



Wednesday, April 29th, 2026

## **Electricity Sector Best Management Practice for the Installation, Maintenance, Replacement and Removal of Fixed-Anchor-Point Moorings (V 1.0, April 2026)**

The electricity sector's Best Management Practice (BMP) for the **Installation, Maintenance, Replacement and Removal of Fixed-Anchor-Point Moorings** was submitted to Fisheries and Oceans Canada (DFO) by Waterpower Canada and Electricity Canada for the purpose of conducting an equivalency audit. This BMP describes the mitigation measures that should be implemented during the installation, maintenance, replacement and removal of fixed-anchor-point moorings to prevent harmful impacts to fish and fish habitat and comply with the Fisheries Act and the Species at Risk Act.

DFO has reviewed the BMP and confirms that the avoidance and mitigation measures (dated April, 2026) constitute a best practice for protecting fish and fish habitat. For more information please see DFO's [Projects Near Water](#) website.

DFO is committed to working with the electricity sector to regularly review this document and revise it as appropriate. DFO will welcome opportunities to collaborate with industry on finding further regulatory process efficiencies while maintaining protections for fish and fish habitat.

Yours sincerely,

**Bouchard,  
Nicole**  
Nicole Bouchard  
Director General, DFO  
Permitting Operations and Policies

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Attachment:

- Electricity Sector Best Management Practice for: Installation, Maintenance, Replacement and Removal of Fixed-Anchor-Point Moorings

## Electricity Sector Best Management Practice for: Installation, Maintenance, Replacement and Removal of Fixed- Anchor-Point Moorings

### Objective

This Best Management Practice (BMP) describes the mitigation measures that should be implemented during the installation, maintenance, replacement and removal of fixed-anchor-point moorings to prevent harmful impacts to fish and fish habitat and comply with the [Fisheries Act](#) and the [Species at Risk Act](#).

This Best Management Practice does not authorize the death of fish, the harmful alteration, disruption or destruction of fish habitat, or the deposit of a deleterious substance in waters frequented by fish, and does not release a proponent from the responsibility of obtaining any other approvals that may be required under federal, provincial or municipal legislation.

### General

The Fish and Fish Habitat Protection Program (FFHPP) ensures compliance with relevant provisions under the *Fisheries Act* (FA) and the *Species at Risk Act* (SARA). Proponents undertaking activities in or near water are responsible for understanding the risks and impacts those activities could have on fish and fish habitat and for taking measures to avoid and mitigate these risks and impacts. **This Best Management Practice is intended to provide advice so that the submission of a Request for Review to DFO is not needed when the associated conditions can be fully met.** Proponents who can meet this guidance are requested to submit a [Notification Form](#) (pdf) to the [Fish and Fish Habitat Protection Program Office](#) located in their area. Proponents who are uncertain as to the application of this guidance for a specific project or who propose a different installation method than described herein, are advised to submit their project plans to DFO for review.

There is a duty to notify if the death of fish or HADD to fish habitat occur that has not been authorized under the Acts or where there is serious and imminent danger of such an occurrence by [reporting harmful impacts to fish and fish habitat](#) by email or by phone (Consult local provincial notification number and/or regional DFO number). This obligation extends beyond notification and requires the proponent to take corrective action.

DFO's [Position Statement for the Management of Existing Facilities and Structures under the Fisheries Act and Species at Risk Act](#) (2023) clarifies how the fish and fish habitat protection provisions of the *Fisheries Act*, in combination with the relevant provisions of the *Species at Risk Act* and the *Aquatic Invasive Species Regulations* apply to the ongoing operation, modification, maintenance, decommissioning or any other work, undertaking or activity associated with an existing facility or structure.

### Description of Activity

Hydropower operators and other similar facilities routinely require the installation, maintenance, replacement and removal of fixed-anchor-point moorings which are attached to marker buoys

and safety booms. These buoys and booms act as navigational aids and public safety barriers for the users of the waterbody. **This Best Management Practice applies to the installation, maintenance, replacement and removal of fixed-anchor-point moorings in freshwater systems.** These are typically installed along the shoreline (below or above the ordinary high-water mark) or on the bed of the waterbody using one of the methods listed below. This Best Management Practice is applicable to situations where this work is completed from shore, by diver, or by a barge, and assumes that the in-water activities will take place over a short timeframe. The installation, replacement or removal of the buoys and booms themselves does not require a Request for Review from DFO under the BMP.

Fixed moorings can be installed using the following methods:

1. Embedded-Concrete Anchor – Concrete embedded into the substrate or shoreline (may include underwater drilling and grouting to install concrete). This does not include the use of products that contain deleterious substances.
2. Embedded-Metal Anchor – A metal device driven or screwed into the substrate.
3. Bolted Anchor – A metal anchor bolted into bedrock or existing large boulders.

### **Potential Impacts of the Activity(s) to Fish and Fish Habitat**

In most instances the installation, maintenance, replacement and removal of fixed-anchor-point moorings are unlikely to negatively impact fish or fish habitat. Potential impacts depend on the location, size, and methods used for these activities and could include removal of aquatic vegetation, dredging, excavation, placement of material or structures in water, use of industrial equipment and/or vegetation clearing, among others. All potential impacts can be assessed using the [Pathways of Effects](#).

Impacts to fish and fish habitat could include but are not limited to:

- Disturbance to fish (e.g., noise, vibration, encroachment of equipment into the water) and associated potential impacts on life processes (e.g., spawning, nursery, foraging).
- Direct damage to substrates.
- Indirect changes to food supply.
- Loss of cover.
- Alteration/damage of riparian habitat.
- Release or re-suspension of sediments or deleterious substances.

The intent of this BMP is to prevent harmful impacts to fish and fish habitat.

**Proponents may use a Notification Form rather than a Request for Review if the following apply:**

- There are no SARA-listed threatened or endangered Schedule 1 mussels or critical habitat or residences at the work zone. Consult the [aquatic species at risk maps](#) to determine where at-risk populations occur in Canada and where their critical habitat is

located. Additional information can be obtained by referring to species recovery strategies at [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca).

- In-water works, undertakings and activities respect [timing windows](#) to protect fish including their eggs, juveniles, spawning adults and/or organisms upon which they feed.
- Work can be done without de-watering the work zone.
- Sediment is contained to the work site.
- Anchor material used is clean and stable.
- When the use of equipment (e.g., drill rig) operated from a barge is required, suitable secondary containment is provided around the equipment or around the barge itself.
- A filter system is used to collect drill spoils if the work methodology requires drilling into the bed of the waterbody.
- When using grout, all wash water and slurry water from grouting operations must be collected and contained (e.g., 45-gallon drums) and disposed on land in accordance with applicable waste disposal regulations. No wash water or slurry water can be returned to the waterbody.
- When the use of underwater grout is required, it must remain isolated from the surrounding water (e.g., contained drill casing) for 60-90 minutes while the top layer of grout sets.
- When installation and replacement has the final footprint limited to that of the industrial fixed-anchor-points for the moorings and booms. Note that during actual installation the footprint may be larger, but the final footprint will be only that needed for the anchor.

## NOTES

- This guidance does not alter the need to consider provincially protected species. If a species protected by a provincial or territorial endangered species law is present, or potentially present, consultations with the relevant provincial or territorial agencies may be required.
- Proponents of projects on or near federal waterways are required to contact Transport Canada in addition to submitting a Notification Form to DFO.
- Impacts can be reduced through the use of avoidance and mitigation measures such as those listed in Appendices A and B. These measures should be considered and implemented as appropriate, but application of all the measures is not mandatory. The determination of the most appropriate measures to implement will be made site-specifically using professional judgement.

## Notification

- Obtaining data on how many works/undertakings/activities are completed using this BMP will enable the evaluation of the effectiveness of the document from both DFO and the proponent's perspectives and identify if any changes need to be made. To support this, proponents applying this BMP are expected to notify DFO of each project for which they are used.



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A handwritten signature in blue ink, appearing to read "F. Bradley", written over a horizontal line.

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Francis Bradley, President and CEO  
Electricity Canada

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A handwritten signature in black ink, appearing to read "L. Patterson", written over a horizontal line.

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Lorena Patterson, President and CEO  
WaterPower Canada

## **Appendix A – Avoidance and Mitigation Best Practices to Protect Fish and Fish Habitat**

### Location

- Locate moorings at depths that will allow vessels used during installation, maintenance, replacement and removal of the moorings to remain afloat at the lowest possible water levels to prevent propellers from disturbing the bed of the waterbody.
- To minimize the final footprint of the installation, maintenance, replacement and removal, anchor size will be limited to that required to withstand the anticipated load on the anchor under expected site conditions (i.e., substrate, boom size, current, wind and wave exposure). Also note, that as safety standards are modified, anchors may have to be slightly larger in future replacements.

### Timing

- Weather conditions should be reviewed before proceeding with the works, and in-water work should be completed under calm conditions and when the potential for precipitation is low, to minimize the potential for sediment to migrate from the site.
- Minimize the total duration of the works taking place within or adjacent to a waterbody.

### Water body Bed

- Take care to minimize the disturbance of the substrate.
- Activities should be done by hand where possible.
- Experienced specialists (divers and equipment operators) should be used where appropriate to ensure that installation procedures have minimal impact.
- Minimize disturbance to submerged aquatic vegetation when installing mooring structures on the bed of the waterbody.

### Riparian Vegetation

- Travel paths and staging areas within the vicinity of the work should be pre-planned to consider and minimize potential impacts by using existing routes where feasible.
- Use existing access routes/vessel launches or install from a barge.
- When possible, prune the shoreline vegetation instead of uprooting.
- Removal of riparian vegetation should be kept to a minimum and access designed to be perpendicular to the waterbody to minimize shoreline erosion.
- Re-vegetate the disturbed areas with native species suitable for the site.

### Erosion and Sediment Control

- If banks or shoreline areas are to be disturbed, develop and implement an effective erosion and sediment control plan. The installation of erosion and sediment control measures must be timed to occur before starting work to prevent entry of sediment into

the waterbody. Inspect them regularly during the course of all phases of the work (including installation, maintenance, replacement and removal) and make all necessary repairs.

- Use biodegradable erosion and sediment control materials whenever possible.
- Remove all exposed non-biodegradable erosion and sediment control materials once work is complete and the site is stabilized.
- Monitor the watercourses to observe signs of sedimentation during all phases of the work, undertaking or activity and take corrective action if required.
- Operate machinery on land in stable dry areas.

#### Waste Storage and Equipment Operations to prevent entry of deleterious substances in water

- Areas for washing, refueling or servicing machinery and for fuel storage should be located away from the water (15-30 m from shore, where possible) to prevent deleterious substances from entering the water.
- Plan activities near water and take measures to ensure that materials and chemicals do not enter the watercourse, including grout, paint, primers, degreasers, rust solvents, poured concrete, blasting abrasives, oil, grease, antifreeze, concrete or other chemicals.
- Placement of waste storage areas should also take into account the location of other watercourses, ditches, drains, stormwater receptors, etc. which may provide a path for deleterious substances to leave the work area.
- Have a response plan to be implemented immediately in the event of a spill of a deleterious substance.
- Maintain an emergency spill kit on site in case of fluid leaks or spills from machinery.
- Stop work if any deleterious substances (including turbid water) enter or are at risk of entering a waterbody. Take appropriate measures to reduce and clean up the spill. Report the spill of any material harmful to the environment (e.g., fuel, fluids, silt, etc.) in waters to the appropriate federal/provincial authorities and take corrective action.
- Maintain all machinery on site in a clean condition and free of fluid leaks.
- Put in place a filter system to collect all tailings and filter water to minimize risk of sediment entering a waterbody.
- Clean grouting hose and pump in containment area and collect wash water in drums.
- Contain all pumped wash water and slurry water within drums and dispose on shore as hazardous waste.
- No wash water or slurry water is to be returned to the watercourse.

#### Prevention of movement of aquatic invasive species

- Aquatic invasive species are introduced and spread through using contaminated construction equipment. To prevent aquatic invasive species transfer during construction in aquatic environments:
  - Clean, drain and dry any equipment used in the water.
  - Never move organisms or water from one body of water to another.

- Vessels arriving from other watersheds should be in a clean state and empty their bilges prior to entering the new watershed to minimize the spread of invasive species.

## **Appendix B – Sample Installation Protocol**

The following is a sample installation protocol involving installing concrete/grout into a drilled hole on the bottom of a waterbody. The concrete is allowed to cure within the sealed drill casing so as not to release deleterious substances to the aquatic environment. This is not a prescribed installation methodology for the use of the BMP, but is being provided as an example to demonstrate how the best practice can be used through the application of mitigation measures to minimize potential negative impacts on fish and fish habitat.

- Use Spud barge to support drill rig and equipment in open water.
- Place drill bit within a fully contained casing affixed to the bed.
- Put in place filter system to collect all tailings and filter water to minimize risk of sediment entering waterbody.
- Continuously monitor and replace filter cloth to maintain system.
- Drillers to set casing into bedrock.
- Drill hole 2m into firm bedrock extracting cores for inspection.
- Leave drill casing in place and flush hole.
- Grout is added to the bottom of the hole while drill casing is maintained in place to contain the anchor point in isolation from the surrounding water.
- Pump grout while slowly raising hose to fill the hole.
- Clean grouting hose and pump in containment area and collect wash water in drums.
- Contain all pumped wash water and slurry water within drums and dispose on shore as hazardous waste.
- No wash water or slurry water is to be returned to the waterbody.
- Install anchor and chain into hole.
- Connect rock anchors with mid-channel anchor float.
- Contained drill casing to remain in place for 60-90 minutes while grout and anchor set.
- Pull casing and thread off anchor chain.
- Install anchor float or temporary marker float.
- Ensure concrete is fully set before loading anchor (approximately 24 hours).