

STREAM - Procedure for collecting benthic macroinvertebrate DNA sample – wadeable streams

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STREAM Procedure for collecting benthic macroinvertebrate DNA samples in wadeable streams

DNA sampling equipment (in addition to standard CABIN sampling equipment/supplies)

- Ensure proper WHMIS, TDG labelling as necessary



Not shown: funnel for transferring bleach wastewater to containment vessel, wax labelling pencil

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Prior to kick sample collection

Course cleaning of sampling equipment (where necessary)



Remove any obvious materials from sampling and process equipment and gear, before being decontamination.

Decontaminating sampling and processing equipment



Wearing PPE and using spray-mist bottle, spray all sampling and processing equipment with diluted bleach solution to cover all surfaces. Spraying should be done over a collection bucket to capture excess solution. Equipment is laid out on a clean tarp to rest for 2 to 5 minutes.

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Decontaminating sampling and processing equipment (con't)



Include decontamination of waders and boots of sampler.

Rinsing sampling and processing equipment



After 2-5 min, sampling and processing equipment (including sampler's waders and boots) are rinsed of bleach solution with water into a large bucket/containment. Collection container is used to collect rinse water.

Rinse water is to be collected and disposed of in a municipal water flow in accordance to any required precautions or regulations.

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**Rinsing sampling and processing equipment
(con't)**



Ready to sample



New nitrile gloves are worn for DNA sample collection.

After kick sample collection

Transferring invertebrate sample to sample jar



Use clean or otherwise decontaminated sample jar. Keep closed until necessary.

Transferring invertebrate sample to jar



Sample from net is rinsed into sieve to minimize amount of water in sample.

Rinse vegetation and larger rock over sieve using stream water. Discard once clean.

Transfer sample to sample jar.

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Transferring invertebrate sample to jar



Rinse final portion of sample into sample jar using ethanol.

Topping up ethanol



Adding additional denatured ethanol to sample jar to ensure preservation of sample, the final **concentration of denatured ethanol is 50% or higher.**

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Labelling sample jar



Label lid and side of sample jar accordingly (e.g. a wax pen may be used as the label will not be dissolved by the ethanol). Parafilm is used to seal top of the sample jar to minimize leakage.

Storing sample in the field/during transport



Sample is placed on ice in a cooler or in a portable freezer. Make sure cooler has MSDS and TDG labelling.

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