

Agenda Item 3

Causes of Toxicity 2007-2008 Amphipod TIE Study

UC Davis - Granite Canyon
Marine Pollution Studies Laboratory

SFEI



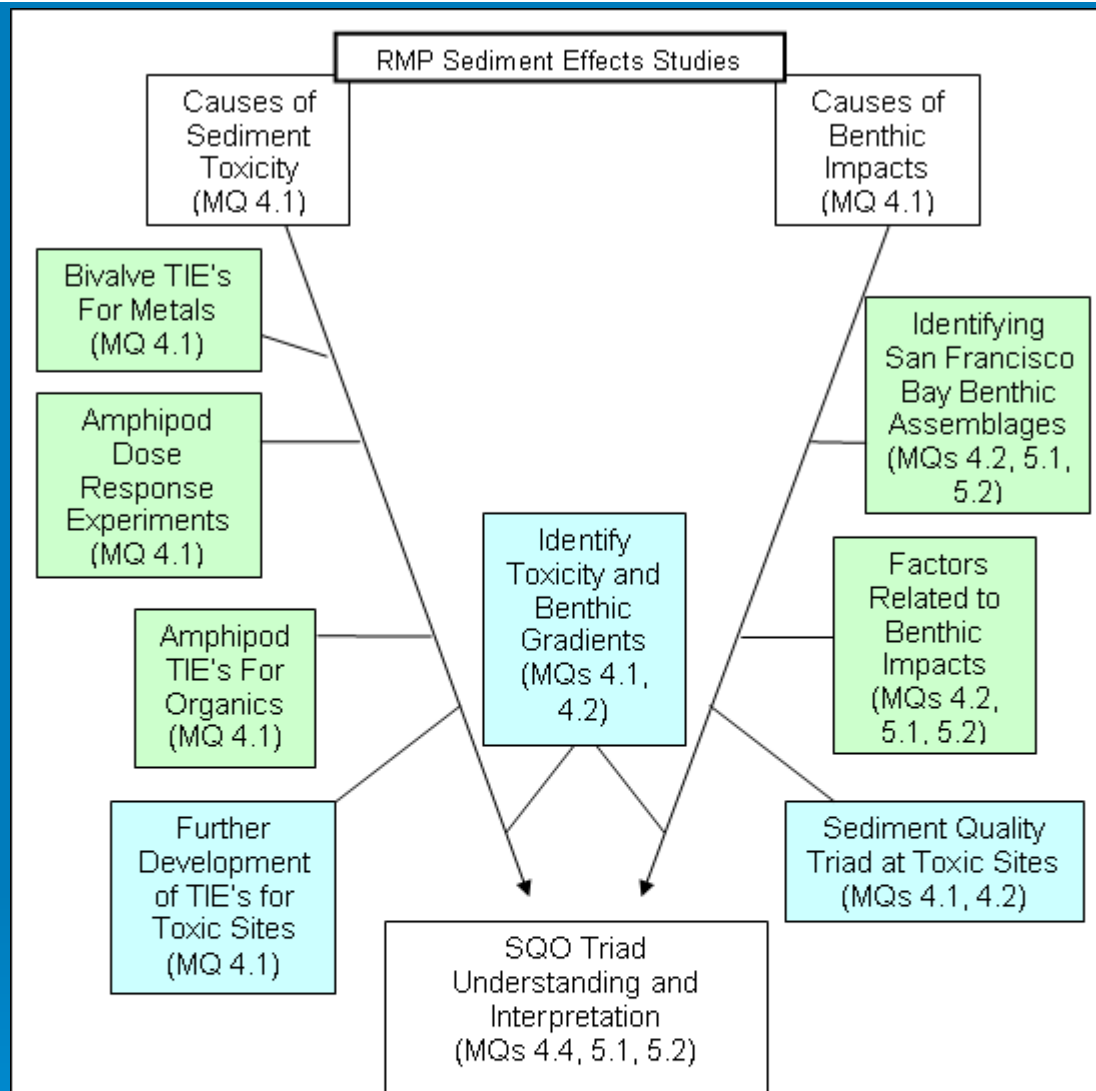
Specific Questions to be Addressed in the Next Five Years

- What are the spatial and temporal patterns of impacts of sediment contamination on benthic biota?
- Which pollutants are responsible for observed impacts on benthic biota?
- Are the toxicity tests, benthic community assessment approaches, and the overall SQO assessment framework we are using reliable indicators of impacts on benthic biota?

Specific Questions to be Addressed in the Next Five Years

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- Which pollutants are responsible for observed impacts on benthic biota?
- .





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**RMP Management Questions 1 and 2
ECOLOGICAL CONDITION OF
SAN FRANCISCO BAY SEDIMENTS**

Major Elements for the Next Five Years

- Status and Trends Monitoring
- **Causes of Sediment Impacts**
- Understanding and Improving Sediment Assessment Tools

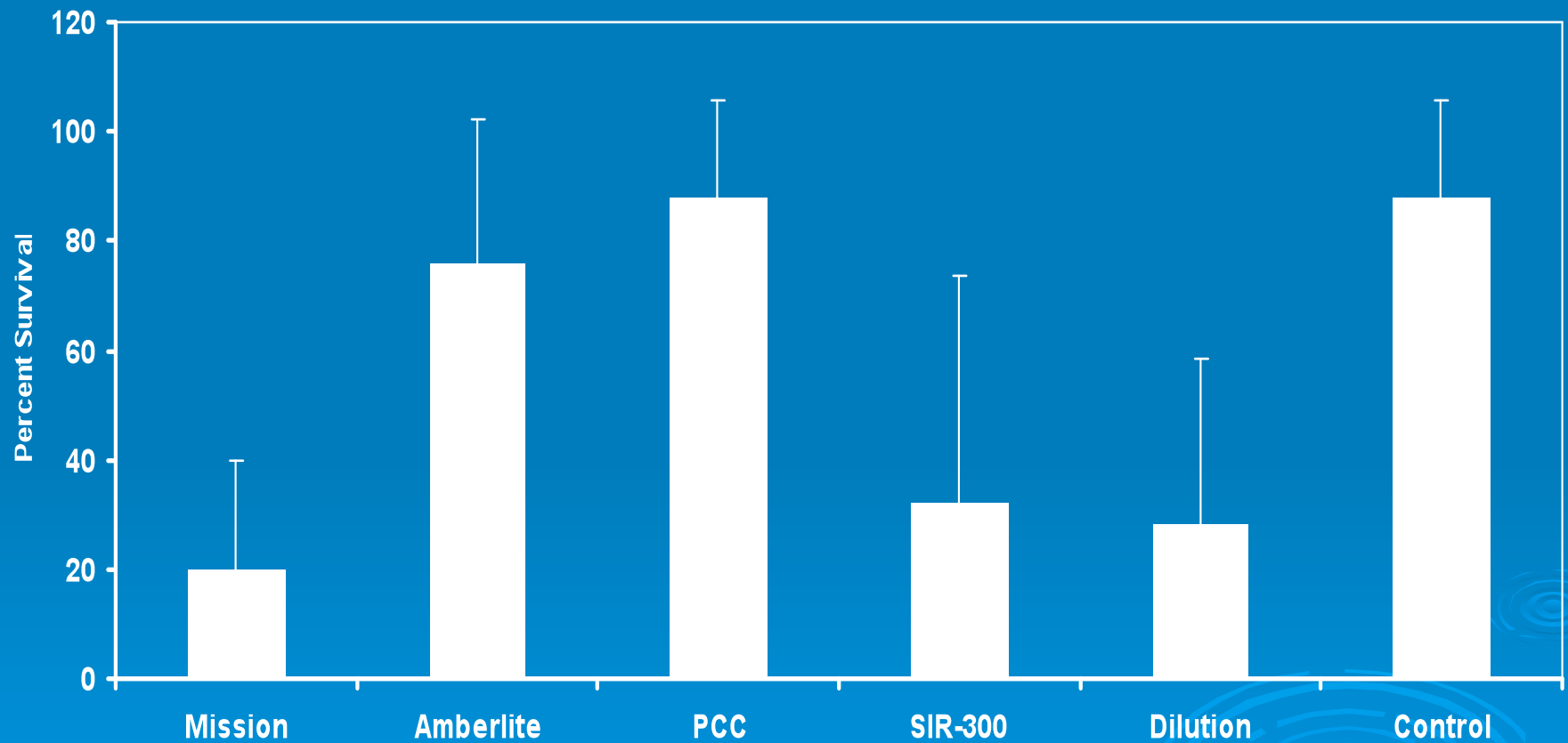
Project Goals

- Verify and improve newly-developed sediment TIE methods for the estuarine amphipod *Eohaustorius estuarius*.

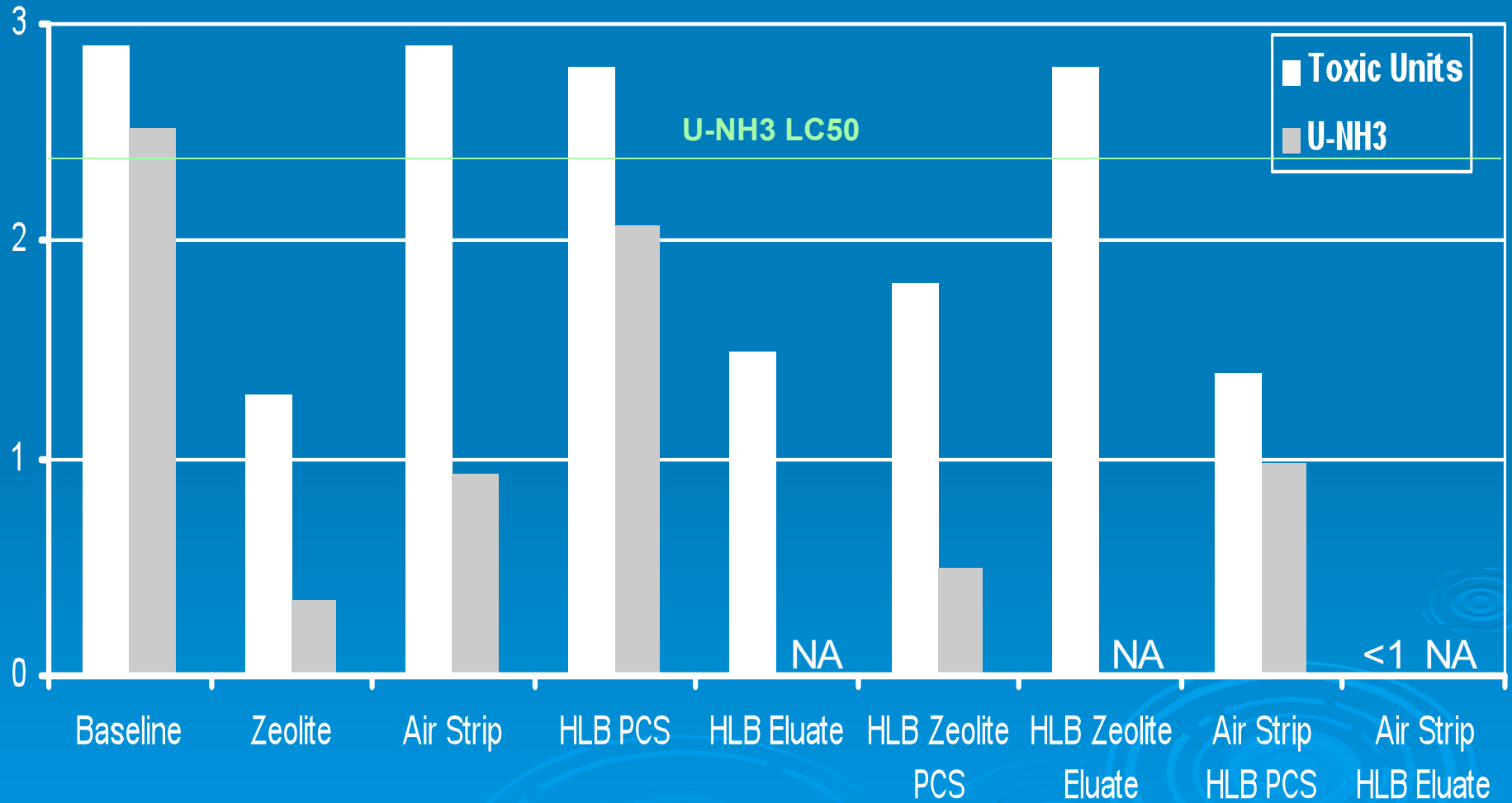
Sampling Locations



Mission Creek Whole Sediment



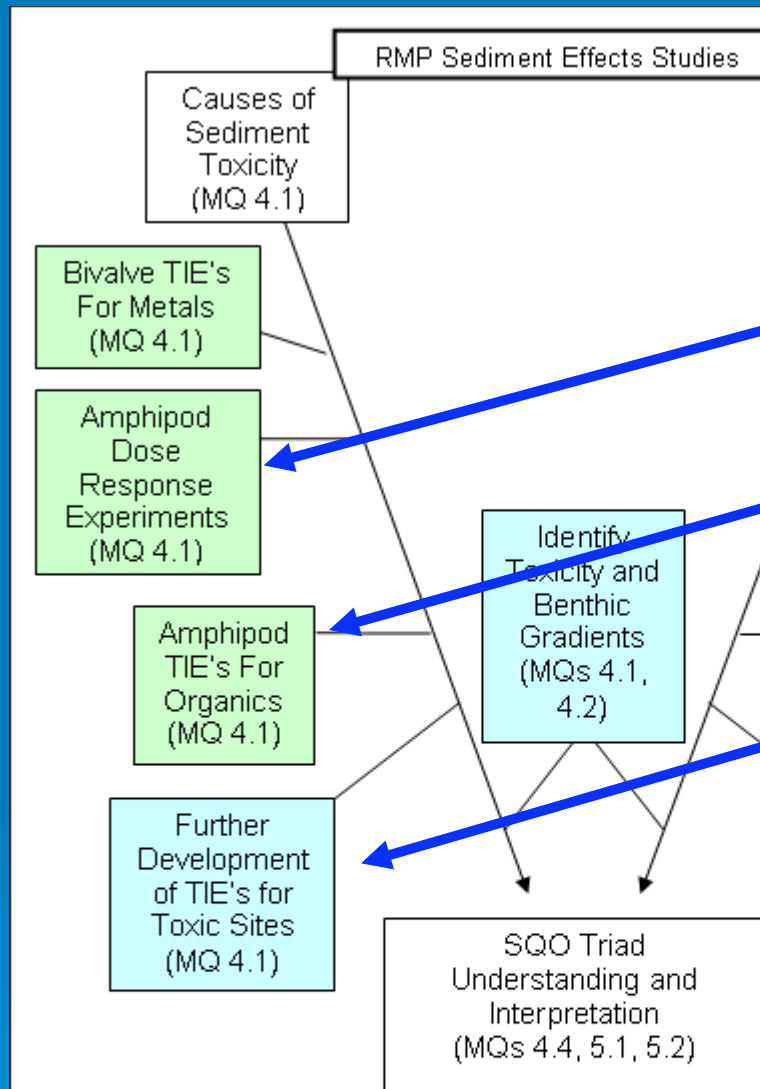
Mission Creek Interstitial 1



Sediment Chemistry Highlights

- Ambient sediment chemicals were below threshold limits
- Sediment contained a complex mixture of chemicals
 - SQGQ = 21.3 (Fairey et al. 2001) – 6.9 without chlordane (toxicity expected at >3.5)
- Some evidence of PAH toxicity – *R. abronius* LC50 exceeded and models predict small contribution

Tox. WG 2009 Proposal



Develop more LC50 data

Continue work on the amphipod TIE methods

Develop a strategy to further address the causes of toxicity in moderately toxic sediments through a workgroup process.