

STRESSORS & BIOAVAILABILITY

Pore water & sediment metals and organics

Plant & plant exudate metals and organics

Estrogenic & dioxin-like compounds in sediment

**Forms of Se, Hg, pesticides & Hg methylation potential
Dissolved inorganic N & N isotope ratios**

Fecal coliform bacteria & pathogens

Wetland fragmentation & drainage

MICROBIAL & PLANT RESPONSES

Phytochelatin status

**Bacteria: bioluminescent, ammonia oxidizers,
selenate & arsenate reducers, metal
transformers**

Sediment protein & detrital C:N ratio

Biomass accumulation

Fluorescence emission by PAM

Spectroradiograms, chlorosis, water content

**Changes: distribution, abundance, &
senescence**

ANIMAL RESPONSES

Metallothionein status

P-450 and acetylcholinesterase enzymes

Choriogenin in male fish

Apoptosis, DNA damage, histopathology

Fecundity, gamete viability, fertilization, GSI

Embryo/larval development & growth

Sex ratio/imposex/intersex

Parasites & pathogens

ECOSYSTEM RESPONSES

Richness, evenness, dominance, diversity & multitaxa IBI

Ratio of exotics to natives

Ratio of herbivore + detritivore to consumer biomass

C & N stable isotope ratios

Trophic support: detritus decomposition rates & litter

**Biogeochemical performance: ammonification,
decomposition, & nitrification rates**

Figure 1. Summary of measurements to be made by PEEIR Consortium