Hydroqual, Inc.
Proposal for South River

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South River Science Team Meeting

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Objectives of Proposed Work

- Refine the current Conceptual System Model with respect to mass and distribution of mercury in the system
- Recommend actions to fill critical data gaps

Scope of Hydroqual's Proposed Work

- Refine current CSM
- Work closely with other experts on the team to effectively integrate data and knowledge into a refined CSM
- Recommend actions to focus our understanding of significant pathways
- Consult on TMDL development issues

Hydroqual's Proposal

- Phase I - Refine Conceptual System Model
- Phase II - (need TBD) Detailed Model of Mercury fate, transport and bioaccumulation

Hydroqual's Proposal

- Phase I - Refine Conceptual System Model
  - Task 1: Data Review and Analysis
  - Task 2: Review current hypotheses of Potential Source through Receptor Pathways
  - Task 3: Evaluation of Potential Source through Receptor Pathways using a simple analysis framework (semi-quantitative analysis)
  - Task 4: Identification of Data Gaps and Recommendations for Data Collection
- Phase II - (need TBD) Detailed Model of Mercury fate, transport and bioaccumulation

Summary PCSM - South River

Potential Primary Secondary Sources	Release/transport Mechanisms	Potential Sources Exposure media	Exposure Routes	Potential Receptors
Waynesboro Plant Hg Recovery Unit (1929-1950)	**Spills, Combustion**	**Soils**	**Direct: Ingestion, Inhalation, Dermal**	**Workers**
Soil, Storm Sewers, River Bank Soils, Groundwater, Permitted Outfalls	**Leaching, Stormwater Runoff, Surface water flow, Sediment movement, Storm events, Biogeo-Chemical changes**	**Surface Water, Sediments, Wetland areas, Mill Ponds, Isolated Pools, Floodplain Soils, Upland Soils**	**Indirect: Food (fish) Bioaccumlation**	**Recreational users, Residents, Livestock, Ecological: aquatic; terrestrial**
Municipal Landfill, WTP, Sewerage Disposal			**Direct: Ingestion, Inhalation, Dermal**	
Other Industry				
Atmospheric (ambient)				

Recommended Upgrades
to Hydroqual's Proposal

- Hydroqual representative should attend Science Team Meetings on a regular basis
- Hold a ~two day technical meeting among Hydroqual and other Science Team members wherein information is shared and current hypotheses are discussed in-depth
- Form a ***Conceptual System Model*** *Task Team* (subset of the Science team) that would meet with Hydroqual and discuss evolution of the project (monthly to bi-monthly basis)