

Upper Santa Clara River Chloride TMDL: Lessons Learned



Vicki Conway

Los Angeles County Sanitation Districts

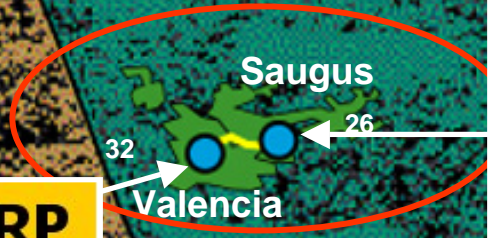
July 27, 2005

Chloride Regulation

- 1978 Chloride Objective based on antidegradation
- 1989-01 drought conditions created compliance problems for POTWs
- Regional Board adopted variances which remained in effect from 1991 to 2003
- In 1997 Regional Board relaxed chloride objectives for most surface waters, except in Calleguas Creek and Santa Clara River Watersheds
- 1998 chloride was 303(d) listed for the SCR
- TMDL effect on May 4, 2005

Upper Santa Clara River Chloride TMDL

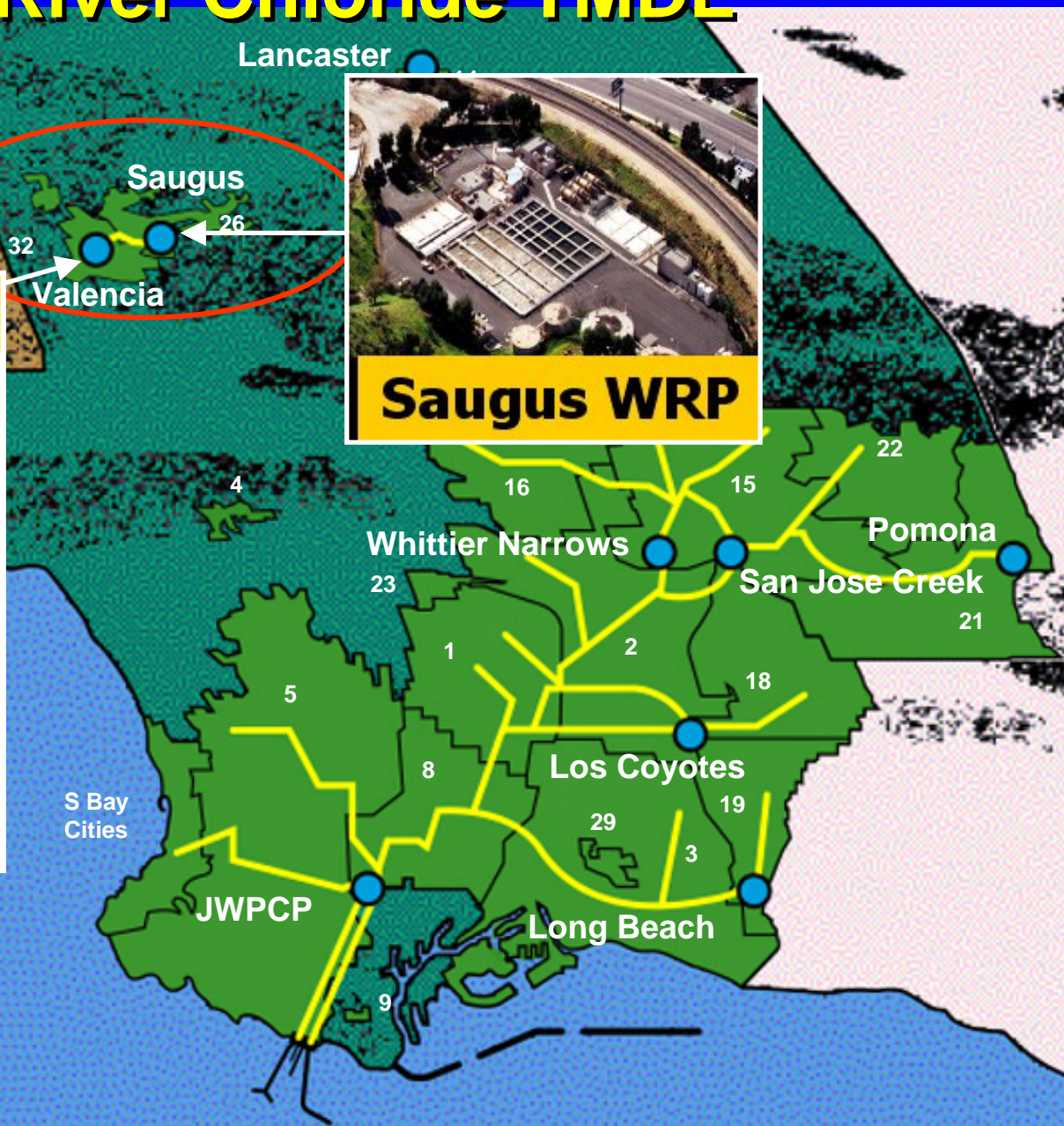
Lancaster



Valencia WRP

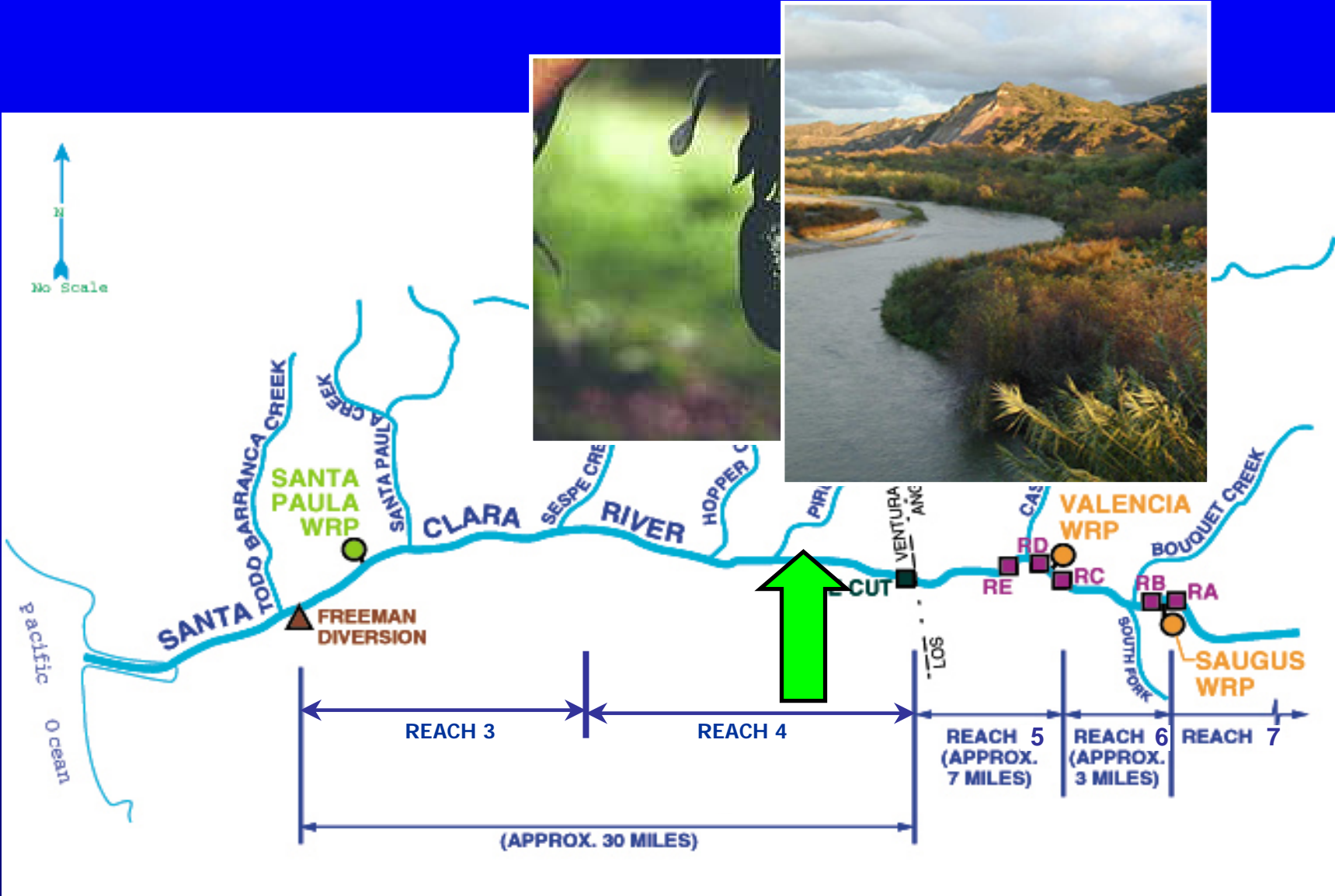


Santa Clara
County



Trunk Sewers

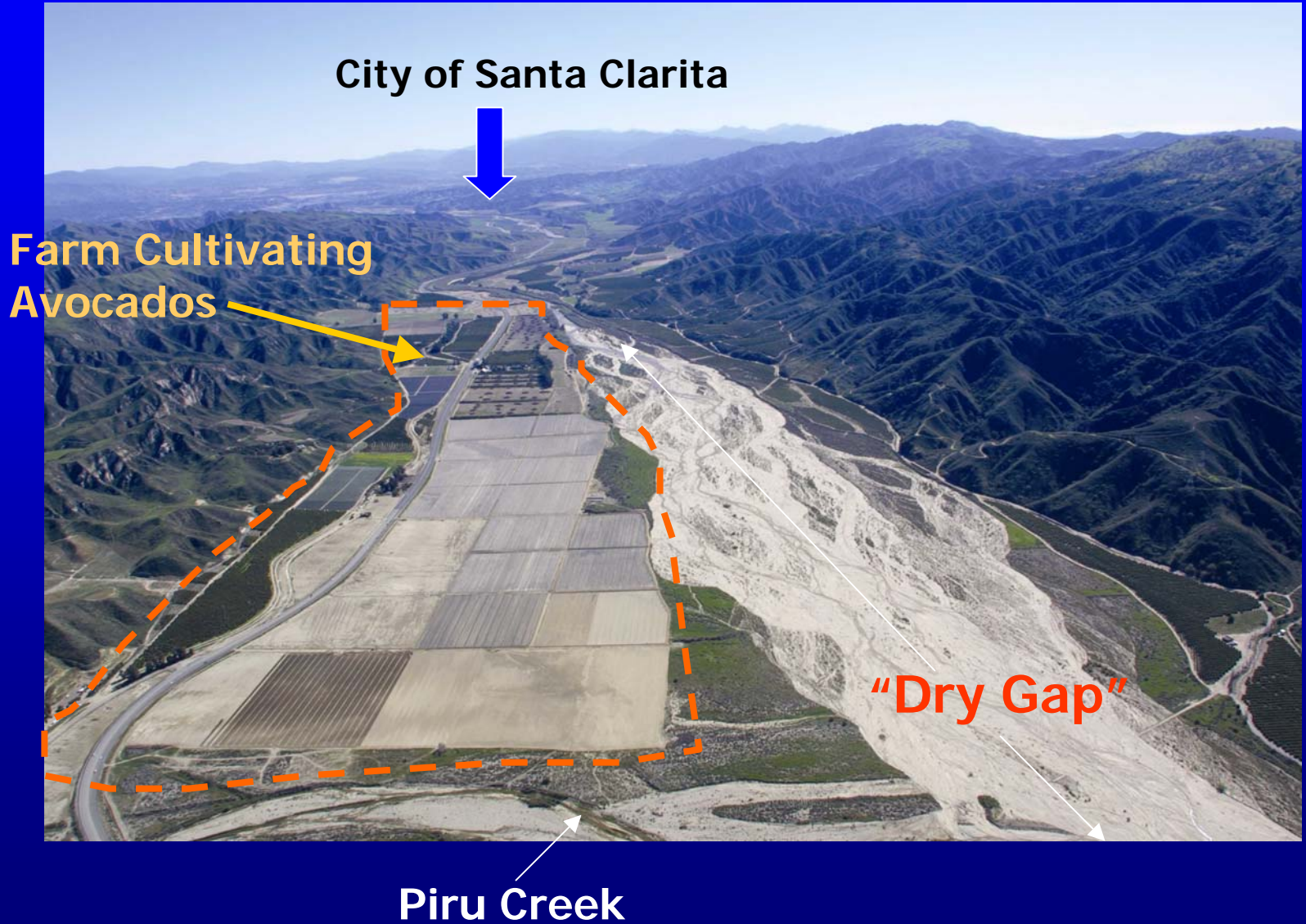
Santa Clara River Watershed



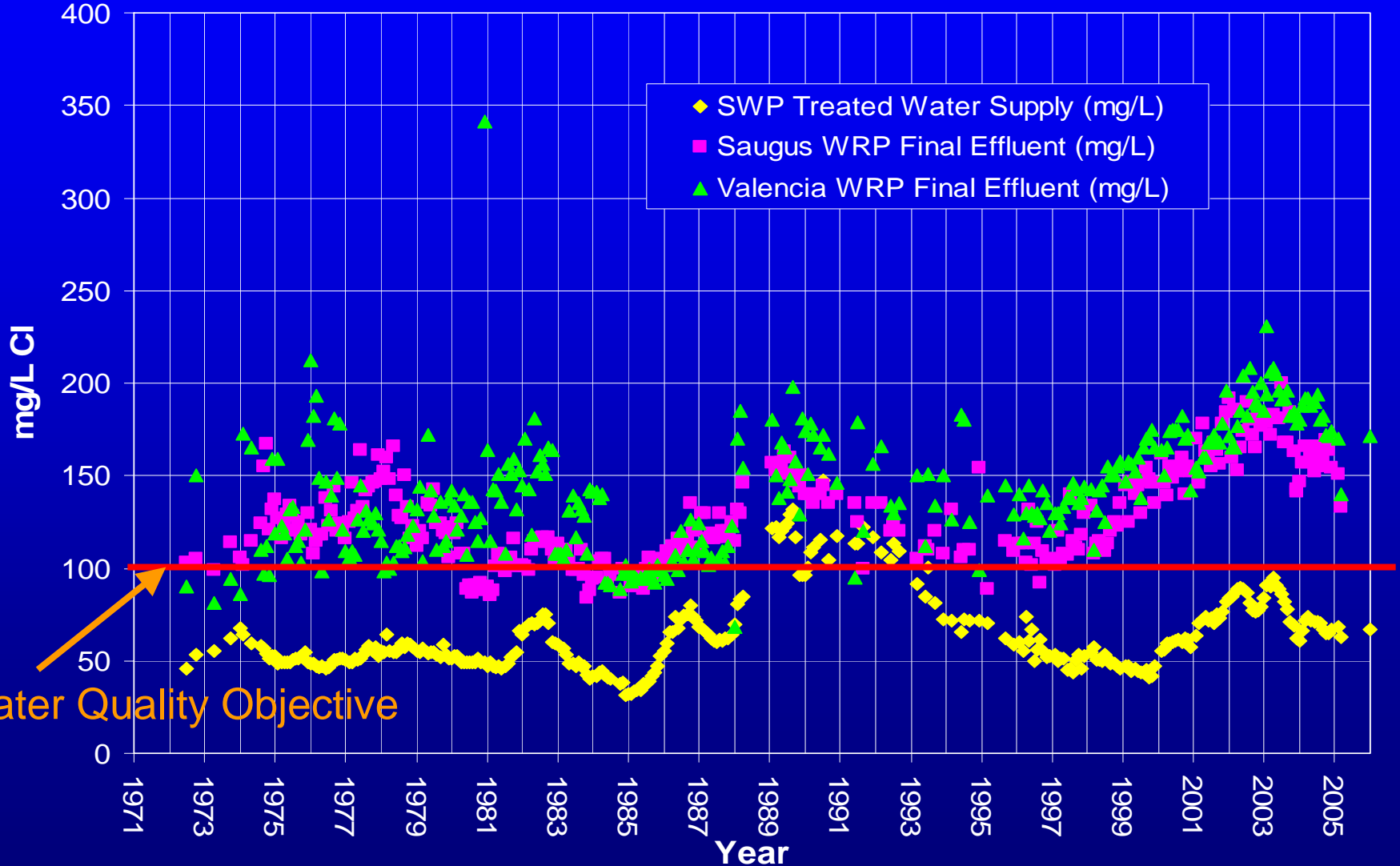
Issues With Impairment Determination

- **Objective of 100 mg/L scientifically questionable**
- **Existing use questionable**
- **Historical variations in surface water quality**
 - Seasonal variations related to droughts and changes in water supply
 - Water supply does not meet 100 mg/L at times
- **No evidence of impacts on crop yields**

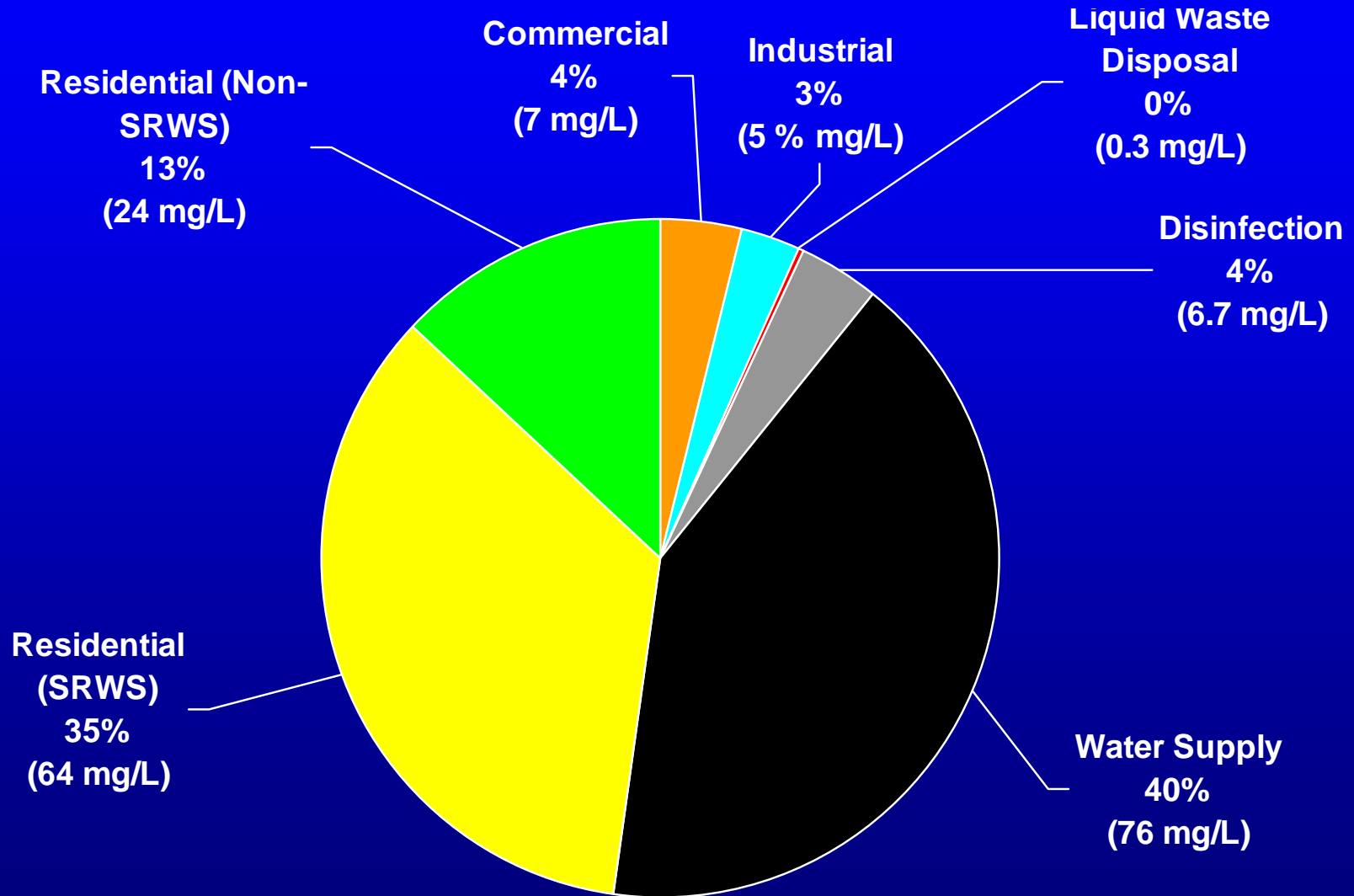
Upper Santa Clara River



Historical Chloride Concentrations in State Water Project Water and the Saugus and Valencia WRP Final Effluent



2002 Breakdown of Chloride Sources in the SCVJSS Final Effluent



2002 SCVJSS Final Effluent Chloride Concentration = 183 mg/L

Steps to Reduce Chloride

- Control industries & commercial businesses
 - Ban SRWS (since 1961)
 - Permit limits/compliance plans
 - BMPs
- In-plant modifications (2001)
 - Chemicals
- Ban on installation of new residential SRWS (effective March 27, 2003)
 - Bans only allowed by state law starting in 2003

Upper Santa Clara River Chloride TMDL (Effective May 4, 2005)

- TMDL Waste Load Allocation - 100 mg/L (inst. max)
- 13-year Implementation Schedule
 - **Special studies – 5 years**
 - **Agricultural threshold**
 - **Groundwater surface water interaction model**
 - **Aquatic life threshold**
 - **Design/Construct treatment facilities – 8 years**
 - **Microfiltration/Reverse Osmosis for WRPs**
 - **43-mile brine line**
 - **3-mile ocean outfall**
- Reopeners in years 1, 5 and 9

Anticipated Cost to Comply with Upper Santa Clara River Chloride TMDL

- Results in end-of-pipe limits of 100 mg/L (inst. max)
- 2018 compliance deadline
- 34.1 MGD capacity
- \$422 million advanced treatment - MF/RO + brine line + outfall
 - \$178 million for MF/RO
 - \$244 million for 43-mile brine line & 3-mile ocean outfall
- \$9.4 million annual O&M
- Est. increase in service charge rates - \$330 per year
- Estimated increase in connection fees - \$3,200

Contentious Issues

- Level of protection/Definition of injury
- No evidence of impacts to Ag BU
- Objective lacks scientific basis
- Compliance schedule
- Compliance costs
- Alternative compliance measures

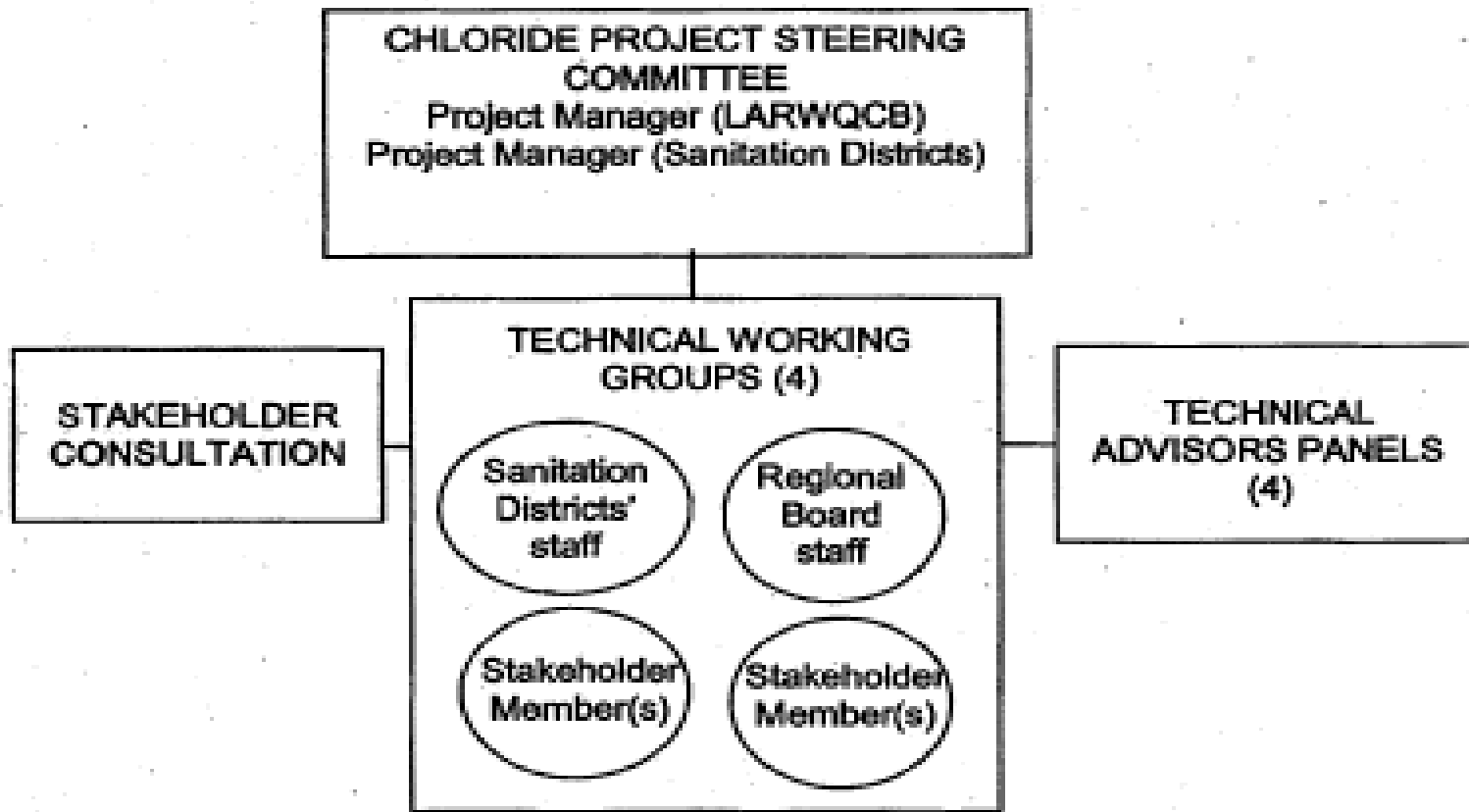
Settlement Agreement

- Commitment to revise interim WLA for chloride in WRP NPDES permits
- Preserve right to litigate
- Commitment to Collaborative Process

TMDL – Organizational Framework

ORGANIZATIONAL STRUCTURE OF UPPER SANTA CLARA RIVER CHLORIDE TMDL SPECIAL STUDIES

Figure 2 shows the basic organizational structure for the project.



Lessons Learned

- Stakeholders
 - Outreach is critical
 - Trust
 - Buy-in
 - Misinformation
 - Time commitments
 - Keeping focused on goals
 - Special interests

Lessons Learned

- RWQCB
 - Limited resources
 - Schedule Impacts
 - Continuity
 - Decision making process
 - Commitments
 - Stakeholder Consensus

Lessons Learned

- LACSD
 - Develop support
 - Partner when possible
 - Communication
 - Schedule constraints
 - \$\$\$\$\$
 - Adaptive approach
 - Fear Factor
 - Fickle Factor