

ROP Subteam (Work Group) Update

SRST Team Meeting

April 21, 2009



The miracles of science™

Activities

- Co-Chairs
- Refining Conceptual Exposure Pathway Model
- Bank Stabilization Pilot / Monitoring
- Innovative Task Team

DRAFT

Refining the Conceptual Pathway Model

Conceptual Pathway Model Answers the Question

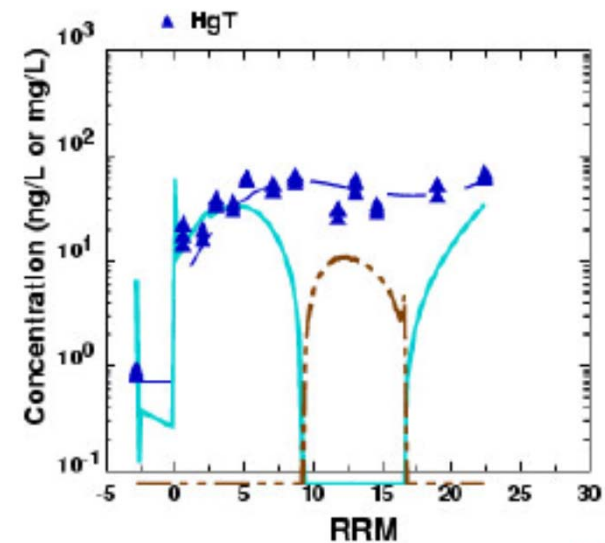
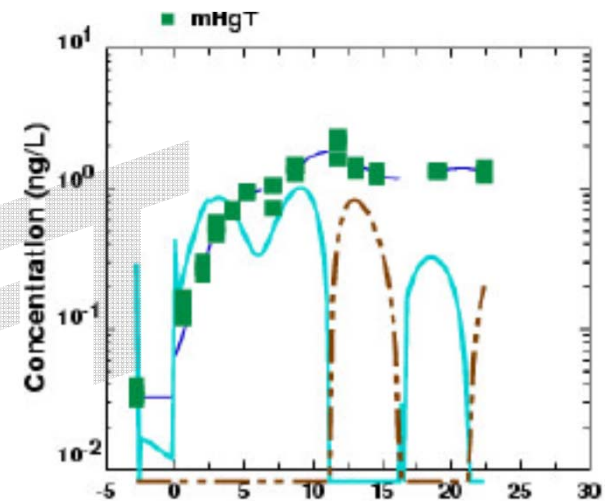
- How does Hg get to (into) the environmental compartments of the aquatic system?

Answer may be different depending on reach

- Develop some range finding quantitative mass balances

Will aid in developing remediation strategies for the river

- Conventional
- Innovative



Bank Stabilization Pilot

1Q09 – Pre-application Meeting at Site in February

1Q09 - Monitoring Program developed (linked with Eco Study Program)

- Caged and Seeded clams included to assess biological effects

Item	2009											
	1 st Quarter			2 nd Quarter			3 rd Quarter			4 th Quarter		
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Pilot Study Design Finalized	■	■										
Construction Permitting / Agency Review		■	■	■	■	■						
Pre-construction Scope of Work												
River Bank Retreat and Channel Morphology	■	■	■	■	■	■	■	■	■			
Habitat, Vegetation, and Substrate Assessments			■		■				■			
Physical and Biological Loading Study					■	■	■	■	■			
Groundwater / River Interactions			■	■	■	■	■					
Pilot Bank Construction Activities									■	■		
Post-construction Scope of Work												
River Bank Retreat and Channel Morphology											■	
Habitat, Vegetation, and Substrate Assessments											■	
Data Evaluation							■	■	■	■	■	■

Physical and Biological Loading and GW / River Interactions evaluations will be continued Post-construction in 2010

Summary: 2009 Activities to Inform Decision-making Process

Use Eco Phase 1 & 2 and TMDL data to attempt mass balance by reach / compartment

- THg and FHg; T MeHg and F MeHg

Use Eco Phase 2 Study to better understand mechanisms of Hg uptake by aquatic biota

- Use Bank Pilot to assess system response to change

Use ongoing geomorphic studies including refinement of erosion rates and fine-grained particle resident times in gravel / sand beds

Continue bioavailability and treatment research with Rutgers, Waterloo, U of MD / Smithsonian,

Continue to refine / improve measurement devices (UT Austin, Landis)

Incorporate Recommendations from ROP Innovative Task Team into overall program / set up new work as appropriate

Innovative Remediation Task Team

Objective:

Identify innovative technologies and approaches for reducing the bioavailability of mercury in the South River aquatic system, without harming the biota.

- An “invention” may be necessary.
- Consider feasibility of deployment in a relatively high-energy, sinuous, bedrock, and gravel-bed river.

Anticipated Deliverables

- Document summarizing results of the brainstorm
 - Highlighting remedial technologies / approaches that are most promising.
 - Including description of the technology / approach, advantages and disadvantages, uncertainties, deployment feasibility, availability
 - Include technologies considered, but rejected
 - Recommendations – prioritized

Innovative Task Team

- Reed Harris
- Mike Newman
- Carol Ptacek
- Danny Reible

Kickoff Meeting – March, Face to Face – May 7/8