

9.3 PROTOCOL FOR SAMPLING INVERTEBRATES WITH A TRAVELLING KICK AND SWEEP – LAKES

Overview

The Travelling-Kick-and-Sweep is the standard sampling method; it is typically applied by wading along transects through the habitat of interest, kicking the substrate to dislodge benthos, and collecting dislodged benthos by “sweeping” a hand-held net through the water. Most benthos biomonitoring surveys use a net mesh size between 250 micron and 1 mm but a 500 µm size is common. Samples should be collected at the same time of year at individual sites.

Sources

Ontario Ministry of the Environment (2005)

At a glance

lake segments

release non-benthic animals

1 Choose a set of three representative lake segments (ideally this is done by randomly selecting three from a set of possible locations on a lake), in which a series of transects (running from the water’s edge to the 1 m depth; see Figure 14) will be sampled. These lake segments should be enclosed in the area where aquatic ecosystem condition is questioned.

2 Use a net (commonly 500 µm mesh) and a Travelling-Kick-and-Sweep along transects to collect the sample. Vigorously kick the substrate to disturb it to a depth of ~5 cm. To collect dislodged materials, sweep the net back and forth and up and down as you move along the transect. Sample for about 10 minutes per replicate, or until you are sure that at least 100 animals have been collected. At least one complete transect (from shore to 1 m depth) must be sampled. Sieve the collected sample in the net. Rinse off and remove large rocks, plant material, etc. Release any non-benthic animals collected. Transfer net contents to a bucket. To prevent the net from clogging, material may need to be transferred several times as you collect each replicate.

3 Record sampling time (active sampling time only, time spent transferring net contents into the bucket not included), distance, and any other information required on the field sheet.

4 Repeat until three replicates are collected.

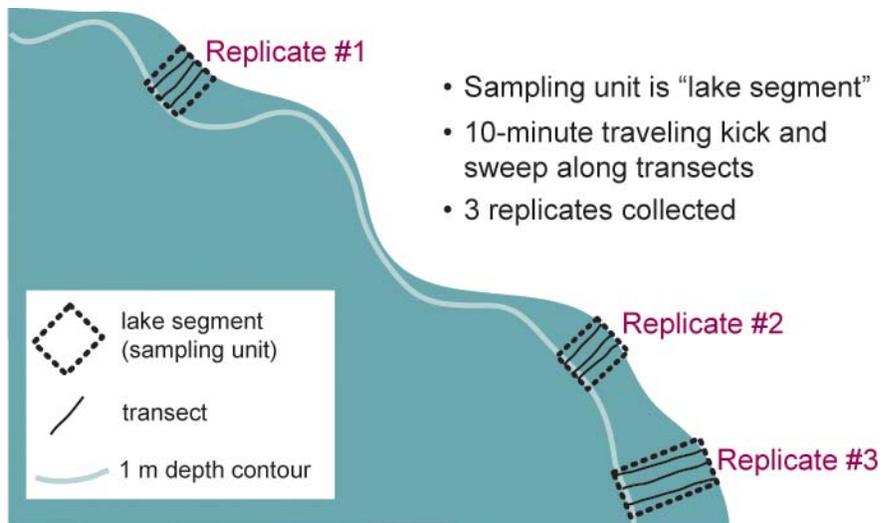


Figure 14. Travelling kick-and-sweep method for lakes
(Source: Ontario Ministry of the Environment (2005))