Measures to Protect Fish and Fish Habitat for

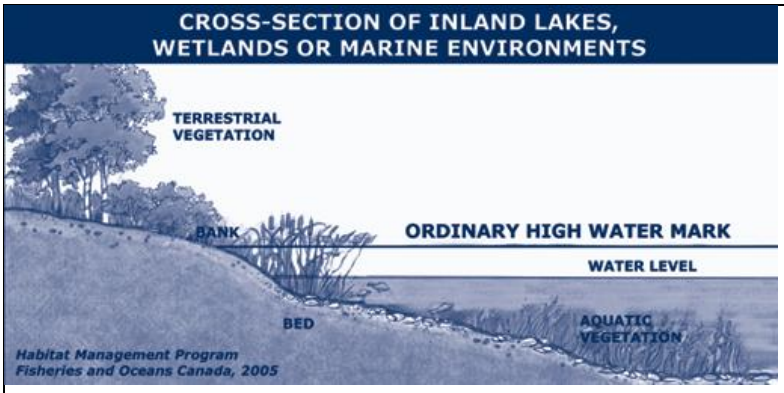
Dock & Boathouse Construction

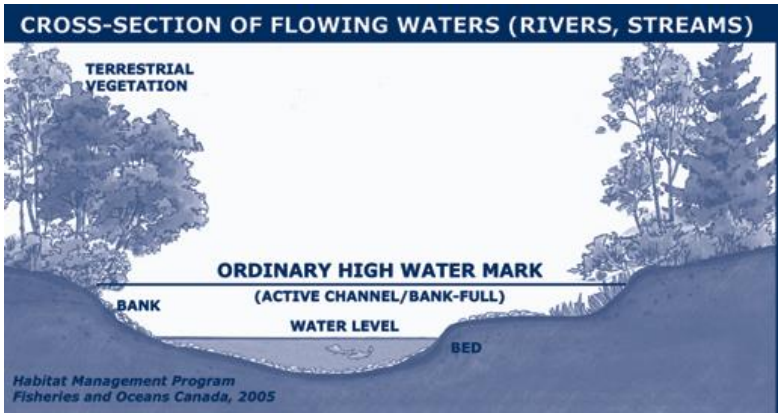
1. The construction of boathouses above the HWM is strongly encouraged in order to minimize impacts to fish habitat.
2. Floating, cantilever and post docks, and marine railways on posts for boathouse access, can be installed at any time.
3. No temporary or permanent increase in existing footprint below the high water mark.
4. Construct cribs in an open-faced manner and fill with large rocks that provide crevices for fish and other small organisms. Leave enough space between cribs (two metres) and locate them at least two metres from the HWM to allow near shore water to circulate.
5. Do not take materials (e.g., rock, logs) to build the dock from the shoreline, from below the HWM or from any water body.
6. Use untreated materials (e.g. cedar, tamarack, hemlock, rocks, plastic, etc.) as supports for dock structures that will be submerged in water. Treated lumber may contain compounds that can be released into the water and become toxic to the aquatic environment.
7. Use only treated lumber that is environmentally friendly for dock structures that are above water. Consult your local lumber supply company.
8. Cut, seal and stain all lumber away from the water using only environmentally-friendly stains (see definition below). All sealed and stained lumber should be completely dry before being used near water.
9. Ensure plastic barrel floats are free of chemicals inside and outside of the barrel before they are placed in water.
10. If a concrete abutment is needed to secure your dock to land install it entirely on land, above the HWM. The concrete is to be pre-cast and cured away from the water before use to prevent seepage of potentially toxic substances into the water body.
11. Maintain an undisturbed vegetated riparian zone between areas of on-land activity and the High Water Mark of any water body.
    11.1. Use existing trails, roads or cut lines wherever possible.
    11.2. Avoid tree removal.
    11.3. Use methods to prevent substrate compaction (e.g., swamp mats, pads).
12. Limit impacts on riparian vegetation to those approved for the work, undertaking or activity.
    12.1. Limit access to banks or areas adjacent to waterbodies.
    12.2. Prune or top the vegetation instead of grubbing/uprooting.
    12.3. Limit grubbing on watercourse banks to the area required for the footprint of works, undertaking or activity.
    12.4. Construct access points and approaches perpendicular to the watercourse or waterbody.
    12.5. Remove vegetation or species selectively and in phases.
    12.6. Vegetate any disturbed areas by planting and seeding preferably with native trees, shrubs or grasses and cover such areas with mulch to prevent erosion and to help seeds germinate. If there is insufficient time remaining in the growing season, the site should be stabilized (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and vegetated the following spring.

13. Salvage, reinstate or match habitat structure (e.g., large wood debris, boulders, instream aquatic vegetation/substrate) to its initial state.
14. Replace/restore any other disturbed habitat features and remediate any areas impacted by the work, undertaking or activity.
15. Time the installation of crib docks to prevent disruption of sensitive fish life stages by adhering to appropriate fisheries timing windows. Timing windows can be found at https://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/index-eng.html.
16. Develop and implement an Erosion and Sediment Control Plan to minimize sedimentation of the waterbody during all phases of the work, undertaking or activity.
    16.1. Inspect and maintain regularly the erosion and sediment control measures and structures during all phases of the project.
    16.2. Use biodegradable erosion and sediment control materials whenever possible.
    16.3. Remove all exposed non-biodegradable sediment control materials once site has been stabilized.
    16.4. Operate machinery on land, or from barges or on ice.
    16.5. Use methods to prevent substrate compaction (e.g., swamp mats, pads).
17. Do not deposit any deleterious substances in the water.
18. Develop and implement a response plan to avoid a spill of deleterious substances.
    18.1. Stop work, contain sediment-laden water and other deleterious substances and prevent their further migration into the watercourse.
    18.2. Keep an emergency spill kit on site during the work, undertaking or activity.
    18.3. Report any spills of sewage, oil, fuel or other deleterious material, whether near or directly into a water body.
    18.4. Ensure clean-up measures are suitably applied so as not to result in further alteration of the bed and/or banks of the watercourse or waterbody.
    18.5. Clean-up and appropriately dispose of the sediment-laden water and deleterious substances
    18.6. Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, poured concrete or other chemicals do not enter the watercourse.
    18.7. Maintain all machinery on site in a clean condition and free of fluid leaks.
    18.8. Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.
    18.9. Dispose all construction, demolition or commercial logging materials waste above the high water mark of nearby waterbodies to prevent re-entry.

Ordinary high water mark (HWM) – The usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land. In flowing waters (rivers, streams) this refers to the "active channel/bank-full level" which is often the 1:2 year flood flow return level. In inland lakes, wetlands or marine environments it refers to those parts of the water body bed and banks that are frequently flooded by water so as to leave a mark on the land and where the natural vegetation changes from predominately aquatic vegetation to terrestrial vegetation (excepting water tolerant species). For reservoirs this refers to normal high operating levels (Full Supply Level).

For the Great Lakes this refers to the 80th percentile elevation above chart datum as described in DFO's *Fish Habitat and Determining the High Water Mark on Lakes*.


CROSS-SECTION OF INLAND LAKES,
WETLANDS OR MARINE ENVIRONMENTS
TERRESTRIAL
VEGETATION
BANK
ORDINARY HIGH WATER MARK
WATER LEVEL
BED
AQUATIC
VEGETATION
Habitat Management Program
Fisheries and Oceans Canada, 2005


CROSS-SECTION OF FLOWING WATERS (RIVERS, STREAMS)
TERRESTRIAL
VEGETATION
ORDINARY HIGH WATER MARK
(ACTIVE CHANNEL/BANK-FULL)
BANK
WATER LEVEL
BED
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