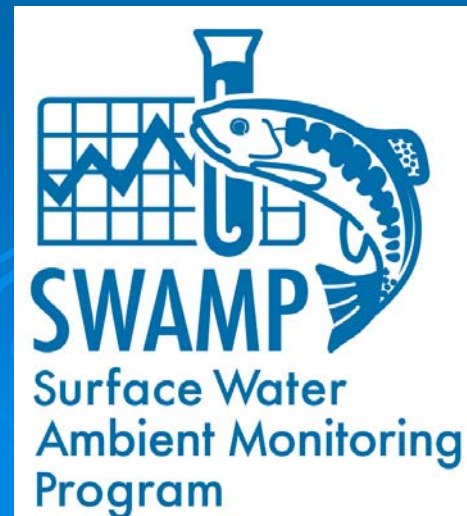


# California's Surface Water Ambient Monitoring Program

## “SWAMP”

November 1, 2005



# SWAMP: Required by AB 982

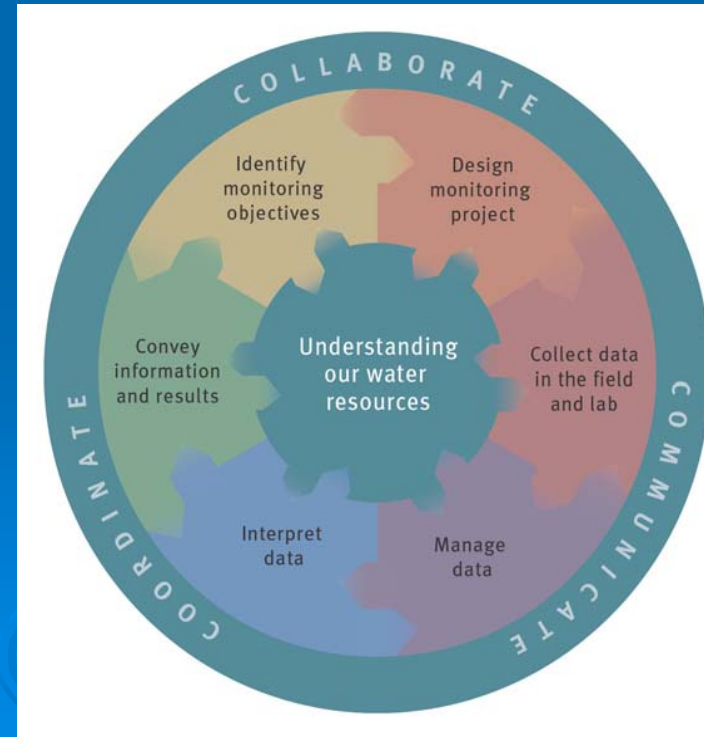
- Comprehensive state program (surface water)
- Coordinate all Board ambient water quality monitoring Programs/projects
- High Quality Data (Quality Assurance)
- Comparable data
- Accessible

# Implementation Strategy

- Monitoring Program Strategy
- Monitoring Objectives
- Monitoring Design
- Core Indicators of Water Quality
- Quality Assurance
- Data Management
- Data Analysis/Assessment (CALM)
- Reporting
- Programmatic Evaluation
- General Support and Infrastructure

# Building “Infrastructure”

- Monitoring Framework
- Information Exchange Network
- Quality Assurance Program
- Tool Box and Training
- Nested Monitoring Design



# Building “Comparability”

- SWAMP is a state framework to coordinate consistent and scientifically defensible methods and strategies for improving water quality monitoring, assessment, and reporting.
- Common Indicators
- Comparable Methods
- Quality Assurance Program
- Database w/ metadata
- Information Exchange Network
- Tool Box and Training

# State & Regional Monitoring Components

- Vary in scale of questions, objectives and design
- State program:
  - Asks broad questions:
    - What % of state's waterbodies are healthy ?
  - Uses of program
    - EPIC (Environmental Protection Indicators for Calif.)
    - 305b report
    - Legislative reports
- Regional program's objectives and design are more specific
  - Are specific waterbodies meeting WQ standards?
    - 303d list
  - Are specific management/restoration efforts successful ?



# W-EMAP and CMAP Sites Sampled



Inland surface waters

Probability-based  
sampling

## W-EMAP

2000-2003

Base statewide study 50  
sites/year

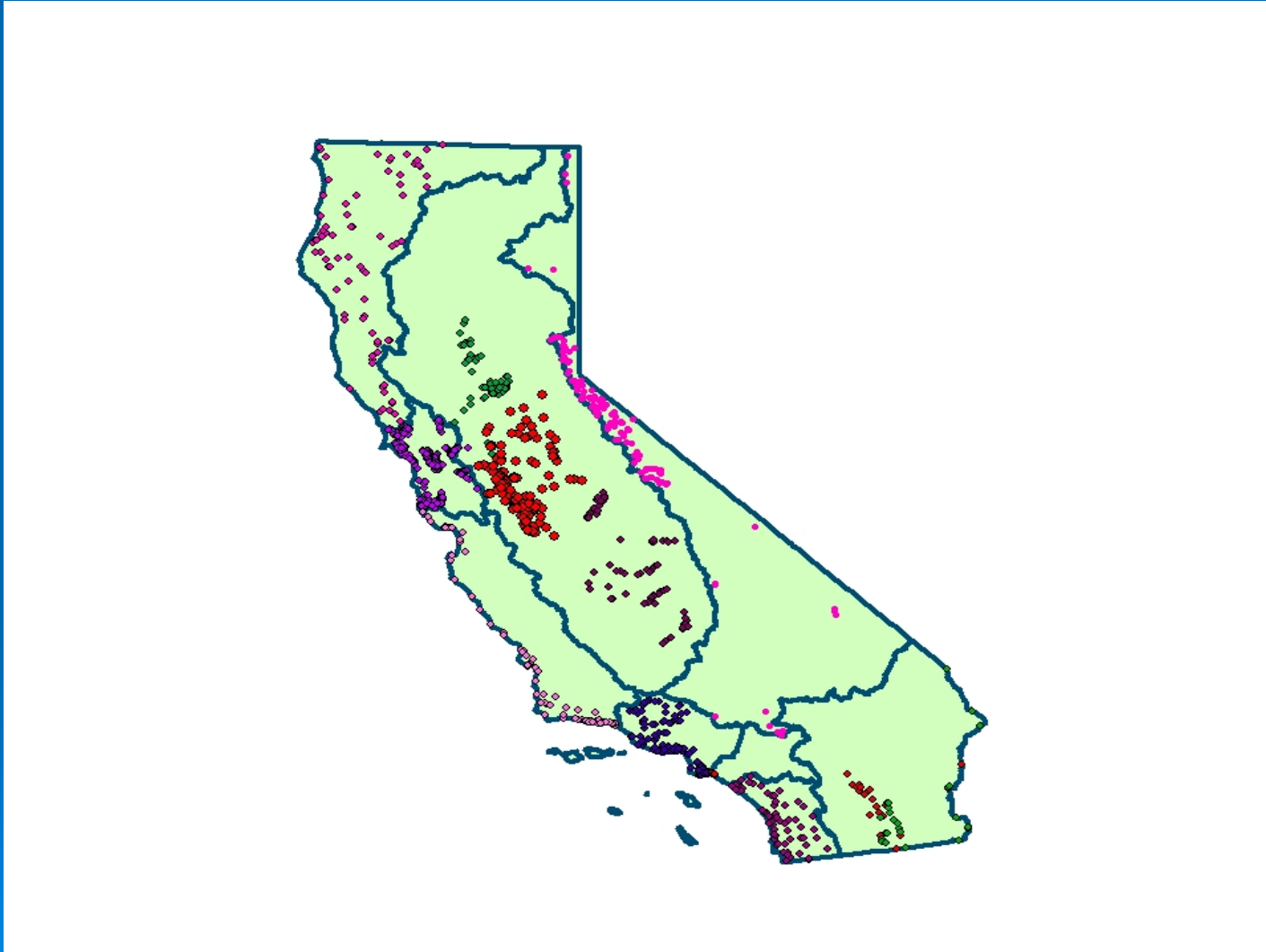
3 special study areas CA

## CMAP

Sampling initiated 2004

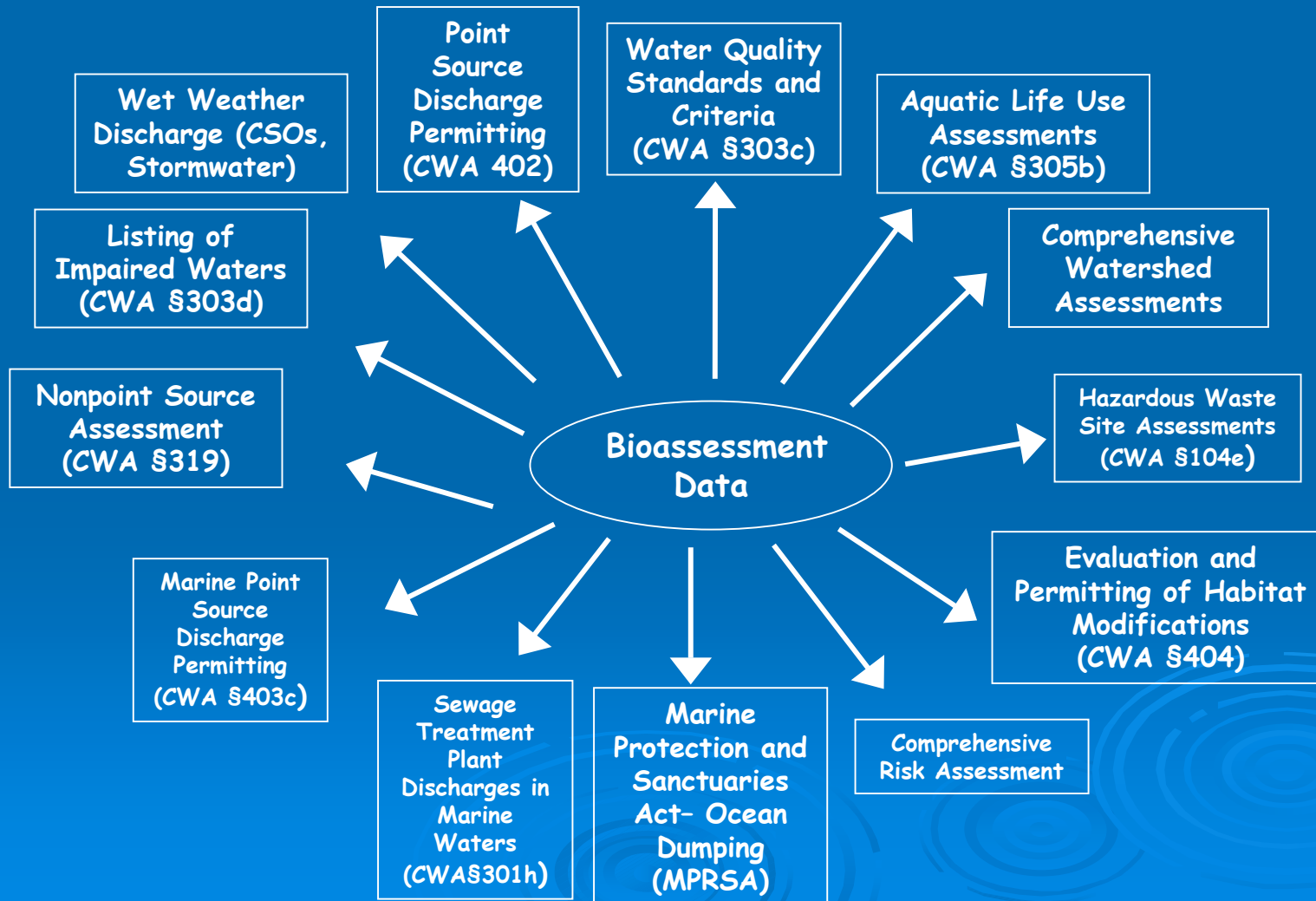
50 sites/year statewide

# Regional Monitoring 2001-04

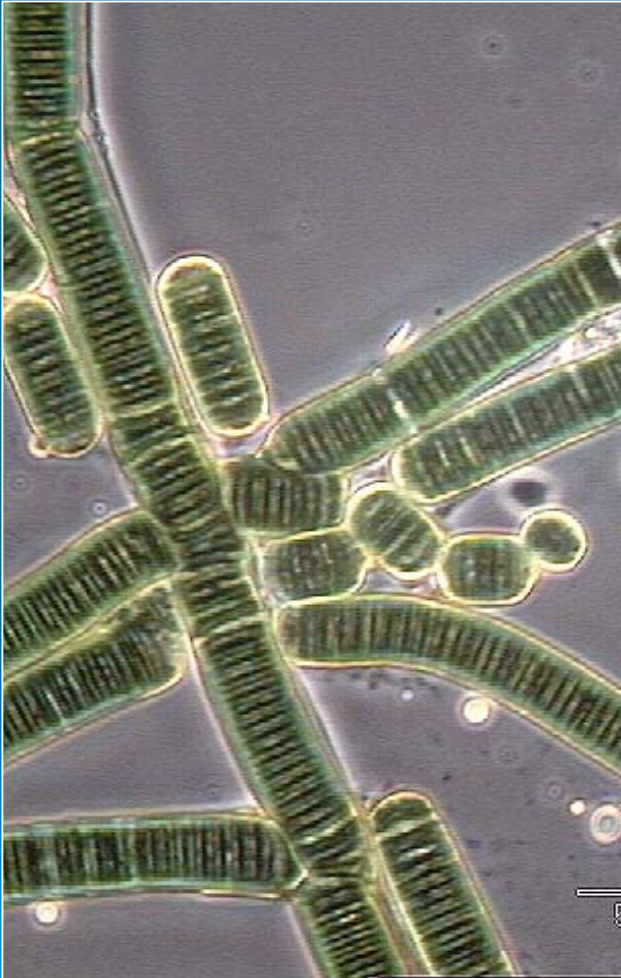




# Use of Bioassessment in Water Quality Monitoring



# SWAMP Bioassessment Program (est. 2001)



# SWAMP Bioassessment Program (cont'd)

- Peer review, Michael Barbour, TT (Jan 03)
- Workplan to address peer review (Feb 04)
- Conducted methods comparison (in prep)
- Reached agreement on consistent methods for wadeable streams with riffles (Dec 04)
- Designed methods comparison study for non-riffle (low-gradient) streams (underway)

# SWAMP Bioassessment Program (cont'd)

- Comparable physical habitat measurements
- SOPs for reference site selection
- Lentic protocols (method/s for lakes)
- Interagency coordination (methods, taxonomy, database, IBI development, etc.)
- Intra-agency coordination (incorporating bioassessment into regulatory programs)

# External Scientific Review

- Triennial review of entire program
- Staff responding to recommendations
- Initial Findings: (draft report in 2 weeks)
  - Highly motivated and involved regional staff, but 12 regional programs do not equal a state program—build one.
  - QA and Data management systems are excellent.
  - Monitoring activities should be elevated programmatically

# SPARC Recommendations

- Develop a framework that connects the issues/goals to indicators, to standards & criteria, to action thresholds and desired outcomes.
- Develop solid connections with other local, regional and state programs (e.g., NPDES, TMDL, Drinking Water)



# SPARC Recommendations

## (continued)

- Develop “signature” information products and reports to enhance value and create credibility
- Develop a state-wide assessment strategy
- Develop a communications and education strategy

# SPARC Recommendations

## (continued)

- Seek extramural advice and evaluation frequently
- Build on rich history of monitoring and assessment programs elsewhere.

# Next Review Steps

- Draft Programmatic Review shortly
- Conduct technical reviews of specific issues (before March)
  - Sub-set of this panel & others
  - State-wide network design – proper balance between state, regional and local scales
  - Biological assessment strategy – consistent methods, measures and thresholds
  - Data management, analysis, interpretation and communication strategy
- Follow up Full Review (two years)

# Questions?

Val Connor  
SWAMP Support Unit  
Division of Water Quality  
State Water Resources Control Board  
(916) 341-5573  
Vconnor@waterboards.ca.gov

<http://www.waterboards.ca.gov/swamp>