

Stressor Detection and Impact Division Ecotoxicology Branch

Mission

Conduct research to evaluate and predict the effects of chemical contaminants and other environmental stressors on coastal ecosystems



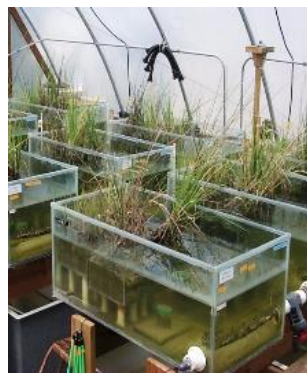
Research Priorities

- Determine **bioeffects** associated with environmental pollution
- Develop **sublethal indicators** of contaminant exposure and stress
- Evaluate impacts of **priority contaminants, contaminant mixtures, and multiple stressors**
- Improve **risk assessments** for environmental and human health
- Develop sensitive **analytical methods** for identification and quantification of emerging environmental chemical pollutants
- Characterize **chemical transport and fate**
- Support **national and regional** chemical contaminant **assessments**
- Provide science to support NOAA's mandate for **spill response and restoration**



Capabilities

- **Acute and chronic toxicity testing** with fish, invertebrates (shrimp, mysids, amphipods, molluscs, phytoplankton, microbial community)
- **Biomarkers** (eg. AChE, lipid peroxidase, glutathione, EROD, genetic markers, qPCR)
- **Multistressor** experiments to assess contaminant toxicity under variable temperature, salinity, UV light, etc.
- **Flow through** testing capabilities
- Mesocosm testing to assess community level responses to contaminant stressors



- **Analytical instrumentation** includes ICP-MS, Direct Mercury Analysis, GC/MS, LC/MS
- **Inorganic and organic** contaminant quantification in various matrices including water, sediment, and tissues

- **Legacy contaminant** classes: metals, PCBs, organochlorine pesticides, PAHs
- **New classes** of contaminants such as PFAS, pharmaceuticals and other personal care products, musk compounds, organic anti-foulant biocides, organic UV filters (sunscreens), PBDEs
- Quantification of various constituents of **fresh and weathered crude oil**



Contact us

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