point of Compliance/Mixing Zones
  - Effluent Limit Averaging Period (Annual versus Monthly)
  - Drought (Extended Dry Period) exceptions
  - Seasonal objectives
- Acknowledge Central Valley Region's CV-SALTS provisions and Variances apply in the Delta
- Address issues raised in the south Delta salinity objectives litigation

CVCWA will work with staff to develop specific language

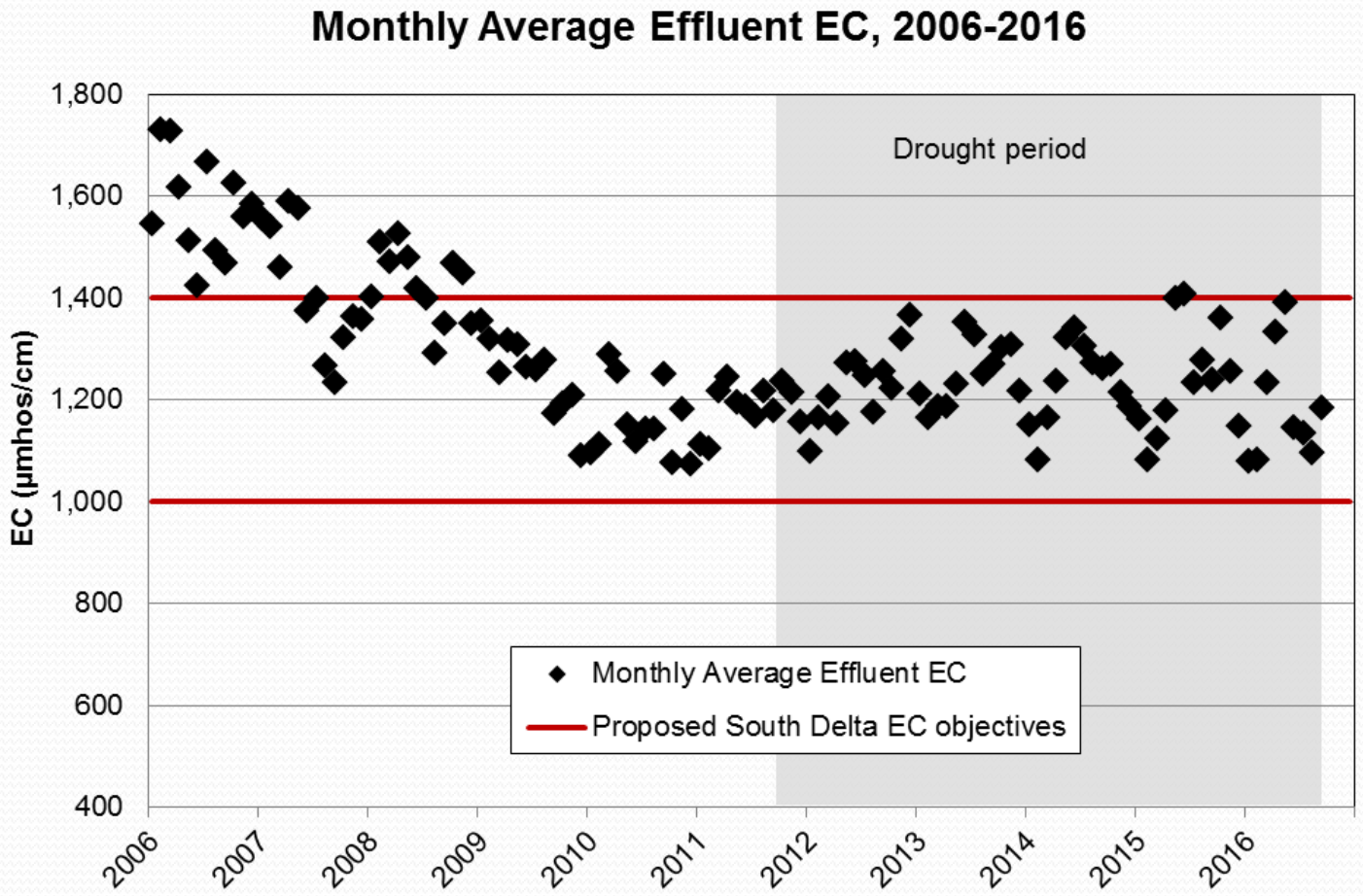
# Summary

- Problem = SED's preferred alternative will cause significant and unavoidable impacts on local communities with no commensurate water quality benefits
- Solution → Work with POTWs to develop objectives and implementation language to avoid significant impacts

# Questions?

# Additional Slides for Board Member Consideration

# City of Tracy WWTP



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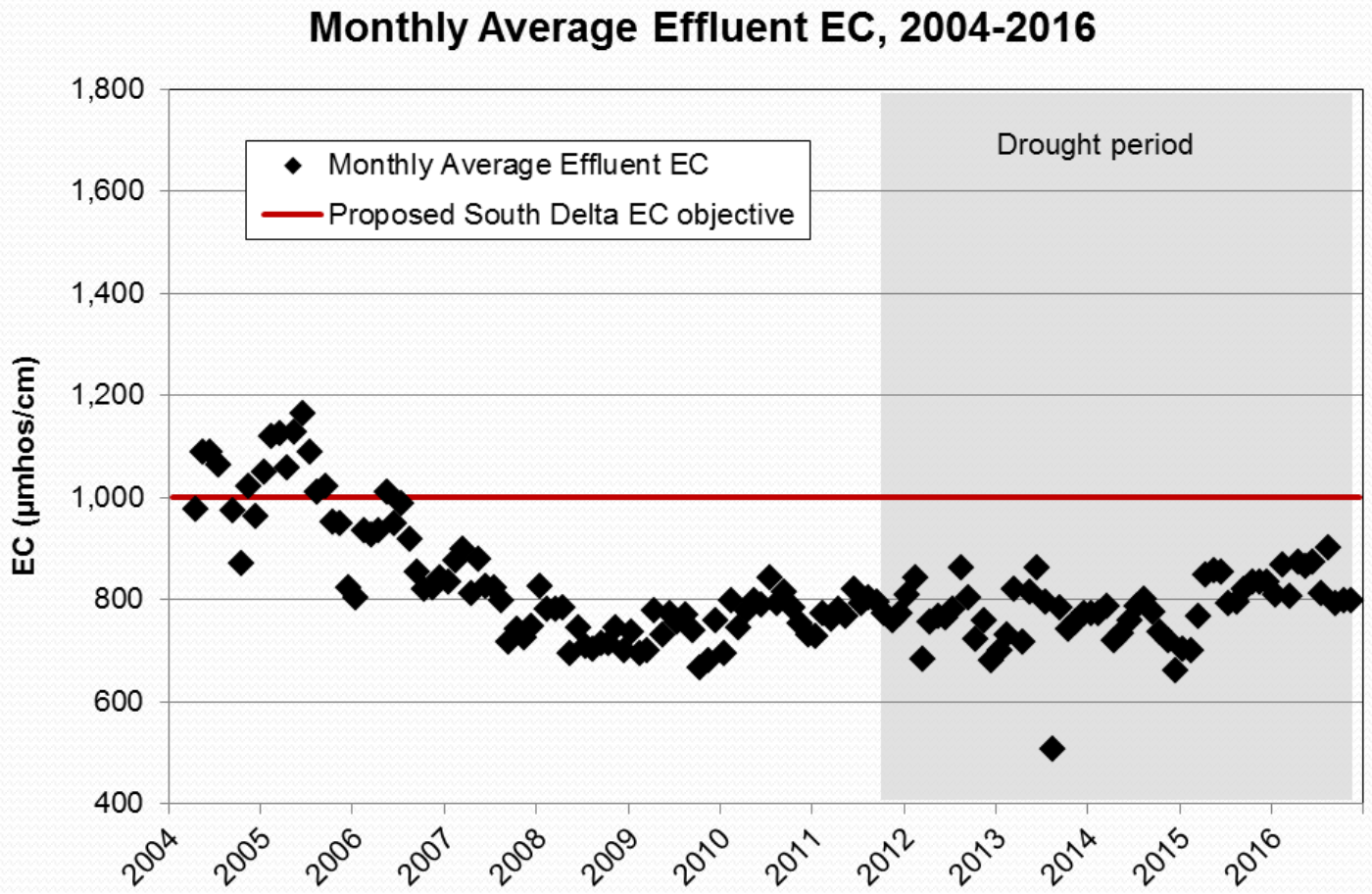

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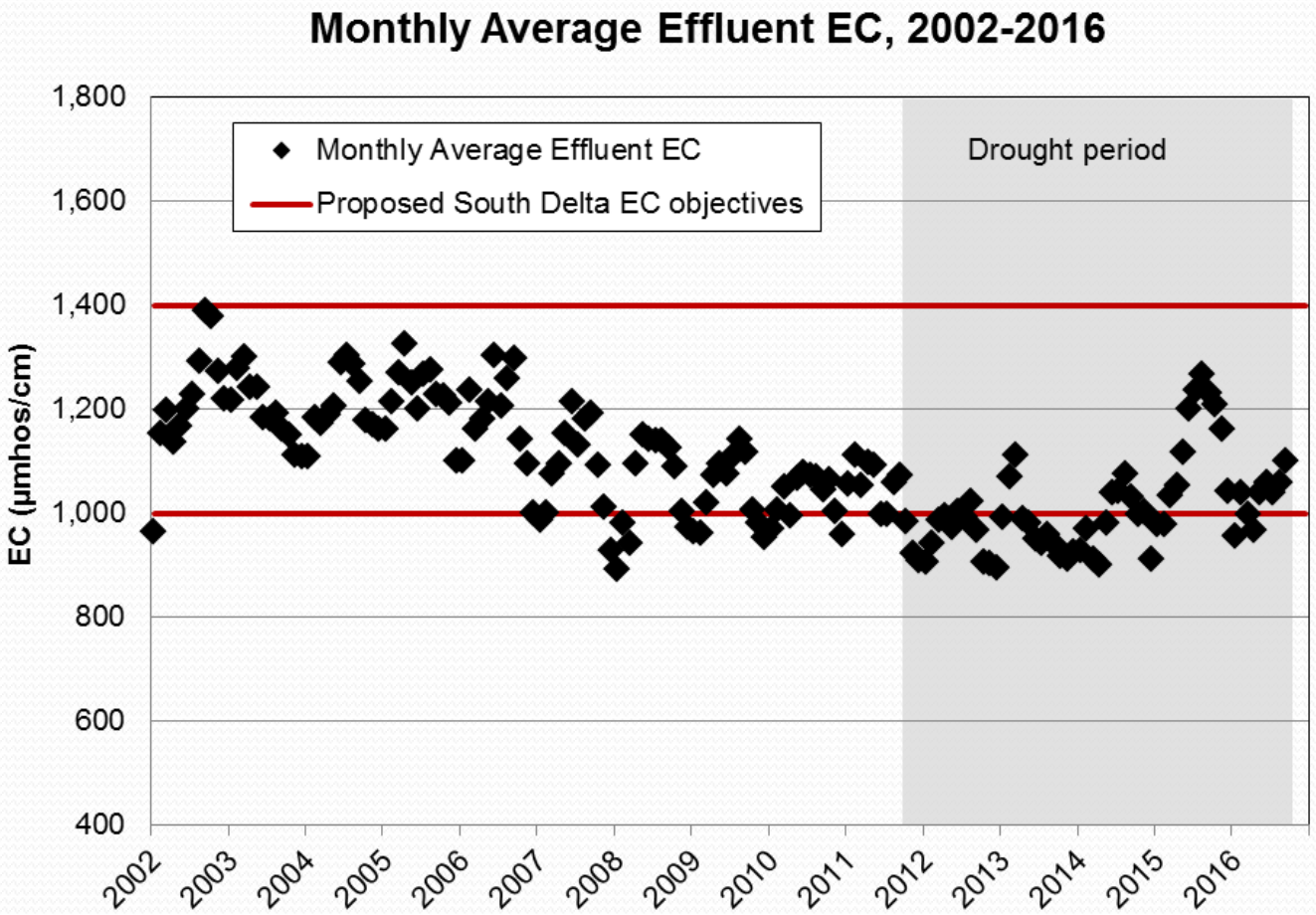

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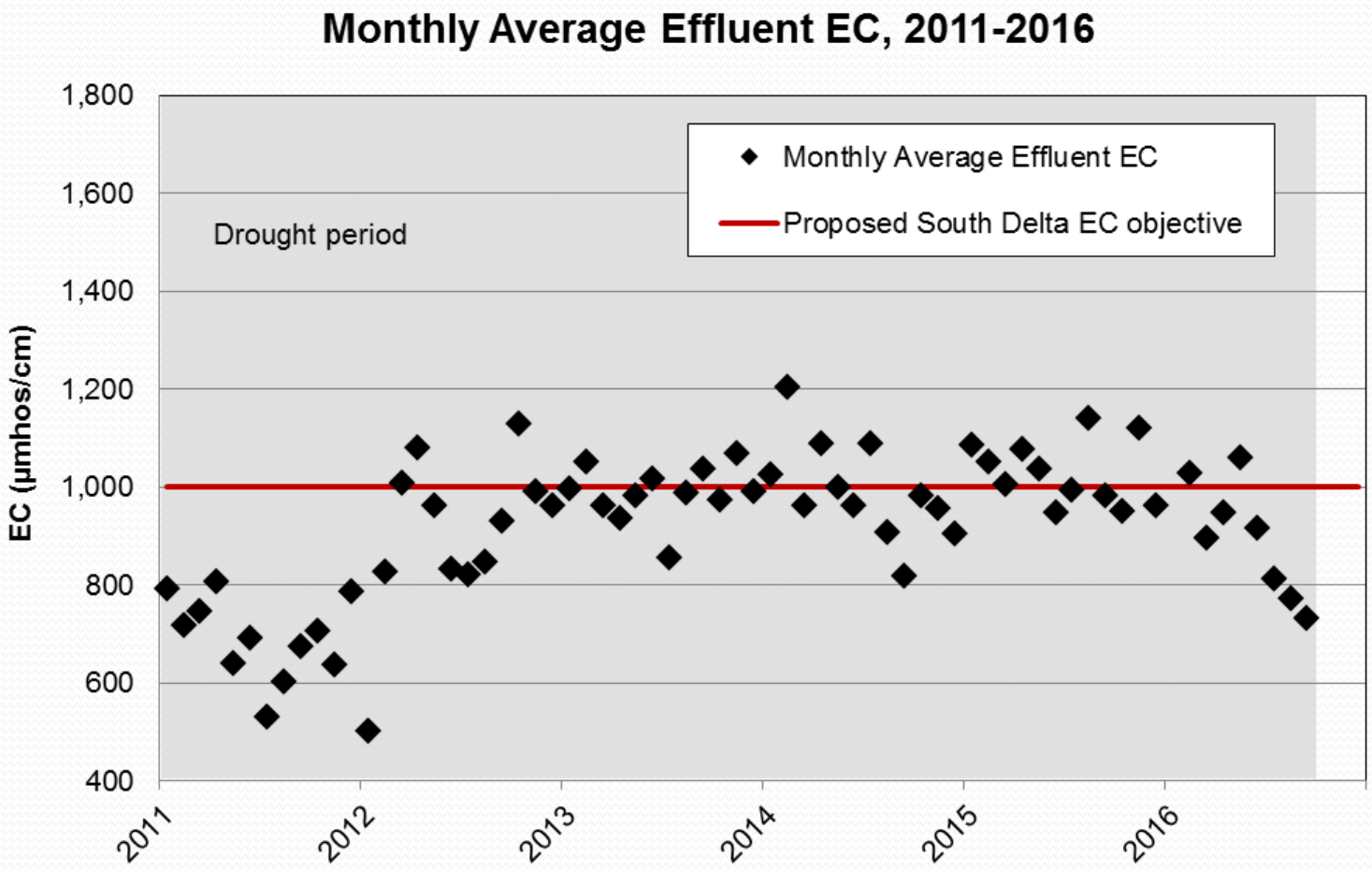

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