

# **Technical Support for Freshwater Biological Objectives in California**

**SCCWRP  
California Dept Fish and Wildlife  
US Geological Survey**

# The SWRCB Directive

- **Over 26,000 California stream miles are impaired**
  - **Uneven among Regions**
- **Almost all impairments are for chemistry**
  - **Why not measure the biology directly?**
- **“The SWRCB will have biological objectives in three years”**
  - **Asked SCCWRP to help support the technical foundation for policy development**

# SWRCB's Policy Goals

- **Establish consistency**
  - **Biological assessment methods**
  - **Methods for interpreting assessment data**
  - **Endpoints for reasonable protection of beneficial uses**
- **Identify streams in good biological condition**
  - **Protect them from degradation**
- **Identify streams not in good condition**
  - **Restore them to good or “best attainable” condition**

# 8-Step Development Process

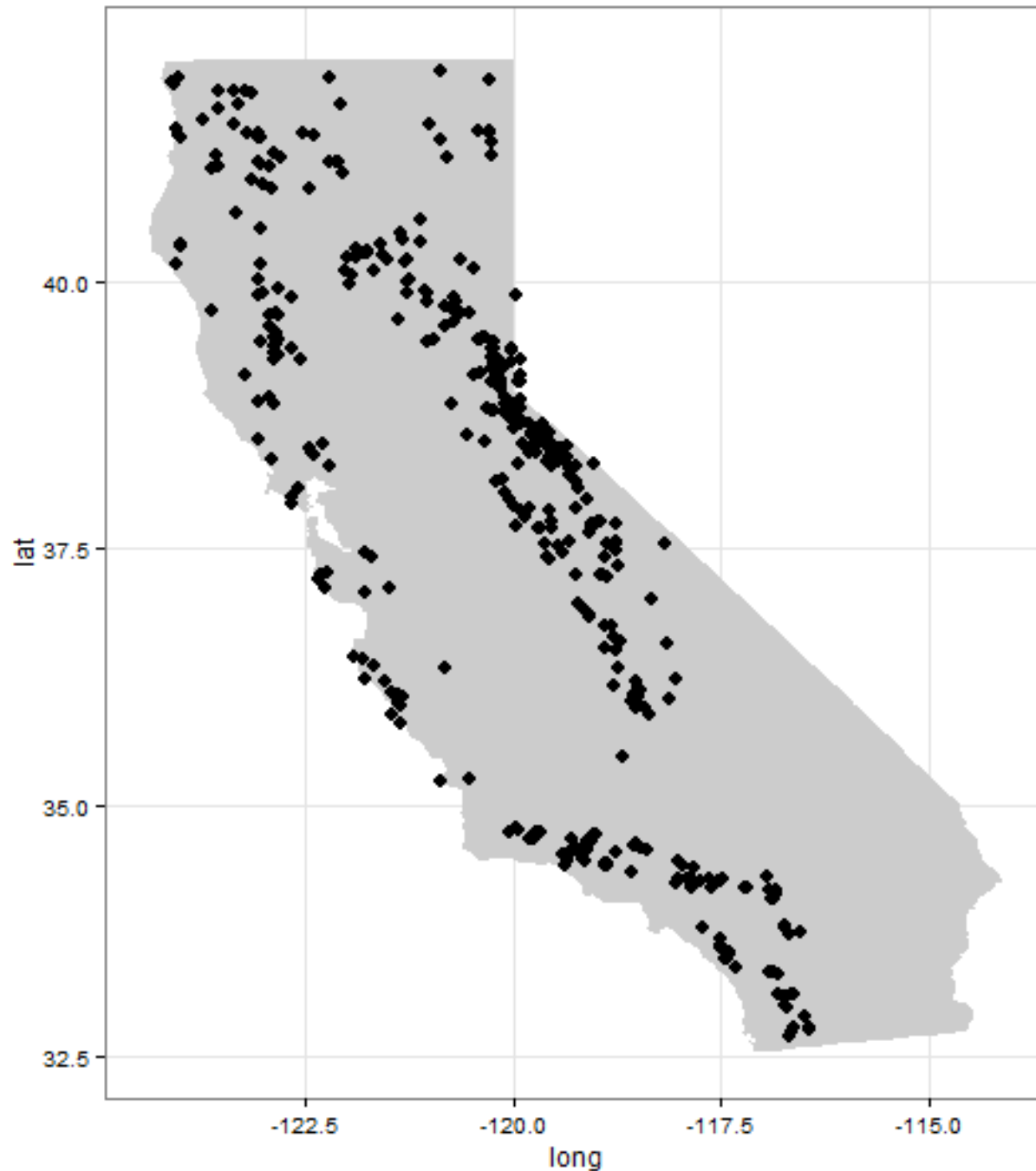
- Reference condition
  - Scoring tools development
  - Stressor identification
  - Information management
  - Implementation Plan Development
  - Rulemaking
  - Outreach
  - Training and standardization
- Technical Elements**
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# Technical Development Has Been Successful

- **Invested in 15 years of reference site sampling**
  - Excellent coverage of most environmental gradients
- **Developed a scoring tool capturing statewide consistency AND local site-specificity**
  - California Stream Condition Index (CSCI)
- **Evaluated four Causal Assessment case studies across the state testing EPA's tool box**
  - Two were in southern California

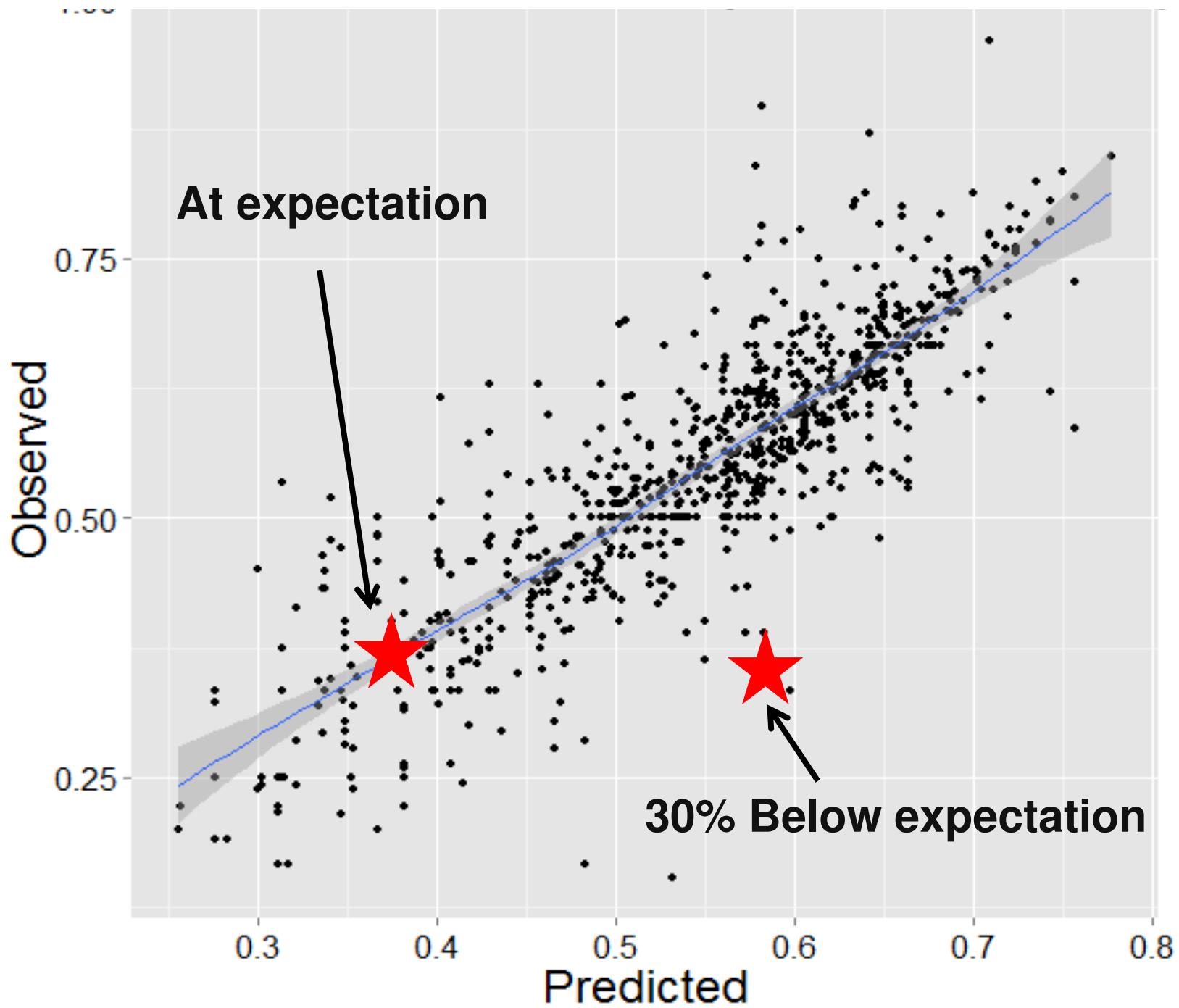
# Reference Condition

- Over 500 sites statewide
- Minimal human disturbance
  - Human land use
  - Roads, Mining, Dams, etc
- Independent of biology
- Can be used for additional measures
  - Algae, other biology
  - Nutrients, other chemistry
  - Microbiology



# California Stream Condition Index

- Includes individual species and ecological community diversity measures
- Utilizes landscape modeling approaches to predict “expected” biology at your site
  - Based on geophysical factors
- Measure what is observed
- Observed / Expected
  - Unity represents reference condition





# Status of SWRCB's Policy Steps

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- **CEQA Scoping meetings in 2012**
  - **State Water Board Workshop 2013**
- **Stakeholder and Regulatory Advisory Groups**
- **Four philosophical principles**
- **Three policy options**

# SWRCB's Bio-Objective Development Philosophy

- **All waterbodies should have biological protection**
  - Start with perennial wadeable streams
- **Desire multiple indicators**
  - Start with benthic macroinvertebrates
- **Biological objectives need numeric endpoints**
  - Perhaps several
- **Requires statewide consistency with regional flexibility**

# SWRCB's Three Regulatory Options

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- **Adopt statewide narrative biological objective with numeric endpoints determined to be protective of beneficial uses**
- **Amend the Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (Listing Policy) to establish evaluation**
- **Amend the Inland Surface Waters and Enclosed Bays and Estuaries Plan to establish consistent, statewide biological condition assessment methods, scoring tools, and guidance for implementation**

# **SWRCB Staff Currently Favoring Option #3**

- **The Plan will not:**

- **Establish Water Quality Objectives**
- **Establish thresholds that define desired biological condition**

- **The Plan will:**

- **Establish consistent methods including how to establish baseline condition**
- **Provide direction to the Regional Water Boards on implementation in water quality control programs – including “dos” and “don’ts”**
- **Provide discretion, where appropriate, to the Regional Water Boards**
- **Provide recommendations to other relevant State Agencies**

# SWRCB Next Steps

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- **Creating a Draft Biological Integrity Assessment Implementation Plan**
- **Stakeholder and Regulatory Group meetings**
  - Implementation sub-committee
- **Hoping to take to Board in early 2015**
  - Recent leadership turnover