Working in Watercourses

Stream habitats support a wide variety of organisms including insects, fish, and amphibians. Healthy watercourses are vital to human health and the safety of our drinking water. Because of the importance and sensitivity of watercourses, work within a stream is governed by legislation under the *Water Act*.

Works in or about a stream are defined under Section 9 of the *Water Act* as: "*All works proposed in or about a stream, ravine or active floodplain of a stream or its riparian or streamside area…Fish habitat includes watercourses, streams, ditches, ponds and wetlands that provide water, food, or nutrients into a fish-bearing stream-- even if they do not contain fish or if they only have temporary or seasonal flows".*

When planning work in watercourses:

Protect the natural functioning of shorelines to absorb runoff and prevent erosion.

- ✓ Avoid compacting soils around banks and soften shorelines with low-maintenance native trees, shrubs, and grasses. Hardened shorelines allow water run-off, pollutants and sediments to enter streams.
- ✓ Replace solid surfaces with porous materials where possible.
- ✓ Minimize soil exposure and removal of vegetation. Reseed bare soil.
- ✓ Protect root systems that stabilize shorelines. If trees must be cut down, and digging is not necessary, try and keep the root systems in the ground to limit erosion.
- ✓ Allow some natural debris from the site to remain and decompose naturally.

Avoid releasing deleterious substances into watercourses.

- ✓ Discharges of equipment oils and fuels, wood waste, chlorinated water, herbicides, and pesticides can kill aquatic organisms outright. These deleterious substances get trapped in the gills of fish. Work within a stream often releases fine sediments which can seriously affect fish and other aquatic wildlife.
- ✓ Contain any sediment-laden water generated during works in a work cell. Use a pump to draw sediment-laden water out of the work cell and discharge it to a level vegetated area where sediment can settle as the water infiltrates the ground.

- ✓ Beaver dam and debris removal may introduce sediment into a watercourse. Follow *Standards and Best Practices for Beaver and Beaver Dam Management.*

Maintain wildlife access to watercourses.

- ✓ Be aware that stream bank works can create vertical barriers to amphibian and reptile movement and may disturb the foreshore habitat used for breeding. Try to retain vegetated, sloped banks.
- ✓ Integrate fish habitat enhancement into drainage maintenance work. Where culverts are being replaced, ensure the new structures will allow for passage of fish at all life stages and will not constrain flows. If possible, daylight the stream rather than leaving it in culverts. Maintain channels by hand where feasible.

Follow recommended work windows for instream work.

- ✓ If your maintenance activities require work instream, you must schedule them for the work window allowed for the Okanagan (July 22 - Aug 31) and Similkameen River (Aug 7 – Sept30).
- ✓ Works are preferably undertaken during periods of dry weather which allows easier control of sediment. Typically this is also a less sensitive period for fish and wildlife. If the work schedule requires working in the rain, the area of work must be isolated and appropriate sediment controls used.

Follow *Standards and Best Practices for Instream Works* equipment use.

- ✓ Select equipment and work access routes to reduce damage to riparian vegetation and banks.
- ✓ For smaller scale debris and sediment removal activities, remove materials by hand.
- ✓ When working near watercourses, operate equipment from the bank or road shoulder. Do not allow machinery to cross through water.
- ✓ Ensure all equipment used on site is well maintained and free of fluid leaks. Refuel and lubricate equipment on dry land away from watercourses. Use drip trays to contain any spillage during equipment maintenance.
- ✓ Clean equipment and tools off-site. Ensure that any wash water generated by cleaning tools and equipment will not be released into the watercourses.
- ✓ If machinery will be working on site, have a spill response plan and spill kits on site.

Disposal of materials

- ✓ Dispose of excess materials such as excavated soils and debris away from the watercourse.
- ✓ Do not dump ditch waste where desirable vegetation is established. Instead, dispose of waste materials at a designated disposal site.
- ✓ Remove debris that accidentally falls into a watercourse as soon as possible.

Species that depend on watercourses include:

Sockeye and Kokanee Salmon

Recent river and creek restoration efforts are improving spawning and living habitat. Careful work in watercourses ideally retains the natural shapes, flow, depths, and subsurface features of a stream. This approach will insure that populations of indigenous fish continue to rebound.

Guidelines and Best Management Practices for Watercourses:

Ministry of Environment: Standards and Best Practices for Instream Works