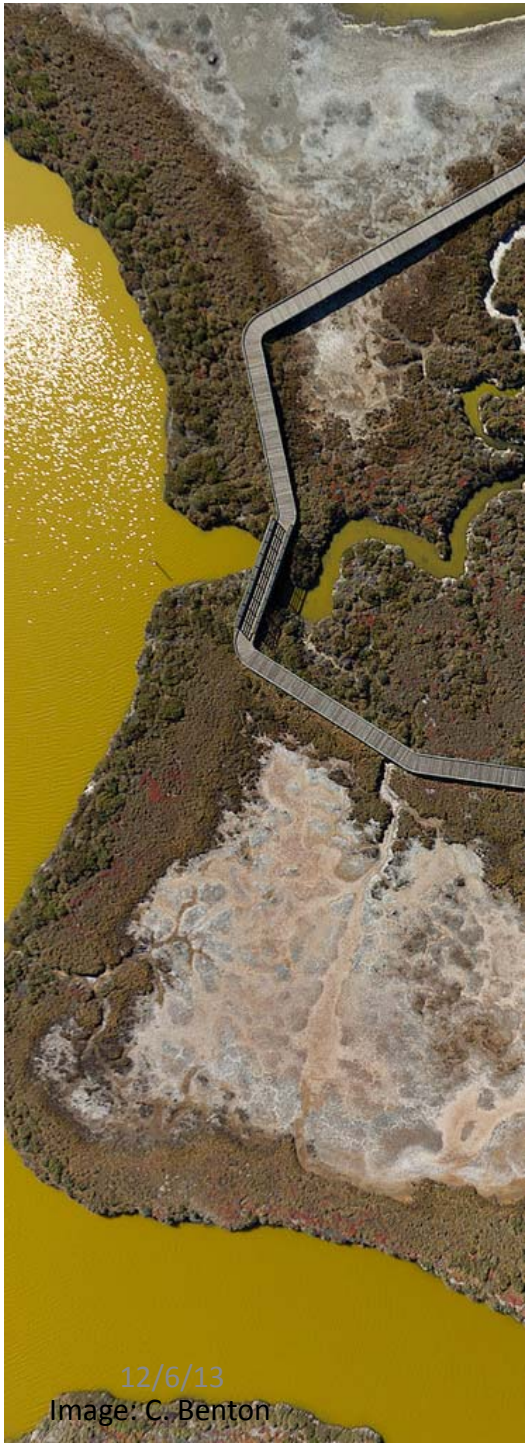

Image: C. Benton

1. Work Products Update
    a. Conceptual Model Report
    b. Suisun Synthesis I
    c. Loading Study

2. Science Plan

David Senn and Emily Novick

davids@sfei.org

# Work Products

| | Draft | Final |
|---|---|---|
| NNE Literature Review | Spring 2011 | Sep 2011 |
| Nutrient Strategy | Mar 2012 | Nov 2012 |
| * Conceptual Model | Apr 2013 | Dec 2013 |
| * Suisun Synthesis I | Nov 2012 | Dec 2013 |
| * Loading Study | Apr 2013 | Dec 2013 |
| Yr.1 Effluent Characterization | Oct 2013 | Oct 2013 |
| GG exchange conceptual model | Nov 2013 | Dec 2013 |
| Lower South Bay Synthesis | Jan 2014 | Mar 2014 |
| Suisun Synthesis II | Jul 2014 | Sep 2014 |
| Science Plan – v.1, v.2 | May 2014 | Q1 2014 |
| Modeling Program Development Plan | Aug 2013 | Dec 2013 |
| Modeling Workplan | Jan 2014 | Feb 2014 |
| DO in South Bay and LSB margins | Oct 2013 | |
| Assessment Framework report #1 | May 2013 | |
| Assessment Framework report #2 | Q2/Q3 2014 | |
| Monitoring Program Development Plan | Mar 2013 | |

# Nutrient Conceptual Model

Comments received:

- RMP Technical Review Committee (Tom Hall, EOA)
- SacRegional CSD
- State and Federal Contractors Water Agency (SFCWA)
- City of Sunnyvale

# Comments Subset: Conceptual Model

1. The report focuses too much on the classic eutrophication concept, not on the impacts of elevated NH4 of altered N:P ratios
   a. Insufficient treatment of relevant literature (ammonium inhibition of nitrate uptake by phytoplankton and the potential role of nutrient stoichiometry in shaping community composition)

2. Need to clarify when issues being discussed apply to SFB as a whole, or to certain subembayments

3. Light-limitation paradigm based on modeled not measured data

4. No discussion of how much nutrient concentrations need to reduce to be nutrient limiting

# Comments Subset: Conceptual Model

5. Shouldn't suggest that SFB is not currently impaired by nutrients, or has been resistant in previous decades – "…has been experiencing more subtle, though perhaps no less serious, symptoms of over-enrichment for decades. "

6. Incorporate flushing/residence time into discussions of phytoplankton biomass, particularly when comparing to other estuaries

7. The report should discuss the challenges in trying to predict the course of eutrophication, and recovery, with examples of how other estuaries have responded to decreased N loads

8. The report should lay out a 10-yr plan with phased objectives and checkpoints and clearly-defined goal.

9. Too many "very high" priority study areas

# Suisun Synthesis I

Comments received:

- San Jose Wastewater Treatment Plant / BACWA (Jim Ervin)
- Central Valley Regional Water Quality Control board (Chris Foe)
- SFCWA
- SacRegional CSD
- CCCSD

# Suisun Synthesis I

1. Does not adequately describe the role of advection of high-chl water from elsewhere on the standing stock of biomass in Suisun Bay

2. Insufficient treatment of other nutrient issues, such as N:P, high nutrients, and elevated ammonium on phytoplankton community composition

3. Should give a more balanced view of Teh copepod study. Both criticisms and defenses that are not cited

4. Zooplankton section is copepod-centric (include mysids, etc.)

# External Nutrient Loads Report

Comments received:

- Central Valley Water Board (Chris Foe)
- SFCWA
- SFPUC

# External Nutrient Loads Report

1. Delta loads methods
   - Stations used in calculating Delta loads are too far upstream from Suisun Bay (10-30km) – what transformations could occur in this time?
   - Are we adequately capturing flood event loads if monitoring rarely occurs during these times?
2. Report should have more balanced language regarding potential impacts of nutrients on phytoplankton community composition
3. Report does not include all potential sources/sinks and does not assess their potential magnitude
4. Specific comments related to load calculations from individual POTWs