



Hood Canal Regional Pollution Identification & Correction Program

Field Implementation Guide – Addendum: Ambient Fresh Water Monitoring Procedures

These monitoring procedures were developed from Kitsap Public Health District and other established monitoring protocols. These procedures do not address every possible monitoring situation. As such, guidance from the project lead should be sought in determining the best course of action during unusual circumstances.

Monitoring Event Preparation

Prior to conducting a complete and successful monitoring event, certain preparations must be made. Monitoring event preparations are coordinated by program staff and shall include the following:

- Checking and following the applicable monitoring schedule.
- Identifying the number and location of monitoring stations for that event.
- Identifying and scheduling field staff.
- Ensuring that the necessary field equipment will be available, calibrated, and ready for monitoring.
- Obtaining the correct type and number of sampling containers.
- Coordinating sample delivery and analysis/holding times with the receiving laboratory.
- Reviewing tide charts before planned monitoring events.
- Developing a monitoring route.

Pre-Monitoring Activities

All field monitoring activities will be conducted in the same manner for all monitoring stations. The standard sequence of events for each monitoring site, where applicable, is as follows:

- Put on field gear and protective clothing appropriate for the sampling event and weather conditions.
- Park vehicle in a safe and clearly visible location that provides staff a safe exit from the vehicle.
- Enter monitoring event information in field notebook (see Section 8.E).
- Gather all applicable field equipment and approach the specific monitoring station

Monitoring Activities

The following text summarizes monitoring protocols used for fresh water streams. Variations from approved monitoring protocols, when necessary, are noted. For specific information related to a monitoring protocol, please refer to the published document.

Fresh Water Streams

Fresh water stream samples are collected and analyzed according to the following monitoring protocols (as cited or as amended):

- “Recommended Protocols for Measuring Conventional Water Quality Variables and Metals in Fresh Water of the Puget Sound Region” (EPA, 1990); and
- “Guidance for Conducting Water Quality Assessments and Watershed Characterizations Under the Nonpoint Rule (Chapter 400-12 WAC)” (Ecology, 1995).

Monitor Fresh water stream stations as follows:

- Wear disposable, waterproof gloves for your safety.
- Approach monitoring stations from a down-stream direction. Take care to avoid disturbing bottom sediments.
- Once at the station location, label sample containers to be used at that site per the Sample Container Identification and Labeling Procedures section below.
- Collect samples while facing upstream (against the flow) at approximately 12 inches below the water surface, or at half the depth of the water column (when the depth of the stream is 23 inches or less). To address the fact that bacteria concentrate in the surface micro layer, sample bottles will be filled using the “U” scoop motion. The “U” scoop motion ensures that the sample will not be biased with micro layer bacteria. The sample will then be sealed, placed in a cooler and held at four degrees Celsius. Sample analysis will begin no later than 24 hours from collection.
- Measure physical parameters and record in the field notebook.
- Store the samples in a cooler with ice to keep them within the holding temperature.
- Wash hands as soon as possible after sampling and before you eat.

Field Data Documentation Procedures

Water resistant field books are used during every monitoring event to record, at minimum, the following:

- Sampling date and time;
- Field personnel present;
- Type of matrix (e.g., marine water, fresh water streams, etc.);
- Watershed or area being monitored;
- General weather conditions (e.g., dry or rainy, windy or calm, cloudy or sunny, air temperature);
- Sampling location identification number;
- Parameters monitored (e.g., water temperature, salinity or conductivity, dissolved oxygen concentration, etc.); and

- Related field observations (e.g., color and/or smell of water, potential sources of pollution observed, notes on sampling collection, etc.).

Area-specific precipitation amounts are retrieved from local rainfall stations. Tidal stage readings are retrieved from localized tide charts.

Sample Container Identification and Labeling Procedures

Mark all sample containers with the pre-assigned monitoring site identification code. The HCRPIC Phase III approved QAPP requires one field blank per sample event and one replicate sample for every ten sample sites. Typically, the replicate sample is collected at a larger flow, where it is easier to collect both samples at the same time without collecting debris or surface microlayer.

Field duplicate samples end with the letter "R" (e.g., field samples DF01 & DF01R).