



Upper Okatie River Focused Water Quality Assessment Bureau of Water Aquatic Sciences Program

Purpose

To investigate the potential release of chemicals to surface waters from the Able Contracting site pursuant to fire suppression runoff water.

Assessment Area

Nine (9) sample locations

Media to be Sampled

Surface water, sediment, oysters [*Crassostrea virginica* (Gmelin)]; co-located

Design

One (1) dry weather sampling event

Water samples will be collected on ebbing tide; sediment samples and oyster samples (when present) around ebb slack tide.

- Oysters were selected for the biological tissue sample because they are sessile.
- Oysters will not be present at all locations.

Where oysters are present:

- a composite sample of 15 oysters of at least 7.5 centimeters in shell height will be collected for tissue analyses and a sediment sample will be collected in the vicinity of the collected oysters.
- the height of all live oysters in a one-half (0.5) square meter quadrat will be measured in the field and recorded to yield size-frequency information.
- three (3) randomly-selected quadrats will be collected at each location for size-frequency data.
- the number of dead oysters present in the quadrat will also be counted and recorded.

The following parameters will be analyzed at each location for the water, sediment and tissue samples:

- Arsenic, cadmium, chromium, copper, iron, lead, magnesium, mercury, nickel, selenium, zinc (all total form)
- Polycyclic aromatic hydrocarbons
- Acid extractable organic compounds (i.e., semi-volatile compounds)
- Base-neutral extractable organic compounds (i.e., semi-volatile compounds)
- Volatile organic compounds
- Pesticides and polychlorinated biphenyls
- Formaldehyde

The following parameters will be measured instantaneously at the time of sample collection:

- Dissolved oxygen
- pH
- Temperature
- Conductivity
- Salinity (via calculation using water temperature and conductivity data)
- Tidal stage (e.g., $\frac{1}{4}$ ebb; $\frac{1}{2}$ ebb; $\frac{3}{4}$ ebb), time and weather will be recorded