Toxics Criteria Subcommittee

Nov 5, 2012

Toxic Criteria Based Monitoring

(slides without images)

- Task: Ambient Water Monitoring of the Delaware River for Toxic Pollutants

- Goal: Collect ambient water data for TMDL and WQA
- polychlorinated biphenyl (PCB)
- pesticides
- dioxins/furans
- polycyclic aromatic hydrocarbons (PAHs)

Toxic Criteria Based Monitoring

- Task: Assessment of Metals in Estuarine Waters
- Goal: Additional data collection for copper, zinc and nickel using enhanced analytical methods, modified collection procedures and changes in the spatial scale of sampling to help determine metals concentrations in ambient water

Task: Monitoring the Tidal Delaware River for Ambient Toxicity

Freshwater Test Species

Pimephales promelas
fathead minnow

Ceriodaphnia dubia

water flea

Goal: Assess the potential for chronic toxicity in water samples. No adverse effects should be observed in toxicity tests with undiluted ambient water.

Pseudokirchneriella subcapitata

green algae

Monitoring the Tidal Delaware River for Ambient Toxicity

Salinity Tolerant Species

Menidia beryllina

inland silverside (5 to 32 ppt)

Americamysis bahia

mysid shrimp (10 to 30 ppt)

Goal: Assess the potential for chronic toxicity in water samples.
No adverse effects should be observed in toxicity tests with undiluted ambient water.

Hyalella azteca

amphipod (0 to 10 ppt)

Toxic Criteria Based Monitoring

- Task: Lower Delaware River Metals Sampling Scheduled for Fall 2012
- Goals: assess the technical challenges associated with both hardness based metals criteria and a biotic ligand model based copper criteria in non-tidal freshwaters

Toxic Criteria Based Monitoring

- Task: Delaware Estuary Boat Run (Boatrun)
- Goals: Generate water quality information
- routine parameters (e.g, conductivity, temperature)
- nutrient parameters (e.g., Ammonia, Nitrate and Nitrite)
- algal parameters (Chlorophyll-a and Silica)
- bacterial parameters (E. Coli, Enterococcus and Coliform, Fecal (MTEC))
- toxic parameters of heavy metals (Chromium,-Hexavalent (Cr VI) , Copper, Nickel, Lead, Zinc, and Mercury)