

6.2.2 PROTOCOL FOR SAMPLING THE WATER COLUMN FROM BRIDGES

Overview

The Protocol identifies how samplers should be fastened, where the sample should be collected from, and how to minimize the potential for sample contamination when collecting a sample from a road or bridge structure (Figure 4).

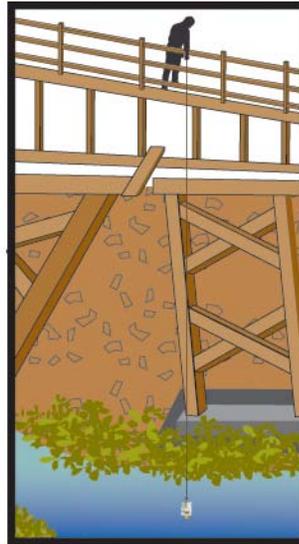


Figure 4. Sampling from a bridge
(Ministère de l'Environnement,
Gouvernement du Québec (2000))

Sources

Environment Canada and B.C. WLAP (2005 c), Ministère de l'Environnement, Gouvernement du Québec (2000), Environment Canada (1999 Draft)

Special safety concerns

be aware of boaters and water skiers

use bridge walkway

1 Special care must be taken when sampling from bridges over navigable water as boat operators and water skiers may not be able to see the sampler ropes. It may be necessary to flag equipment so that it is easily visible. Should a boat approach the bridge at the time of sampling, raise the multiple-sampler and temporarily suspend your sampling until it passes.

2 Power lines strung along or close to bridges should also be respected and avoided. At no time should the rope attached to the multi-sampler be draped over a power or telephone line.

3 The bridge walkway must always be used regardless of which side it is on. However, in very fast currents it may be necessary to sample on the downstream side on occasion to prevent the multi-sampler from being swept too far under the bridge.

At a glance

1 Sampling should be undertaken on the upstream side of the bridge structure unless safety or other issues make this

Sample on the upstream side of the bridge impractical. Samples should usually be collected at about mid-stream. The precise location at which the sampling device is lowered from the bridge should be marked to ensure that the same section of the river is sampled each time. Before sampling, check for floating debris.

2 Secure the free end of the rope attached to the sampler to the bridge rail to prevent accidental loss of the equipment. Keep equipment out of the traffic lane where it may be struck by a vehicle. Ensure that the sampling spot chosen is not near any drainage pipes/holes that may be present.

3 Begin to release the sampler and rope, making sure that it does not come into contact with the bridge as this will cause dirt or other contaminants to fall into the sample bottles. The goal of this technique is to ensure that the amount of contamination that might arise is minimized. As it gets near the water, begin a swinging motion of the rope so that the sampler can enter the water body upstream from the bridge.

minimize number of casts

4 When using a multi-sampler, it is important to allow sample bottles to fill with the fewest number of casts. To do this, the sampler should be swung as far upstream as possible before releasing it and try to fill the sample containers by the time the current has carried it downstream. This also allows the sample to be collected upstream from the bridge, which is potentially closer to where on-ice samples (where used) should be collected.

5 Do not allow the sampler to come in contact with the stream bed as this will stir up sediments and contaminate the sample.

Other sources

ISO (2008 a), Ontario Ministry of the Environment (2006), Newfoundland and Labrador Environment and Conservation (1999), BC WLAP (2003)