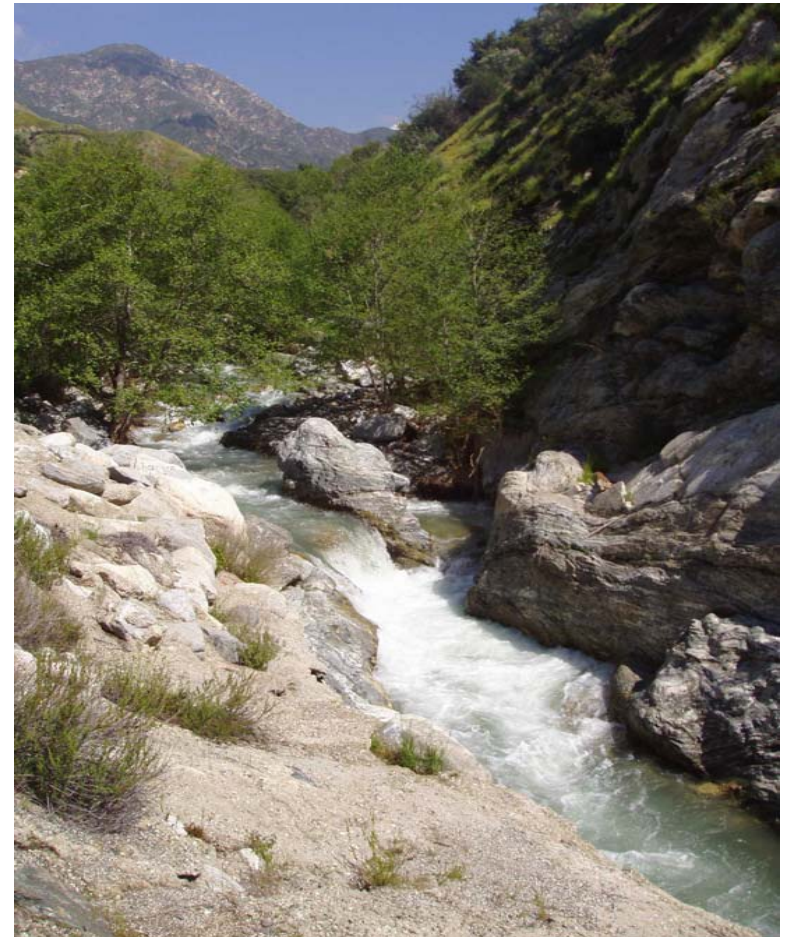


# LA Regional Board Strategy for SWAMP & Incorporating Bioassessments into the NPDES Program

J. Michael Lyons  
SWAMP Coordinator

Los Angeles Regional  
Water Quality  
Control Board



# SWAMP Strategy

- SWAMP monitoring began in 2001
- Focus on wadeable streams
- Triad approach
  - Bioassessment
  - Toxicity
  - Chemistry
- Added bioassessment monitoring to NPDES permits for major dischargers



# Collaborative Monitoring



- Year 4 – SWAMP due to monitor LA/SG River Watersheds
- Insufficient \$\$\$ to sample 2 large areas
- Why not partner with local stakeholders?



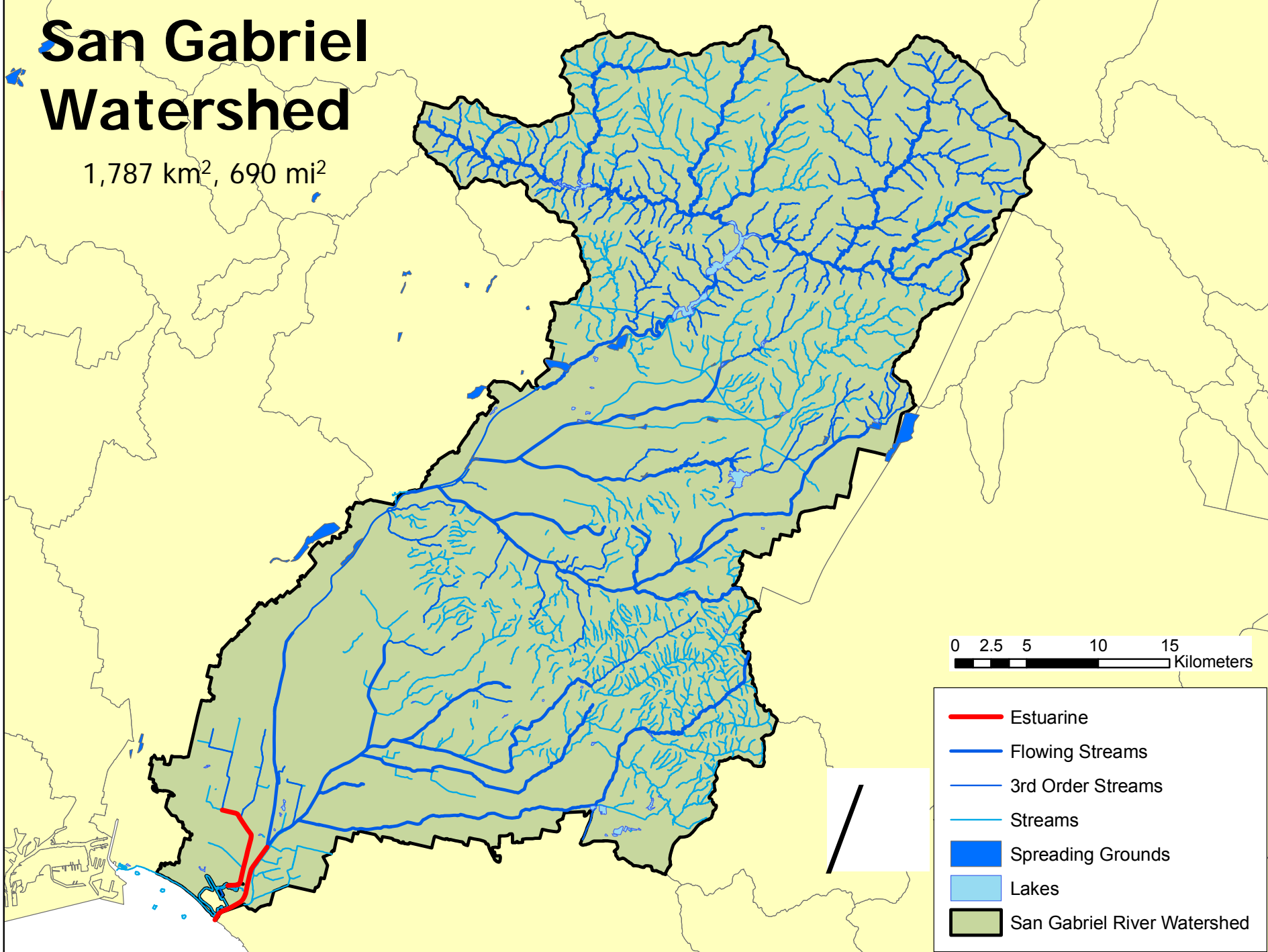
# San Gabriel River Watershed Multiple Stakeholders

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- AES Power Generating Station
- City of Downey
- Friends of the San Gabriel River
- LA & SG Rivers Watershed Council
- **Los Angeles County Sanitation Districts**
- **Los Angeles County Department of Public Works**
- Los Angeles Department of Water and Power
- Los Angeles Regional Water Quality Control Board
- Orange County Stormwater Program
- Rivers and Mountains Conservancy
- San Gabriel Mountains Regional Conservancy
- Santa Ana Regional Water Quality Control Board
- SCCWRP
- US Army Corps of Engineers
- US EPA
- US Forest Service

# San Gabriel Watershed

1,787 km<sup>2</sup>, 690 mi<sup>2</sup>

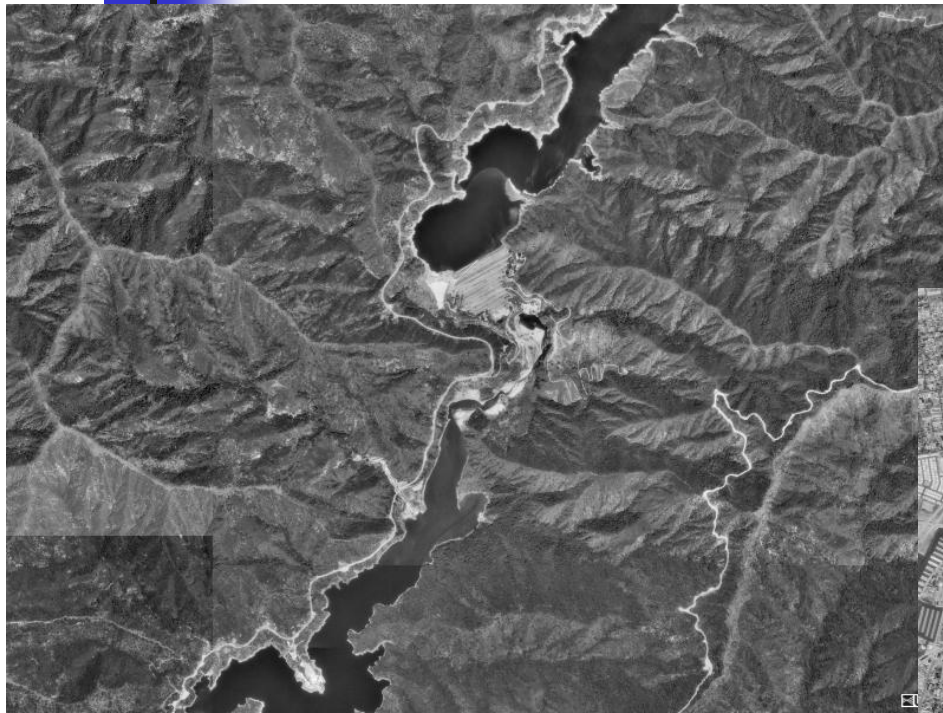




# “Dual” Watershed

Upper watershed:  
Natural, 3 major dams

Lower watershed:  
Urban, POTW discharges





# Fragmented Monitoring

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- Lots of monitoring effort
  - 6 agencies
  - 3 citizen groups
- Programs not coordinated
  - Limited data comparability
  - Different constituents sampled
  - Different methods used / inadequate QA-QC
- Inefficiencies
  - Redundancies between monitoring programs
  - Majority of the watershed not monitored

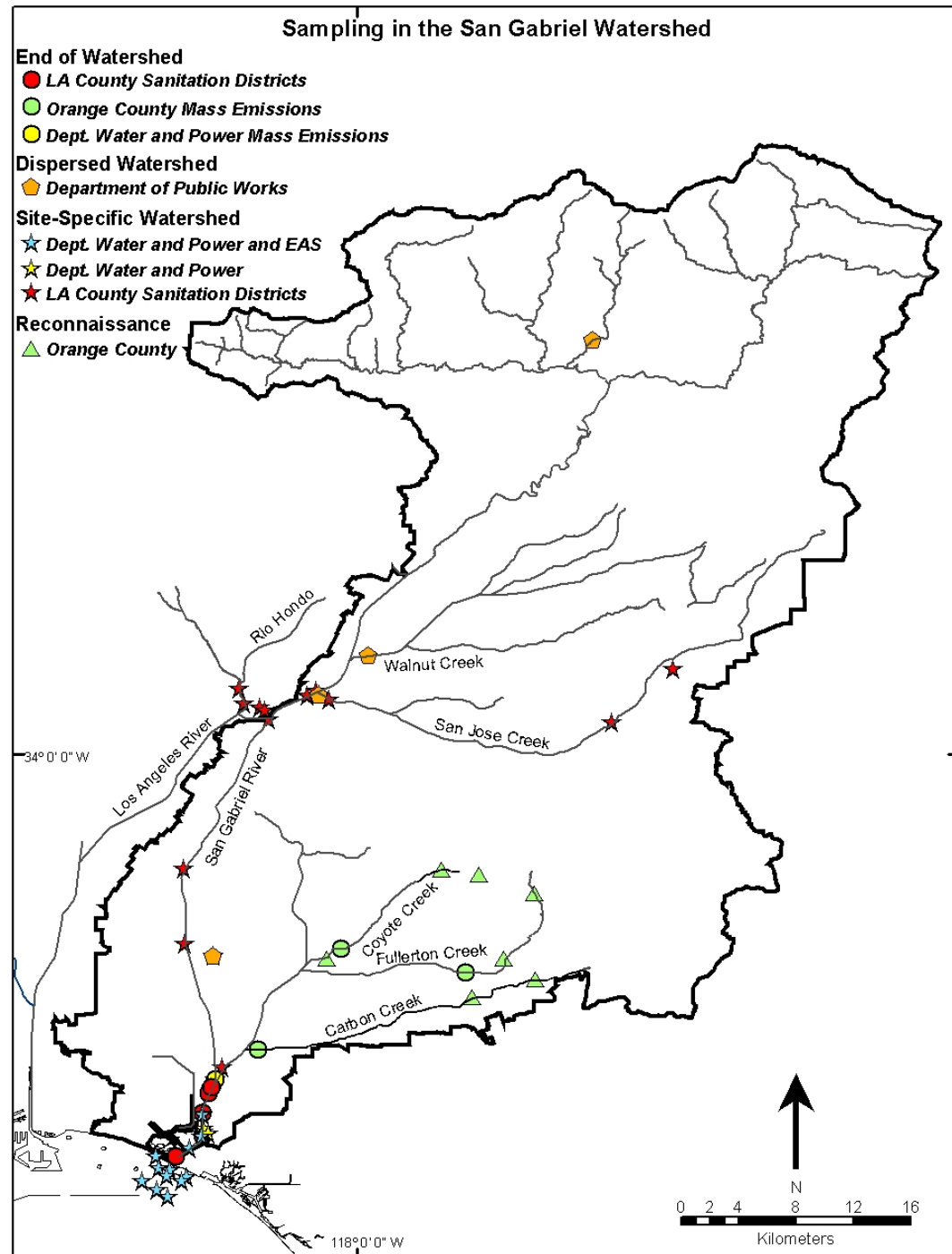
# Existing Monitoring Sites



Photo 2/2001

SAN JOSE CREEK WATER RECLAMATION PLANT

(Looking West)







# Goals of Collaborative Monitoring

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1. Increased awareness of issues at watershed scale
2. Identify common objectives
3. Improve and integrate monitoring efforts
  - a. compliance monitoring
  - b. SWAMP
  - c. volunteer monitoring
4. Improve coordination and cost-effectiveness of disparate monitoring efforts
5. Provide framework to address multiple questions



# Multi-level Monitoring Framework

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- Core monitoring
  - Focused on permit compliance
  - Fixed sites
- Regional monitoring
  - Focused on assessing overall ambient conditions
  - Probabilistic + selected fixed sites
- Special projects
  - Targeted to address specific questions

# Monitoring Questions



1. What is the health of streams in the overall watershed?
2. Are conditions getting better or worse in watershed?
3. Are receiving waters near discharges meeting water quality objectives?
4. Are local fish safe to eat?
5. Is body contact recreation safe?

# Question 1

## Health of Streams in Watershed?

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- Probability-based design
  - Random allocation of sites
- Three areas of interest
  - Upper watershed
  - Lower watershed
  - San Gabriel River mainstem
- Coordinated with SWAMP design
- Monitoring based on TRIAD of measurements
  - Water chemistry
  - Bioassessment
  - Toxicity tests
- CRAM assessment of stream condition



# Health of Streams in Watershed

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- Small number of key, fixed sites
- Three categories :
  - High use &/or ecological value
  - Confluence points where tributaries meet mainstem
  - Pristine sites in upper watershed
- Monitoring annually
  - Supplements SWAMP design (every 5 years)

# Collaborative Monitoring Debut Summer 2005

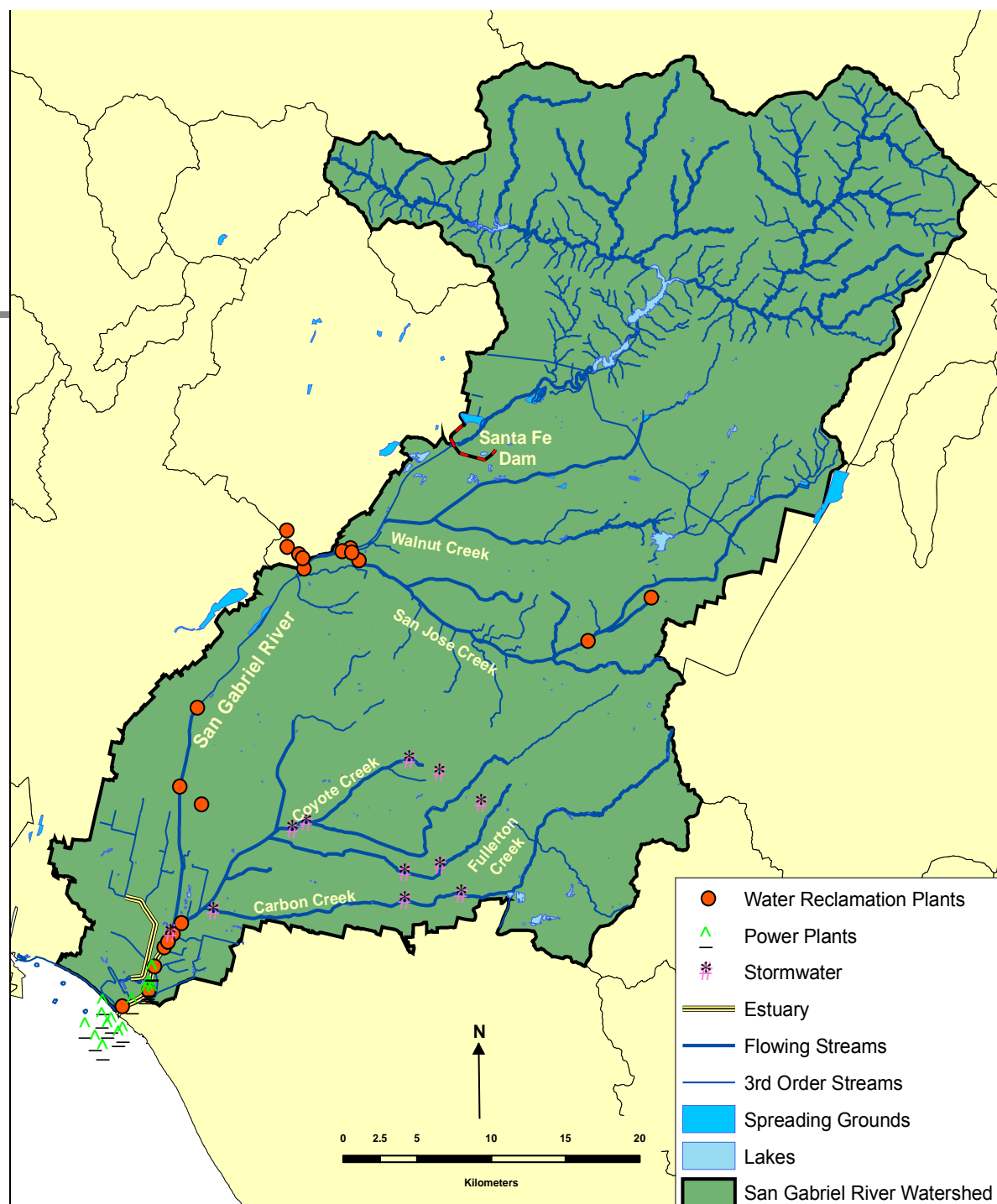


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- Monitoring design included 30 random stations + several fixed stations
- SWAMP funding paid for about half the desired monitoring
- Reallocated some of NPDES discharger monitoring + integrated volunteer monitoring to pay for the other half

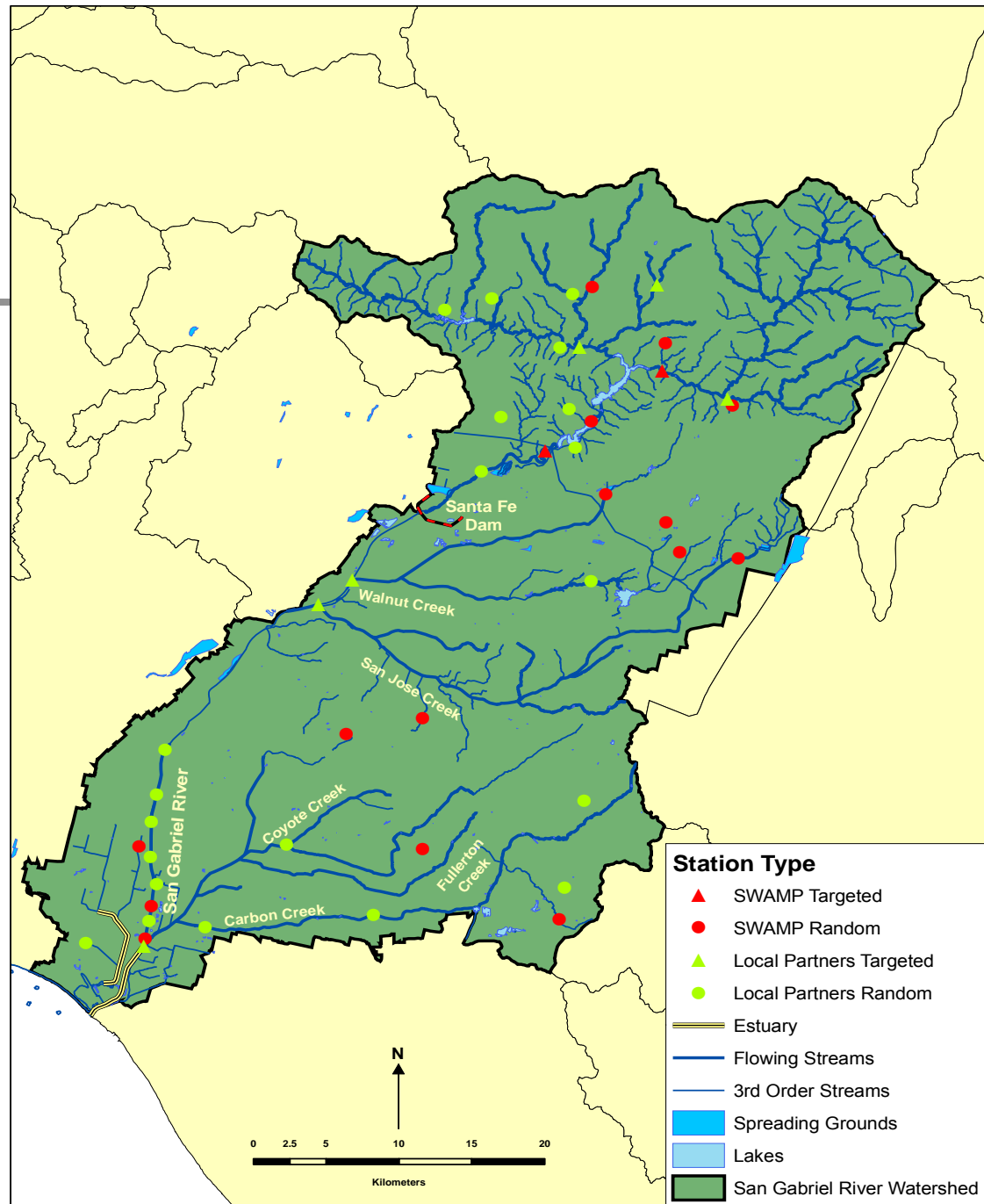


# Original Compliance Monitoring Sites





# New and Improved Monitoring Design for 2005





# Benefits of Collaborative Monitoring Effort



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- Increased efficiency
  - More comprehensive assessment of watershed
  - Reduced redundancy
- Multiple objectives
  - Address a range of questions for a variety of different audiences
- Methods standardization
- Annual watershed reports
- Periodic review and updating of monitoring plan



# Next Steps

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- Further modifications to NPDES compliance monitoring requirements to improve and support annual monitoring component
- Complete design for bioaccumulation and bacteriological monitoring components
- Identify long-term solution to coordination and data management needs
- Integrate additional partners into monitoring program
- Extend model to other watersheds



# Questions?

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**Thank you to all our partners in developing this plan!**