

9.7 PROTOCOL FOR SAMPLING INVERTEBRATES WITH A HESS SAMPLER

Overview

The Hess sampler is a metal cylinder with a screened opening on one side and an opposite opening with a net attached (Figure 13). The sample collector places the Hess sampler in the stream with the screen oriented into the current and the net trailing behind. The water is able to flow freely through the sampler and out through the net. With a known radius, the stream bed area that is sampled is easily calculated. This value must be recorded in the **field logbook**.

Sources

Alberta Environment (2006), British Columbia MWLAP (2003)

At a glance

*carefully
rub rocks*

1 Position the frame securely on the stream bottom. Ensure the screened opening is facing into the current and the net portion is trailing downstream. Hold the sampler in position by applying pressure with your knees. Take care not to disturb the substrate upstream from the sampler.

2 Reach into the cylinder and carefully turn over and lightly rub all rocks and large stones. This process dislodges organisms that are clinging to the stones and washes them into the net. Examine each stone for organisms, including larval or pupal cases that may be clinging to it before discarding it outside of the cylinder. In order to maintain consistency between samples, a standard time should be assigned to sampling each site (5 minutes recommended).

3 Stir remaining gravel with your hands to a depth of 5 to 10 cm.

4 Move the sampler upstream to a new patch of stream bottom and repeat steps (1) through (3). Continue this process until five patches of stream bottom have been sampled, each upstream from the last. This creates a composite sample of the five areas.

5 Return to shore and carefully wash the contents of the net into the cod-end then transfer to a shallow pan. Ensure all invertebrates are rinsed into the pan.

6 Transfer the organisms into a pre-labeled sample bottle and preserve with 70% ethanol. Rinse sample net after each use.