



# Pre-approved Routine Impact Assessment

Maintenance, Modification, Construction,  
Replacement or Removal of Structures in Water: e.g.  
Shoreline Stabilization, Wharves, Piers, Docks,  
Boathouses, Launch Ramps, Navigational Aids

Parks Canada Ontario Waterways - IAA 2020

Pre-approved Routine Impact Assessments (PRIA) are pre-determined environmental management and mitigation measures for a defined class of routine, repetitive projects or activities with well understood and predictable effects. Approved PRIAs are an acceptable Impact Assessment pathway as they fulfill Parks Canada's obligations under the *Impact Assessment Act* (IAA) as a manager of federal lands.

This PRIA applies to activities and projects subject to a Permit for In-water and Shoreline Works, which are issued under the *Historic Canals Regulations*, specifically the maintenance, modification, construction, installation or removal of structures in water.

In addition to application of the mitigations herein, proponents are expected to adhere to all Federal, Provincial and Municipal regulations and codes governing construction activities and shall obtain all permits, licenses and approvals required.

**Structures** include but are not necessarily limited to: boathouses, boat ramps, boat slips, boat ports, boat lifts, docks, marine rails, mooring stations, hydrometric stations, water gauges, service lines (water, sanitary sewer, storm water, natural gas), heat pump loops, mooring buoys, swimming buoys, rafts, water ski courses and ramps, sunken logs, stumps and rocks.

**Water body** includes a lake, a canal, a reservoir, a river and its tributaries and a wetland, up to the annual high-water mark or in the case of an Ontario Waterway canal - the Upper Controlled Water Elevation, but does not include sewage or waste treatment lagoon, an artificial irrigation pond, a dugout or a ditch that does not contain fish habitat as defined in subsection 2(1) of the *Fisheries Act*.

**High Water Mark** is the usual or average level to which a body of water rises at its highest point and remains for a sufficient time so as to leave a mark on the land. (Fisheries and Oceans Canada, 2015.) Typically, the 1:100 year return period and the full supply level or Upper Controlled Water Elevation (UCWE) is used as definition of high water mark in managed waterways.

**Sensitive features** are any areas identified by the Impact Assessment Officer or through the Impact Assessment process as locations that require additional care and consideration for project activities. Examples of sensitive features include but are not limited to nests, dens and roosts, locations of cultural resources, critical habitat and residences for species at risk, riparian areas, wetlands, wildlife corridors, rare ecotypes and areas of management concern.

**Qualified personnel** are typically an engineer, applied scientist or technologist who is registered and in good standing with an appropriate professional organization or who, through demonstrated experience and knowledge relevant to the particular matter, may be reasonably relied on to provide advice within their area of expertise. Such a professional could be an ecologist / biologist, forester, geoscientist, engineer, or technologist.

### **Scope of Application:**

This PRIA applies to the following activities and projects subject to a Historic Canals Regulations Permit for In-water and Shoreline Works and Related Activities:

- Construction, modification, maintenance, repair, replacement, decommissioning and removal of in- water structures
- Boathouse installation, repairs and removal
- Dock/wharf/pier installation, replacement, repair and removal
- Launch Ramp installation, replacement, maintenance and removal
- Small mooring activities
- Footbridge installation, maintenance and repair
- Equipment laydown
- Minor removal of aquatic or riparian vegetation
- Painting, staining and resurfacing related to other works listed above
- Other related activities

### **Exceptions:**

This PRIA does not apply if:

- The project is likely to require an [approval](#) under the *Canadian Navigable Waters Act* (s. 5(1)). Check if your project is a Major Works in any Navigable Water or Works in Navigable Waters Listed on the [Schedule](#).
- The project is likely to require an [authorization](#) under the *Fisheries Act* (s.35(1) or 36(3)) and/or (Check if your projects needs a [review](#)):
  - involves dredging;
  - involves permanently increasing a physical work's footprint below the high-water mark; or
  - involves the construction of a permanent diversion channel.
- The project causes:

- a permanent change to any characteristic of a water body (e.g., temperature, pH, turbidity, flow, water level, water body bed);
- harm to wildlife species, as defined in subsection 2(1) of the Species at Risk Act that are listed in Schedule 1 of that Act; or loss of residences or critical habitats, as defined in subsection 2(1) of the Species at Risk Act, of wildlife species referred to in subparagraph (iii).

### **Other conditions/considerations:**

If there are any questions on whether this PRIA applies to a project, consult a member of the ONW Impact Assessment Team.

This PRIA may not apply if:

- The project potentially results in **residual** adverse effects on migratory birds or their nests, as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994 or work during nesting season for herptile reproduction, hibernation, nursing).
- The project potentially results in **residual** adverse effects on an individual, a residence or the critical habitat of a listed species at risk under the *Species at Risk Act*.
- The project potentially results in **residual** adverse effects to sensitive natural resources (e.g., nests, dens and roosts, fish spawning areas, cultural resources, riparian areas, wildlife corridors, rare ecotypes, or areas of management concern).

This PRIA does not apply in the following situations/locations:

- The project takes place in Species at Risk Act (SARA) Critical Habitat (CH), which meets the biophysical characteristics of SARA CH and likely to have an adverse effect on Species at Risk and/or their habitats.
- The project potentially results in residual adverse effects to sensitive natural resources (e.g., nests, dens and roosts, fish spawning areas, cultural resources, riparian areas, wildlife corridors, rare ecotypes, or areas of management concern).
- The project is located in a wetland (provincially significant wetlands and evaluated wetlands) and/or significant fish habitat, a critical fraction of significant habitats, or the project results in loss or reduction in size or function of a wetland.
- The project may adversely impact sites of significance to Indigenous peoples or current access and use of areas where hunting, fishing or gathering rights are exercised by Indigenous peoples.
- The project likely results in significant interest or controversy among members of the public, stakeholders or Indigenous peoples related to potential adverse effects on natural or cultural resources, or components of the environment critical to key visitor experience objectives.
- The project may adversely impact, result in removal of, or causes damage to, cultural resources of heritage value (e.g. heritage buildings designated by the Federal Heritage

Buildings Review Office, archaeological sites, historical and archaeological objects, or cultural landscapes).

- The project may adversely impact, result in removal of, or causes damage to, paleontological resources. In these cases, further review is required.
- The proposed work must meet the requirements of all other federal and provincial agencies and municipalities.

### **Approved Geographic Areas of Application:**

This PRIA may be used with projects that could affect the beds, shorelines, or water quality of the water bodies that are part of the Trent-Severn Waterway and Rideau Canal National Historic Sites, and could be applied to similar works in other historic canals.

### **Parks Canada Specialists:**

If there are any questions on how to apply this PRIA, consult a member of the National Impact Assessment Team.

#### Species at Risk:

If there is any uncertainty regarding potential adverse effects to species at risk, consult a member of the Species Conservation Team.

#### Environmental Management:

If there are questions on environmental management issues (e.g., treated wood, contaminated sites, hazardous materials or greening operations), consult a member of the Environmental Management Team.

#### Cultural Resources:

If there is any uncertainty regarding potential adverse effects to known or potential cultural resources, consult a member of the Cultural Resource Management Protection Team or, if applicable, the local Field Unit specialist

## Project Timing Considerations

Environmental Timing Windows Table

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Fish</b>	NO IN-WATER WORK (refer to fish window details below)						Least risk window for work in and around freshwater, June 30 – Sept 15			NO IN-WATER WORK (refer to fish window details below)		
<b>Birds</b>	Reduced risk for harm to birds			AVOID VEGETATION REMOVAL Bird Nesting Period: April - August				Reduced risk for harm to birds				
<b>Bats</b>	Bat in Hibernacula				Bats Nursing Pups							Bat in Hibernacula
<b>Turtles</b>	Hibernation			Road Mortality	Nesting - avoid disturbance		Road Mortality		Hatchlings – avoid disturbing	Road Mortality	Hibernation	
<b>Snakes</b>	Avoid disturbance of Hibernacula				Road Mortality	Peak breeding, live young Mitigate road mortality			Migration Road mortality	Avoid disturbance of Hibernacula		

Note: The above table is general guidance and specific windows may vary depending on project location. If unsure consult a member of the ONW Impact Assessment Team.

Works guided by this PRIA are restricted to in-water works in approved timing windows

### Trent-Severn Waterway in-water work restriction windows

- No in-water work from September 15 to June 30 on the Trent River from the Downstream side of Lock 1 and Dam 1 to the Bay of Quinte.
- No in-water work permitted from October 15 to June 30 in Stoney Lake and Clear Lake.
- No in-water work permitted from March 15 to July 15 in Severn River (including Gloucester Pool and Little Lake), Sparrow Lake, Talbot River and connecting canal channels.
- No in-water work permitted from March 15 to June 30 in all other waterbodies that comprise the Trent-Severn Waterway.

### Rideau Canal work restriction windows

- No in-water work permitted from September 15 to June 30 in the Cataraqui River.
- No in-water work permitted from October 1 to June 30 in Big Rideau Lake and part of Dog Lake.

- No in-water work permitted from October 15 to June 30 in Lower Rideau Lake and Indian Lake.
- No in-water work permitted from January 1 to June 30 in the Rideau River (Ottawa to Old Slys) and Upper Rideau Lake.
- No in-water work permitted from March 15 to June 30 in all other waterbodies that comprise the Rideau Canal.

Site clearing/commencement of construction should be planned to occur outside of sensitive nesting times for birds and bat maternity - April 1 to August 31. If this is not feasible, then the site must be inspected by a qualified biologist prior to clearing, to check for the presence of nests or bat roosts.

Turtles begin congregating near their hibernaculum starting in mid-September (September 15th). Most turtles begin staging for hibernation when the water temperature falls below 10 °C and may begin to bury into suitable substrate for hibernation at or just below that temperature.

### **Valued Components and Effects Analysis**

#### **Water Resources**

- Contamination of a waterbody from machinery leaks or spills, discharges or spills of toxic or deleterious substances like concrete or cement (i.e. high alkalinity) products, equipment oils and fuels, and sediment which can kill aquatic organisms.
- Disturbance of streambed sediments resulting in increased sedimentation of waterbodies.
- The introduction of fine sediments directly from digging activity near the waterbody and indirectly from run-off from exposed soils can have severe negative impacts on all life stages of fish and other aquatic life and their habitats including:
  - Reduction of the availability and quality of important types of habitats (e.g., pools and riffles, spawning habitats) through the introduction and settling of sediment;
  - Loss of interstitial spaces between spawning gravels used to shelter eggs, alevin, juvenile fish, and other aquatic organisms;
  - Impacts to species health through the clogging and abrasion of gills and smothering of eggs and juveniles;
  - Reduction of water clarity and visibility which impairs the ability of aquatic life to find food, mates, and escape predators;
  - Elimination of critical food items such as insects and aquatic invertebrates through smothering and loss of habitat; and
  - Death of fish, amphibian, insects, vegetation and other aquatic organisms.
  - Increase in nutrient loading which contributes to deterioration of water quality, and increases water temperature.

- Creating areas which can trap floating vegetation and/or debris and thereby affect water quality;

### **Soil/Land Resources**

- Accelerated erosion of shorelines as a result of concentrated recreational activity.
- Soil contamination from wastes (e.g., garbage, litter, sewage, fuel).
- Soil compaction and rutting.
- Soil erosion, loss of topsoil and exposure of subsoil.
- Change in slopes, landforms and landscape

### **Wildlife and Vegetation**

- Physical damage/loss of vegetation, contributing to: loss of fish, amphibian, reptile or any wildlife habitat connectivity, increased flows and waterbody power, temporary or permanent loss or alteration of habitat (riparian and aquatic).
- Work in wetlands can lead to loss of wetland function as well as habitat fragmentation and a reduction in flood level protection. Work in wetlands may also result in the direct loss of rare plants as these areas have high potential for many rare plant species.
- Disruption to wildlife, (e.g. migration, or foraging times).
- Aquatic invasive alien species or disease can contaminate waterbodies via transportation of materials and equipment in the waterbody or between them prior to cleaning or inspection.
- Further habitat fragmentation where wildlife travel corridors are seasonally disturbed; habitat fragmentation and the loss of other wildlife species that require large undisturbed areas to live within;
- Removal and/or destruction of riparian vegetation and shoreline woody debris may alter cover, food production, movement patterns and the structure of fish, amphibian or reptile habitat.
- Loss of riparian vegetation can destabilize shoreline banks and increase susceptibility to erosion.
- Blocking of sunlight needed by aquatic plants in littoral zones, thus resulting in alteration of the characteristics of the aquatic ecosystem and potential loss of fish habitat;
- Disruption, displacement, injury or mortality of Species at Risk (SAR) and destruction or damage to their habitat.
- Most amphibians and some reptiles migrate to specialized aquatic areas to reproduce and many spend much of their lives in riparian areas. Shore works can create vertical barriers to

amphibian and reptile movement, and may disturb the foreshore habitats required for breeding or basking.

- Potential impacts to salvaged animals in dewatering projects include: injury, stress, cannibalism, desiccation, and mortality. Increased mortality for herptiles can occur while crossing roads and other modified landscapes when attempting to return to capture sites.
- Associated human use on land and water, which can result in further habitat loss and disturbance of natural shore vegetation.

### **Air/Noise Quality**

- Temporary decreased ambient air quality (e.g., dust, equipment emissions)
- Increased ambient noise level

### **Boater Experience and Public Safety**

- Potential loss of scenic character as a result of inappropriate development of in-water and shoreline works.
- A change in the visual character of the waterfront, with the introduction of a highly visible structure on the shoreline.
- Reduced quality of boater experience due to noise and presence of construction equipment.
- Reduced accessibility to portions of the site where work is taking place.
- Hazard to visitors and staff due to construction activities.
- A potential to affect views from neighbouring properties
- A public safety hazard when constructed in a narrow channel or near the navigation channel.
- A navigation or swimming hazard.
- Obstruction of other waterfront recreational uses.
- A reduction in flood level protection.

### **Cultural Resources**

- Adverse effects to the heritage value or character-defining elements of a cultural resource or a heritage place.
- Impacts to archaeological resources (known or potential) from displacement or destruction, resulting in loss of heritage value.



- Impacts to cultural landscapes, buildings, objects, engineering works.

## **Mitigation Measures**

### **Pre-Project Planning:**

- 1) Applicants must refer to all relevant policies and are encouraged to pre-consult with Parks Canada staff prior to creating any new development plans, or preparing the site for construction.
- 2) Construction of in-water and shoreline works and related activities may only proceed once a permit is issued, and the work must conform to the conditions as stated in the approved permit/letter.
- 3) Clearly identify and avoid sensitive environmental features and habitats in the work area and schedule work to avoid critical wildlife life stages. Refer to the Environmental Timing Windows Table.
- 4) Work within the vicinity of waterbodies or wetlands require erosion and sediment control.
- 5) Schedule work to avoid wet, windy and rainy periods, and very dry periods that may increase erosion and sedimentation.
- 6) If possible, schedule noisy activities or adjust hours of noisy work to minimise disturbance to others using the area.
- 7) A Spill Response Plan should be developed prior to work starting.

### **Work Site Conditions/Staging/Laydown:**

- 8) People working on the project/activities must review these mitigation measures and any site specific considerations before work begins.
- 9) Clearly mark the work site and restricted areas with stakes, biodegradable flagging tape or other means to minimize the disturbance footprint; remove when the project is completed.
- 10) Staging areas, material/equipment drop sites, and parking areas must be identified and within an existing disturbed footprint (e.g., roadways, gravel surface, previously disturbed areas with high resiliency).
- 11) Use existing roadways, trails, disturbed areas or other areas as for site access, travel within the site and construction activities.
- 12) Wet down dry materials, if appropriate, and cover waste to prevent the wind from blowing dust and debris. Control dust on roads used by the on-site workers (including temporary roads).
- 13) Any stockpiled materials shall be stored and stabilized a safe distance away from any watercourse, drainage course or swales to prevent erosion and subsequent entry into water, or removed from the site, in accordance with all federal, municipal and provincial regulations.

- 14) A designated fuel storage and fueling site, as far from water as feasible, will minimize the potential for impacts due to accidental releases of substances; proper spill management equipment shall be in place for fueling.

### **Equipment Operations:**

- 15) Use low pressure or rubber tracked equipment or access matting where feasible to minimize soil compaction and ground disturbance.
- 16) Select equipment appropriate to the nature of work being conducted (e.g., avoid using large scale machinery when hand tools or smaller scale machinery could be used).
- 17) Operate machinery from a stable location.
- 18) Equipment must be properly tuned, clean and free of contaminants, in good operating order, free of leaks (e.g., fuel, oil or grease), and fitted with standard air emission control devices and spark arrestors prior to arrival on site. Malfunctioning and/or leaking equipment and vehicles should be removed from the site.
- 19) Only the working end of machinery shall directly enter the water. Any part of a machine or equipment entering the water shall be free of fluid leaks and externally degraded to prevent any deleterious material from entering the water. Complete the in-water activity as quickly as possible to minimize the time equipment is in the water. Do not leave equipment in water during breaks in work activity.
- 20) Machinery must be stored, maintained and refuelled on a flat surface, outside the dripline of trees and upland of the high water mark and in such a way as to prevent any deleterious substances from entering the water. Increase setbacks from the high water mark may be required depending on the level of risk and site-specific conditions.
- 21) Placement of appropriately-sized spill trays under all fuel-run machinery and stationary, fuel-filled equipment.
- 22) Any required cleaning of tools and equipment should be completed off-site. If it must be on-site, it must be in an appropriate area at least 30 meters from a waterbody.

### **Wildlife:**

- 23) Conduct clearing of vegetation outside critical wildlife timing windows such as the bird nesting period and bat maternity season.
- 24) If erosion control measures are required, synthetic plastic erosion control blankets/mats or fence with mesh/net backing should not be utilized, particularly during turtle nesting season, as they pose as an entrapment hazard to turtles. Use fibre-based bio-degradable erosion blankets. For guidance on how to plan and install exclusion fencing, refer to the [document](#) titled Species at Risk Branch, Best Practices Technical Note, Reptile and Amphibian Fencing, Ver. 1.1, developed by the OMNRF.
- 25) If active nests, dens or roosts are discovered, stop work and contact designated Parks Canada staff immediately for direction.

- 26) When possible, conduct activities during daylight hours, avoiding critical foraging times (dusk and dawn).
- 27) Work areas will be kept clean and free of potential hazards to wildlife such as wire, cable, tubing, plastic, antifreeze or other materials that wildlife may eat or become entangled in.
- 28) Waste will be stored, handled, and transported in accordance with municipal regulation; store solid waste in sealed, ideally wildlife-proof containers.
- 29) Minimize the time excavations remain open and cover or fence when left unattended to reduce the potential for wildlife injury.
- 30) Check vehicle speeds to reduce the risk of hitting wildlife.
- 31) Never approach or harass wildlife (e.g., feeding, baiting, luring). If wildlife is observed at or near the work site, allow the animal(s) the opportunity to leave the work area.
- 32) If a Species at Risk (SAR) is observed, or suspected on or near the worksite (this includes individuals, eggs, nests and dens), the species must not be harmed or harassed. Allow the animal to leave the site. If the species does not leave or cannot leave the site, the contractor must immediately stop the works and contact PCA on how to proceed. Additional measures to avoid impacts may be required before work can restart.

**Vegetation:**

- 33) Removal of riparian vegetation should be kept to a minimum and undertaken only when absolutely required. Ensure the root structure and stability are maintained.
- 34) The felling of trees directly into the water must be avoided, unless otherwise approved by Parks Canada.
- 35) When felling trees, precautions must be taken to minimize damage to surrounding vegetation.
- 36) The felling of trees with obvious wildlife use (e.g., snags with cavity nests, large trees with stick nests) must be avoided, when possible.
- 37) Where practical, the branches of the large trees should be trimmed back as the first option rather than cutting the entire tree.
- 38) Employ pruning techniques to minimize risk of tearing the bark and harming the tree; ensure that only branch tissue is removed and stem or trunk tissue is left undamaged.
- 39) Protect roots of trees to drip line to prevent disturbance or damage. Avoid traffic, dumping and storage of materials over root zones.

**Fish & Aquatic Habitat & Water Quality:**

- 40) All work and activities will comply with Fisheries and Oceans Canada measures to protect fish and fish habitat and will not release deleterious substances into a waterbody.

- 41) In-water work shall be performed in a manner that minimizes the disturbance of the watercourse bottom and dispersion of sediment.
- 42) Activities causing turbidity or release of sediment will comply with the [CCME Guidelines on Total Particulate Matter](#).
- 43) Monitor water quality for unacceptable suspended sediment levels during in water activities. This may involve visual assessment or where risk is higher using sampling equipment.
- 44) Should conditions at the work site indicate that there are negative impacts to fish or their habitat, all work shall cease until the problem has been corrected and Parks Canada EA staff has been consulted.
- 45) Sediment/turbidity curtains, when used, shall be deployed in a manner – e.g. moved in a direction from close to shore/structures outward – that prevent entrapment of fish inside the curtain.
- 46) Sediment control measures shall be in place during any in-water work to control turbidity levels. Sediment curtains, or other appropriate measures, shall be implemented prior to any in-water work that may result in sedimentation. These must be inspected daily and remain intact and maintained until all suspended sediments have settled.
- 47) All disturbed areas of the work site shall be stabilized immediately upon completion of the related work and re-vegetated as soon as conditions allow. All exposed areas should be covered with erosion control blankets or other measures to keep the soil in place and prevent erosion until vegetation has an opportunity to establish.
- 48) For cofferdams, an engineered design and the use of meter bags filled with clean aggregate is preferred to minimize in-water disturbance while they are placed and particularly, while they are removed.
- 49) For any de-watering, fish screens must be used and comply with *DFO Freshwater Intake End-of-Pipe Fish Screen Guidelines* when pumping in fish-bearing water to prevent impingement or entrainment of fish;
- 50) Any fish found within the dewatered cofferdam areas will be removed and placed downstream if found in the downstream cofferdam area and upstream if found upstream:
  - a. Minimize the length of time fish are out of the water;
  - b. Use appropriate equipment to remove any stranded fish in the dewatered area. As water levels drop in the work area monitor the deeper pool areas where fish are congregating. If safe to do so, seine nets or dip nets can be used to remove the fish.
  - c. Round Gobies or other invasive species found during dewatering activities should not be returned to the water, but should be humanely destroyed and not released back into any waters.
- 51) Only clean material free of fine particulate matter shall be placed in or near water where it has been previously planned and authorized. Rocks used to fill cribs must be clean and

free of fine particulate matter, and brought to the site and not taken from a lake or river bottom, or shoreline.

### **Invasive Alien Species:**

- 52) All construction equipment must be washed outside the site prior to arrival to minimize risk of introducing invasive species. Equipment must be free of any organic material, well maintained and free of leaks.
- 53) If invasive species are a serious issue, consider more effective cleaning methods such as pump and high pressure hose or high pressure water unit.
- 54) Work in un-infested sites before moving to infested sites.
- 55) Minimize ground disturbance, vegetation removal and bare soil exposure (e.g., cover stockpiled material with tarps, plant native species, cover with natural mulch/ground coverings).
- 56) Stabilize and re-vegetate disturbed areas with native plant species as soon as possible. If there is insufficient time remaining in the growing season, stabilize the site to prevent erosion and vegetate the following spring.
- 57) Monitor disturbed and re-vegetated areas until native vegetation is growing successfully and invasive alien species spread is prevented.

### **Demolition:**

- 58) Prior to commencement of demolition activities, all structures should be surveyed for the presence of wildlife (e.g., roosting bats, nests, dens).
- 59) Ensure wastes from demolition activities do not enter waterbodies (e.g., use tarps to capture debris). Any waste that does fall into a waterbody will be immediately retrieved, provided worker safety is not compromised, and if removal can be done without excessive disturbance of bottom sediment.

### **Excavation (upland of the High Water Mark):**

- 60) Erosion control measures that prevent sediment transport into any waterway, water body or wetland shall be implemented.
- 61) Select erosion and sediment control measures that correspond with the scale, nature and duration of the project and they must be installed before starting work, especially within 30 meters of a waterbody.
- 62) Regularly inspect and maintain erosion and sediment control structures during all phases of the project and alter measures when necessary.
- 63) Use erosion and sediment control products made of 100% biodegradable materials (e.g., jute, sisal or coir fibre) if preferred. Ensure backing materials are also biodegradable.
- 64) Manage water flowing onto the site as appropriate for the project:
  - a) Divert uplands surface runoff away from exposed areas.
  - b) Filter water being pumped/diverted from the site; silt-laden water must not be pumped directly into a waterbody (e.g., pump/divert water to a vegetated area 30 meters from the waterbody, a constructed settling basin or other filtration system).

- c) Minimize slope length and gradients of disturbed areas.
  - d) Cover erodible soils with mulch, vegetation, or rip rap.
  - e) Construct check dams or similar devices in constructed swales and ditches.
- 65) Any trenches to be dug for services e.g., electrical lines, must follow an existing “right of way” or disturbed area as much as possible.
- 66) Topsoil separation is recommended; stockpile topsoil away from subsoil and spoil material and upland of the high water mark or top of bank of nearby waterbodies and ensuring sediment re-entry to the watercourse is prevented.
- 67) Reuse of excavated material on site is encouraged, unless there are any indicators of potential contamination.
- 68) Excavations must be drained (but not directly into a waterbody), backfilled and compacted as soon as possible.
- 69) Under thawed conditions, backfill material should be compacted prior to topsoil replacement; distribute topsoil over the excavated area.
- 70) Under frozen ground conditions, material will be sufficiently spread over the excavated site to allow for a settlement under thawed conditions
- 71) Maintain effective sediment and erosion control measures until any required re-vegetation of disturbed areas is achieved.
- 72) Remove temporary erosion and sediment control products, especially non-biodegradable materials, when they are no longer required.

**Wharves, Piers, Docks, Boathouses and Launch Ramps:**

- 73) Sunken logs, stumps and rocks may not be removed from the water. In some circumstances they may be relocated to an area of similar water depth in front of the property. Removal of natural objects from the bed of a waterbody may be considered to be a dredge or permanent change of the waterbody and a more detailed assessment of this work may be required.
- 74) Minimize disruption to habitat by ensuring removal activities do not include dredging, blasting and/or placement of fill below the high water mark.
- 75) Remove existing structures and/or pilings in a manner that prevents foreshore disturbance and/or sediment generation. Remove debris by hand, where possible.
- 76) If piles cannot be pulled out, cut or break off any piles as close to the waterbody bottom as possible.
- 77) During installation/replacement of new cribs at least 50% of the total boathouse length must be clear unobstructed open spans to allow for water circulation and fish movement.
- 78) Space structures above water to allow light penetration to the foreshore.

- 79) Avoid use of polystyrene buoyancy billets, they are friable and deposit plastic particles into the receiving environment. If used, polystyrene floats must be fully enclosed in a protective coating to prevent breakdown of the material during use, seasonal removal, and reinstallation.
- 80) It is recommended that decking on docks, floats, piers and gangways use open grid material to allow light infiltration to the water column. This can be accomplished through spacing of deck materials, or by using porous deck materials which allows minimum of 40% of light to pass through the deck surface and enter the water column.
- 81) Do not use rubber tires as floatation system components for floating dock sections as they are known to release extracts toxic to fish and aquatic invertebrates.
- 82) Use inert or untreated materials (e.g. fir, cedar, hemlock) as supports for structures to be submerged in water. Do not use treated wood (such as creosote) that will, once installed, be permanently or seasonally in direct contact with any body of water as these materials are toxic and can harm fish populations.
- 83) Cut, seal and stain (non-toxic) all lumber away from the water and ensure it is completely dry before use near water.
- 84) Ensure plastic floats are free of any chemicals inside and outside before they are placed in water.

**Small Mooring Activities:**

- 85) Ensure moorings (including anchors and floats) are made of clean, inert material.
- 86) Locate moorings in depths that allow structures and vessels to remain afloat at the lowest possible water levels and prevent propellers from disturbing bottom sediments.
- 87) Select mooring anchors of an adequate size to secure vessels or structures and prevent the anchor from shifting or dragging along the bottom.
- 88) Size the length of mooring lines, chains or cables to avoid excess line, chain or cable accumulation on the bed of the waterbody.
- 89) Pre-cast and cure concrete anchors, if required, away from water prior to use to prevent seepage of potentially toxic substances into the waterbody.
- 90) Remove derelict or unused floats, lines, chains or cables and dispose of in accordance with appropriate legislation and standards.
- 91) Do not install or replace traditional mooring in sensitive substrate areas.
- 92) Install conservation moorings at priority anchorage sites to protect vulnerable species or habitat and minimise anchor activities in sensitive areas. For example:
  - a. Identify anchor exclusion zones;
  - b. Strongly encourage use of moorings where they are present and available.
- 93) Where restoration of sensitive areas is needed, convert chain moorings to conservation moorings.

**Painting, Staining and Resurfacing:**

*Maintenance and repair projects near, in or above the waterbody which are unable to be moved away from the waterbody.*

- 94) Introduce adequate recovery and containment measures to minimize release of contaminants into the water, air and soil. For example:
  - a. install a shelter or tarp to collect sandblast particles and concrete residue generated by cleaning work.
  - b. the shelter must be waterproof to prevent leaching in the event of rain and have a mechanism for capturing soil and preventing discharge into the waterbody.
- 95) Attach drop cloths to prevent materials such as paint, wood, concrete, and solvents from entering the water.
- 96) Paints and solvents shall be stored, mixed and transferred at a suitable location upland, away from the watercourse.
- 97) Sealants or other compounds shall be utilized according to the appropriate Product Technical Data Sheet, stated guidelines and methods for proper use provided by the manufacturer of the product.

**Site Clean-up and Waste Management:**

- 98) All salvageable, non-combustible and non-hazardous materials will be removed, reused and recycled to the greatest extent possible. Remaining material considered to be waste and demolition debris is to be disposed of at an approved disposal facility.
- 99) Secure all materials (e.g., construction waste and materials, excavation, vegetation) upland of the high water mark of nearby waterbodies and ensure wastes do not enter waterbodies (e.g., use tarps to capture debris). Any waste that does fall into a waterbody will be immediately retrieved, provided worker safety is not compromised, and if removal can be done without excessive disturbance of bottom sediment.
- 100) Any hazardous material (e.g. asphalt shingles, creosote treated wood, asbestos, lead paint, moulds, animal excrement, paints, automotive products, electrical equipment) and pollutants such as fuels and solvents found on-site will be separated. Dispose of contaminated materials at locally or provincially certified disposal sites.
- 101) Concrete mixing activities must take place over tarps and a minimum of 30 meters from waterbodies. Fresh, wet, uncured concrete and concrete dust must not come into contact with waterbodies.
- 102) Concrete leachate is alkaline and highly toxic to fish and aquatic life. Measures must be taken to prevent the incidence of concrete or concrete leachate from entering the watercourse. Maintain complete isolation of all cast-in-place concrete and grouting from fish-bearing waters for a minimum of 48 hours if ambient air temperature is above 0°C and for a minimum of 72 hours if ambient air temperature is below 0°C or until significantly cured to allow the pH to reach neutral levels. Avoid project activity during wet weather conditions.



103) Excess concrete must be disposed of at an appropriate facility. If excess concrete from pump trucks must be dumped prior to transport, it must be deposited in an appropriate location away from water and removed following hardening for disposal at an approved facility.

**Spill Response Plans and Hazardous Material Management:**

104) A Spill Response Plan should be developed prior to work starting.

105) Ensure that all on-site workers receive a briefing about the Spill Response Plan and are aware of the location and use of spill kits and containment devices.

106) Follow all applicable regulations and codes for the management and handling of hazardous waste.

107) Spill containment equipment must be present on-site. A spill contingency response kit including sorbent material and berms to contain 110% of the largest possible spill related to the work must be available on site at each location of potential spills (sites where equipment is working and at refueling, lubrication, and repair locations).

108) All spills must be contained and cleaned-up as soon as it is possible to safely do so. In the event of a major spill, all other work must stop until the spill has been adequately contained and cleaned up.

109) The Ontario Ministry of Environment Spills Action Center, (1-800-268-6060) shall be notified, if spilled volume and location requires. Notify Parks Canada of all spills on Federal land and water.

110) Contaminants must be recovered at the source and disposed of according to applicable laws, policies and regulations site.

111) If hazardous waste or potentially contaminated material is uncovered during excavation/ construction, work must stop and excavated materials must be secured onsite in a manner that prevents contamination of the surrounding environment, including leaching.

**Supplementary Mitigations:**

112) Supplementary mitigation(s) may be required to ensure all potential impacts are mitigated. These are to be issued with the Permit for Shoreline and In-Water Work, issued under the Historic Canal Regulations.

**Approval:**

Original document approved and signed by David Britton, Director of Ontario Waterways, on October 15, 2020.

## References:

Canada Gazette. 2019. *Designated Classes of Projects Order*.

Fisheries and Oceans Canada. [Measures to protect fish and fish habitat](#). Accessed February 2020.

*Parks Canada 2017. Draft Guidance on Reducing Risk to Migratory Birds and associated Conservation Measures for Minimizing Impacts to Migratory Birds During the Nesting Period.*

*Parks Canada. 2017. National Best Management Practices for Common Activities.*

*Parks Canada. 2017. National Best Management Practices Works in and Around Waterbodies.*

*Parks Canada. 2007. Policies for In-water and Shoreline Works and Related Activities: Rideau Canal and Trent--Severn Waterway National Historic Sites of Canada.*

*Parks Canada. 2012. Replacement Class Screening Report for Routine In-Water Works Projects.*

## Legislative and Policy Framework

The *Historic Canals Regulations (SOR/93-220)* under the *Department of Transport Act* provide the regulatory framework for the management, use and protection of the Rideau Canal and Trent–Severn Waterway in accordance with the Historic Canals Policy and the Management Plan.

The *Impact Assessment Act* requires that the environmental impact of certain projects or activities on or directly affecting federal lands be assessed, and if significant, mitigated where possible, and not be permitted if the impacts are potentially significant and cannot be mitigated.

The *Fisheries Act* requires the protection of fish habitat. Under a Level 3 agreement between Parks Canada and Fisheries & Oceans the Canals have a responsibility to protect fish habitat.

The *Species at Risk Act* requires the protection of species at risk and their habitats on federal crown lands.

The *Canada Shipping Act* regulates boating activities.

The *Navigable Waters Protection Act* protects the integrity and navigation safety of navigable waters.

The *Historic Canals Policy*, which is part of the *Guiding Principles and Operating Policies*, sets out policies for managing and operating historic canals.

The *Federal Wetlands Policy* requires that there be no net loss of wetland functions in federally owned wetlands.

*Cultural Resource Management Policy*, which provides a decision-making framework for the protection and presentation of cultural resources.