

# Bioassessment in the San Joaquin Basin and Sacramento-San Joaquin Delta 2001-Present

Jay Rowan  
CVRWQCB  
11/30/04



Sacramento River  
Basin

San Joaquin  
River Basin

Tulare Lake  
Basin

# SJR and Delta bioassessment

- Funding for the various projects
- Bioassessment projects
- Use of bioassessment in SJR and Delta
- Future of SJR and Delta bioassessment

# SJR and Delta Bioassessment Funding

- 2001 SJR Basin funded by SWAMP
  - Inconsistent funds
  - Contract delays
- 2002-Present funded by TMDL
  - TMDL funds directed by CA Legislature
- Future Funding
  - Unknown at this time

# Current Bioassessment Projects

- San Joaquin Basin Baseline Status
- Sacramento San Joaquin Delta
- Agricultural Supply and Return Channel Study

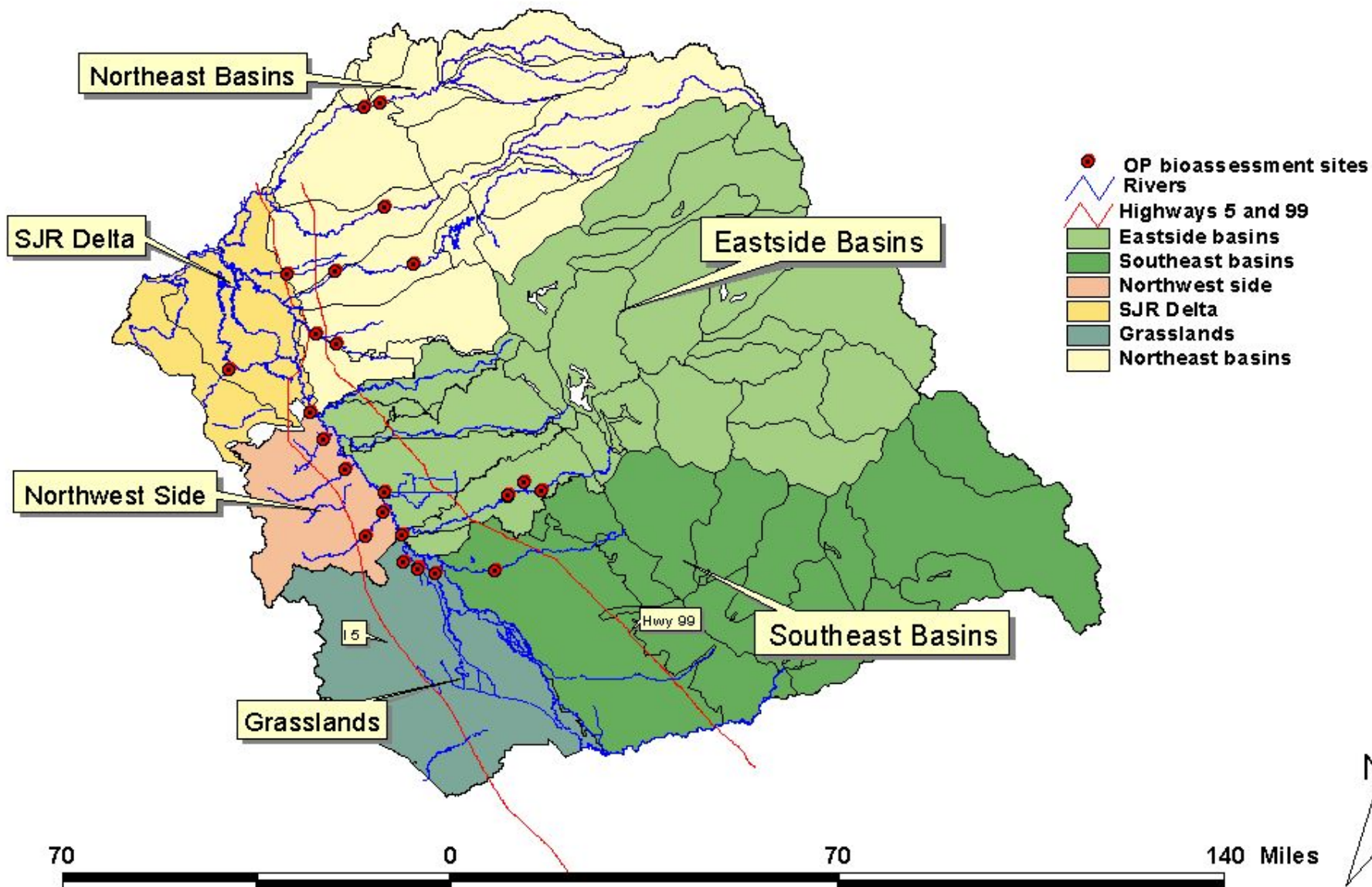
# SJR Basin Baseline

- Low Gradient Method Comparison
  - Modified CSBP, EPA Rapid, EMAP transect
  - Comparisons at 5 locations
  - EMAP was selected
    - Costs less for higher level of taxonomy than CSBP
    - Less subjective field procedure than EPA Rapid
    - Substantial amount of data with EMAP and CMAP

# Sample Baseline Sites

- 12-21 Baseline sites
  - Sampled Twice per year since 2001
  - Representative of water bodies entering SJR
  - 15 Low-Gradient sites (non riffle)
  - 6 Higher gradient sites
  - Most are SWAMP Water Quality sampling sites
  - Linked with Sediment Toxicity sites

# OP TMDL Bioassessment Sites





# DPR Reference Site Project

- Nina Bacey, DPR taking lead on GIS based approach
- 24 sites have been assessed would like to get at least 30
  - Water & Sediment pesticides, Nutrients, and P-Hab.
- BMI samples will be taken at the best 20  
Spring 2005

# Sacramento-San Joaquin Delta

- 2003 pilot study -17 Targeted sites
- Started with Method Development
  - Ponar, Multi-habitat D-net, Artificial Substrate
    - Collection efficiency in all habitat types and tidal conditions
    - Ease of use
    - Field and laboratory time
    - Need for a Boat in non-wadeable sites

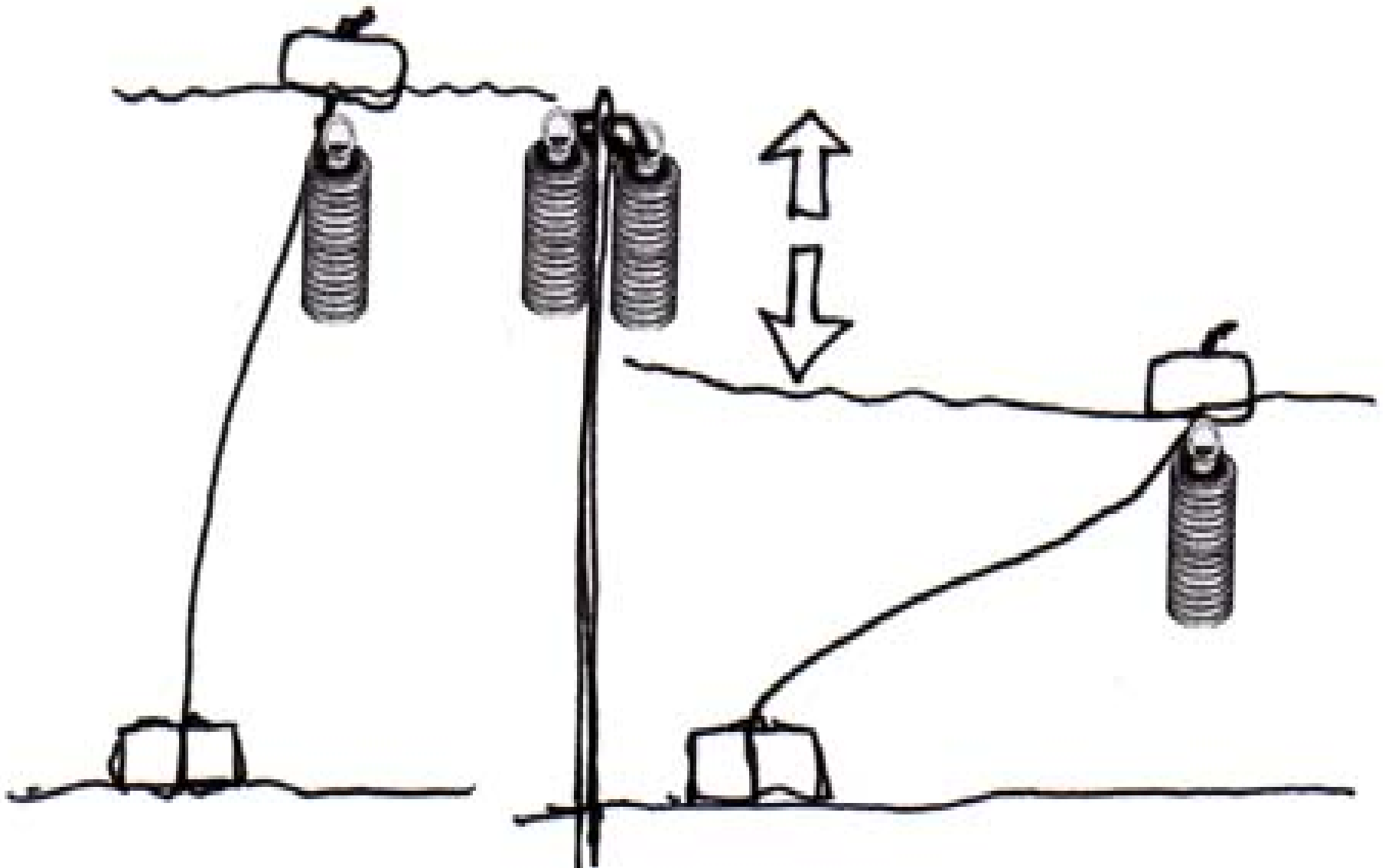
# Artificial Substrate “Hester Dendy’s”

- Easy to use in Delta
- Short collection time at a site
- Boat not needed at all sites
- Standard sample size
- Standard habitat type

Hester  
Dendy  
Artificial  
Substrate



# H-D Float System



# H-D's Can be LOST



# Summer of '04 started 3 Year Probabilistic Study Design

- Assess Delta biotic condition
- 25-50 Probabilistic sites sampled
- Opportunity for more Delta data collection
  - Bacteria study- E-Coli, Total Coliform
- Need funding for more data
  - Taxonomy, TSS, TOC, Nutrients...

# Ag. Supply and Return Study

- 2 Sites – April to June
  - EMAP Transect and Sediment Tox
    - Beginning and end of study period
  - Hester-Dendy Artificial Substrate
    - Every two weeks for 15 weeks
  - Water Column Chemistry and Tox
    - Combination of Ag. Waiver and Delta OP TMDL
    - Every two weeks



# Where are we now?

- **SJR Baseline Data**
  - 00-01 Final report being reviewed (UCD ATL)
  - 01-02 Analysis starting soon (UCD ATL)
  - 02-03 report expected: Early February (UCD AEAL)
- **Delta**
  - 03: Data entry in progress (UCD AEAL)
  - 04: Data entry completed by May 05 (UCD AEAL)
- **Supply and Return Study**
  - 04 May 05 (UCD AEAL)

# How are we currently using bioassessment data in the SJR Basin?

- Assess current biotic conditions.
- Storm Water permits.
- Spills.
- Use attainability analysis.

# How would we like use the data?

- TMDL, Grant programs, Ag. Waiver BMP's
- 303 (d) listing and delisting?
- NPDES?

# Short Term Goals for SJR and Delta

- Reference sites in San Joaquin Basin
- IBI or Predictive model for Low Gradient Water Bodies
- Delta IBI

# Future of SJR and Delta Bioassessment

- Need secure, consistent long term bioassessment funding.
- Need to prove it can be used as a regulatory tool in Region 5.
  - Links to TMDL, Storm Water and NPDES permits, Ag. waiver.
- Biocriteria.

# Thanks To

- Department of Pesticide Regulation
- UCD Aquatic Toxicology Laboratory
- UCD Aquatic Ecosystems Analysis Laboratory
- CDFG Aquatic Biological Laboratory

For further information on SJR  
and Delta bioassessment  
contact:

Jay Rowan

[rowanj@waterboards.ca.gov](mailto:rowanj@waterboards.ca.gov)

(916) 464-4718