



parcscanada.gc.ca
parkscanada.gc.ca

Basic Impact Analysis

Astotin Day Use Area Rehabilitation Project Living Waters Boardwalk Replacement

Elk Island National Park

June, 2017



Parks
Canada

Parcs
Canada

Canada



1. PROJECT TITLE & LOCATION

Elk Island National Park Living Waters Boardwalk Replacement Project

Primary Locations: Elk Island National Park Astotin Lake Recreation Area (footprint size 365m – length)

Off-site Locations: Lay down area known as the “Wood Yard” located across from the Astotin Lake Recreation Area (footprint size – 3 hectares – already an existing disturbed area)

2. PROPONENT INFORMATION

Mark McIntyre

Elk Island National Park Project Manager

Stan Siemens

McElhanney Consulting Services Ltd.

3. PROPOSED PROJECT DATES

Planned commencement: 2017-08-15

Planned completion: 2018-11-01

The project will occur in late summer to fall 2017, avoiding sensitive windows for breeding species and peak visitor and school program times, to be completed over a 1 to 2 month period, prior to freeze up.

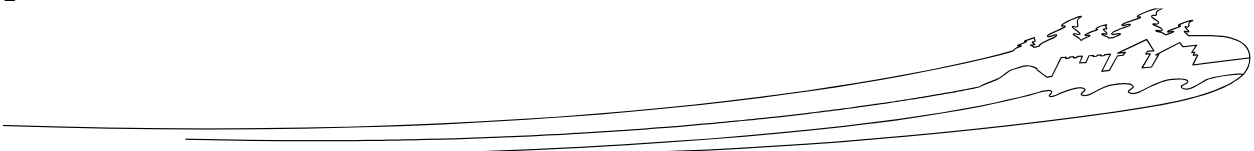
4. INTERNAL PROJECT FILE # EINP PRO 515

5. PROJECT DESCRIPTION

The purpose of this EIA is to provide guidance for the proposed replacement of the Living Waters Boardwalk located at the south end of the Astotin Lake Recreation Area, in Astotin Lake. The project will include the demolition and removal of the old boardwalk components and installation of new structure built on helical piles with some floating components totaling 365m in length, connecting to the Astotin Lake Recreation Area Interpretive Theatre area trail system. Rehabilitation of this boardwalk is required for the safety of visitors, to reduce maintenance and increase value to the visitor. The current boardwalk is in poor condition and the wood sub structure is rotting along with top decking.

Phases and activities of the project include:

1. Site preparation: Geotechnical Investigation. Demolition, removal and disposal off site of old boardwalk system. Disruption and disturbance to wetland area may require sediment control in areas.
2. Dimensions of structures, size of excavation, area of disturbance, fill requirements: Most work will be done in the marsh area requiring hand held mechanical means to minimize disturbance to this area.
3. Construction activities, methods, materials, equipment to be used: Demolition, removal of old and component connections and anchoring installations by means of mechanically installed helical piles by





means of a hand operated mechanical driver. Machinery for loading and unloading material will be used on shore.

4. Associated project work (e.g., paving, vegetation removal, excavation, etc.) Hand demolition and debris removal.
5. Toxic or hazardous materials (e.g. cast in place concrete, chemicals, fuels, paints, solvents, explosives): Pressure-treated wood and other timber in water will be removed as part of the demolition component of the contract.
6. Operational requirements: (materials, maintenance procedures; waste & wastewater management): Waste components will be stored in wood yard for proper disposal. Material removed will be disposed of off-site.
7. Site modifications, structure removals, site reclamation activities: No modifications to existing and listed work area. Work to be done primarily by hand to minimize impacts to wetland area.

See Section 14, Attachment 1, 90% Project Design Drawings for additional detail. Any changes to project scope will be described to the Environmental Assessment Officer at Elk Island National Park in advance, and if the mitigations within this document are not sufficient to address new potential effects, an addendum to this Environmental Impact Analysis will be created to include such project additions.

6. VALUED COMPONENTS LIKELY TO BE AFFECTED

Refer to the Effects Identification Matrix ([Appendix 1](#)).

Natural resources

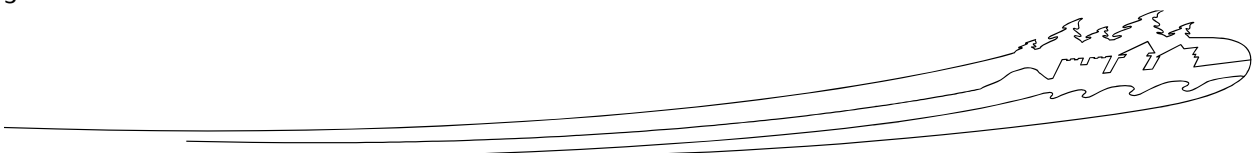
- Air
- Soil
- Water
- Flora
- Fauna

Cultural resources

- Artefacts

Visitor experience

- Viewscape and positive experience
- Access and services
- Visitor safety





7. EFFECTS ANALYSIS

Potential Ecological effects

Soil/Land Resources:

- Change in slopes, landforms and landscape
- Soil compaction, rutting, disturbance and root damage
- Soil erosion, loss of topsoil and exposure of subsoils
- Soil contamination (i.e., from garbage, litter, sewage, fuel and fluid leaks)

Air/Noise Quality:

- Temporary decreased ambient air quality (e.g., dust, equipment emissions)
- Temporary increased levels of CO₂ and other pollutants
- Increased ambient noise levels

Water Quality:

- Surface and groundwater contamination from waste (e.g., garbage, litter, sewage, fuel)
- Reduced water quality due increased erosion, sedimentation, or transportation of debris resulting in increased turbidity
- Reduced water quality due to contamination (i.e. from leaks and accidental spills, etc.)
- Physical alteration of aquatic habitat
- Adverse modifications in temperature regime and natural surface drainage patterns

Vegetation:

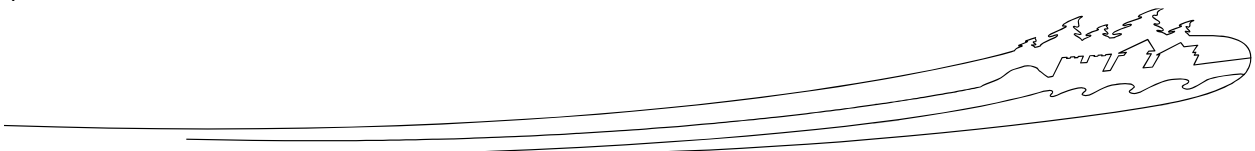
- Damage to and removal of vegetation; disturbance of immediate and/or adjacent natural areas
- Root exposure, resulting in physiological stress and, in the case of trees susceptibility to windfall
- Introduction of non-native species populations, or expansion of existing populations
- Impacts on valued and sensitive vegetation features
- Habitat destruction and mortality from wildfire

Wildlife:

- Wildlife disturbance during construction causing displacement/preferred habitat avoidance
- Wildlife habituation/attraction to artificial food sources from garbage or litter
- Impeded/ altered wildlife movement
- Damage to nests/dens/roosts and disruption of nesting/denning/roosting animals
- Damage to the quality of nesting/ spawning/ roosting habitats
- Introduction of invasive alien species, or expansion of existing populations
- Habitat destruction and mortality from project activities

Species at Risk:

- There are no SARA-listed vegetation Species at Risk in the park.
- There are seven SARA-listed wildlife Species at Risk in the northern half of Elk Island National Park (Olive sided flycatcher, Loggerhead Shrike, Yellow Rail, Canada Warbler, Common Nighthawk, Western Toad, and Little Brown Myotis (bat)) that could be affected incidentally through removing vegetation or





structures, predominately by damage or destruction of residences and habitat. Proper implementation of the EIA is anticipated to mitigate any potential effects on these Species at Risk.

- If all mitigation measures cannot be adopted or the potential to affect a Species at Risk listed as Endangered, Threatened, its residence or critical habitat is possible, a SARA authorization will be required.

Cultural Resources

- Adverse effects on the heritage value or character-defining elements of a cultural resource or a heritage place, including:
- Impacts to archaeological resources (known or potential) from displacement or destruction resulting in loss of heritage value
- Potential adverse effects on cultural landscapes or landscape features of heritage value

Visitor Experience

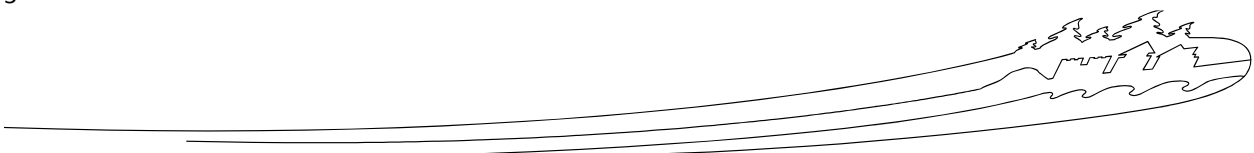
- Reduced quality of visitor experience and enjoyment due to noise and presence of construction equipment in close proximity to recreational areas such as roads, trails, and picnic areas.
- Increased visibility of human disturbance on the landscape and decreased aesthetic
- Reduced accessibility to portions of the site where work is taking place
- Hazard to visitors and staff due to construction activities (e.g., heavy equipment and hand tool operation, helicopter use, tree removal)
- Loss of educational opportunities
- Overall, visitor safety, access, and experience may also be enhanced by the project, after its completion.

8. MITIGATION MEASURES

The mitigation measures provided are from applicable sections of the Parks Canada's Work In and Around Water bodies National Best Management Practices (2017 draft version), PCA's Treated Wood Guidelines, and additional mitigations from both National and Northern Prairie Field Unit Best Management Practices documents for General Projects (see Section 14 for links to full documents).

General

- Project planning and engineering design will incorporate consideration of environmental impacts of long term operation and the potential for conservation gains through improved design.
- Clearly identify the sensitive features specific to the site and adapt the project design and schedule accordingly (e.g., outside restricted timing windows, as described in following sections)
- All crews must attend a site environmental briefing with an Environmental Surveillance Officer (ESO) prior to beginning work on site, in order to review and explain the mitigation measures below as well as any additional site specific considerations.
- Ensure equipment and vehicles arrive on site in clean condition free of fluid leaks, vegetative material, and soils from off-site. The ESO must be notified in advance of all new-to-site equipment 24 hours prior to arrival, and all equipment must be inspected by the ESO prior to use on site.





- All projects are subject to environmental surveillance by the ESO to ensure that mitigation measures as outlined through the assessment process are implemented during all phases of construction, including clearing, grading, construction, cleanup, and restoration, as applicable.
- Delineate the work zone; clearly mark the construction boundary limits as well as sensitive features and the access and egress locations.
- Equipment movements and worker's vehicles shall be restricted to the designated footprint of the construction area, and on existing hardened surfaces.
- Should conditions at the work site indicate there are unforeseen negative impacts to fish, wildlife, cultural or visitor experience resources, all work shall cease immediately, and the designated Parks Canada staff consulted to determine next steps.
- All Parks Canada designated speed limits apply to construction vehicles. Additional speed restrictions may be required to protect wildlife and visitor safety.
- Complete in-water works when water levels are lowered.

Work Site Conditions/Staging/Laydown

- Staging and parking areas for material and equipment must be identified, including duration of use, within an existing disturbed footprint (e.g., roadway, gravel surface, previously disturbed area with high resiliency). For this project, the EINP Wood Yard is a designated Laydown area.
- Material drop sites (via foot, vehicle, or boat) must be approved by designated Parks Canada staff.
- Cover construction material with weighted tarps when appropriate. Minimise damage to adjacent plant material and rehabilitate if necessary, at the discretion of the ESO.
- Use existing roadways, trails, disturbed areas or other areas as approved by designated Parks Canada staff for site access, travel within the site and construction activities (e.g., sawing wood).
- Clearly mark work site and restricted areas with stakes, biodegradable flagging tape or other means; remove when project is completed.
- Keep disturbance footprint as small as possible and limit vehicle access to essential vehicles only.

Equipment Operations

- Equipment must arrive on site in a clean and dry condition, free of fluid leaks (e.g., fuel, oil or grease), mud and vegetation from other sites, and invasive alien species (i.e. zebra mussels). All equipment must be inspected by the ESO prior to use on site.
- Equipment must be maintained in good operating order.
- Any equipment operating in water bodies must be cleaned prior to entering water and inspected daily for leaks. Proof these measures were applied may be requested at any time.
- Equipment movements and workers' private vehicles shall be restricted to the footprint of the construction area.
- Minimize idling of engines, contingent on operating instructions and temperature consideration.
- Equipment operators must be fully trained and experienced.
- During construction, any cleaning of tools and equipment must be done greater than 100 meters from waterbodies to prevent the release of wash water that may contain deleterious substances.
- 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).
- Use low pressure/rubber tracked equipment or protective access matting where feasible to minimize soil compaction and ground disturbance.

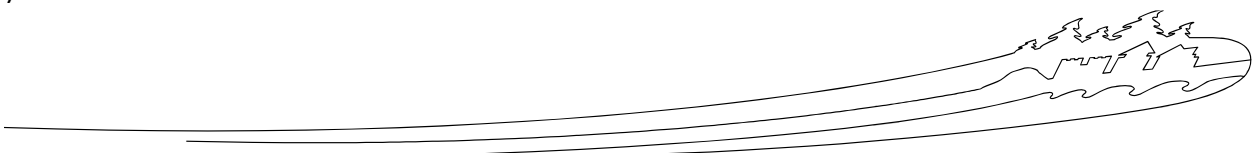




- When crossings or working within water bodies are not required, operate machinery above the High Water Mark and minimise disturbance to the banks and bed of any waterbody.
- The crossing or entering of any waterbody by construction equipment, or the use of such equipment within waterbodies must be approved by designated Parks Canada staff. If approved:
 - Consult with designated Parks Canada staff prior to project start-up to determine single entry and exit points for any watercourse entry or crossings.
 - Limit machinery crossing (fording) a stream or watercourse to a one-time event (i.e., over and back), and only if no alternative crossing method is available. If repeated crossings of the watercourse are required, construct a temporary crossing structure in compliance with the *Fisheries Act*.
 - Use temporary crossing structures or other practices to cross streams or water bodies with steep and highly erodible (e.g., dominated by organic materials and silts) banks and beds.
 - Use established/constructed fords when available. For fording equipment without a temporary crossing structure, use stream bank and bed protection methods (e.g., swamp mats, pads) at access points if minor rutting is likely to occur during fording.
 - Use small scale equipment when at all possible (e.g., mini excavator, ATV, Ditch Witch)

Fuel Storage and Refueling/Emergency Plans

- A Spill Response Plan shall be prepared and detail the containment and storage, security, handling, use and disposal of empty containers, surplus product or waste generated in the application of these products in accordance with all applicable federal and provincial legislation. The Plan shall include a list of products and materials to be used or brought to the construction site that are considered or defined as hazardous or toxic to the environment. Such products include, but are not limited to, fuels and lubricants, waterproofing agents, grout, cement, concrete finishing agents, hot poured rubber membrane materials, asphalt cement and sand blasting agents. This plan must be prepared prior to work and is subject to review by the ESO.
- Spill kits shall be provided at re-fuelling, lubrication, and repair locations that are capable of dealing with 110% of the largest potential spill and shall be maintained in good working order. Site staff shall be informed of the location of the spill response kit(s) and be trained in its use.
- Machinery (e.g., excavators, bobcats, chainsaws, generators, etc.) must be stored, maintained and refuelled on a flat surface, outside the drip line of trees, a minimum of 100 m from water bodies measured from the High Water Mark; increase buffer depending on risk level and site conditions.
- At no time shall fuels or lubricants for small equipment be stationed near (within 100 m) of the shoreline.
- Refueling must take place at least 100m from any water body, on a tarp or portable berm, or on compacted ground. Refueling activities should not be conducted where run-off could carry contaminants into drainage pathways (including storm sewars).
- Consider using bio-degradable chain oil/vegetable oils in chain saws especially when working within 30 meters of a waterbody.
- If operating hand machinery directly over or adjacent to waterbodies is unavoidable, use measures such as tarps to trap and prevent debris from entering the waterbody.
- All gas generators and water pumps require secondary containment. These must be secured whenever possible to prevent movement during operation and set up on an impermeable mat with a berm or in a container that can contain 150% of fuel volume. Electric pumps are preferred.





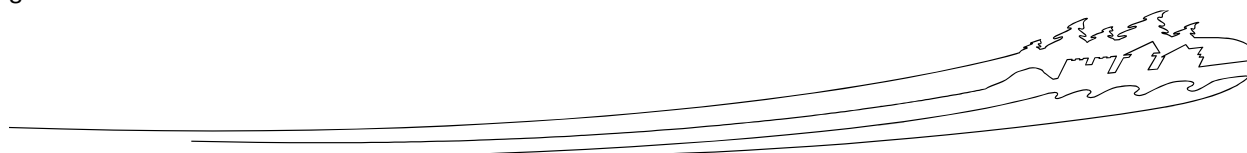
- Hazardous or toxic products shall be stored no closer than 100 metres from streams, wetlands, water bodies or waterways. If potentially hazardous materials (e.g. cement-based products, sealants or paints) are used on site ensure raw material, mixed compounds and wash water are not released to any watercourse or soils. Measures such as collection/drip trays and berms lined with occlusive material such as plastic and layer of sand, and double-lined fuel tanks are required.
- Absorbent booms must be available immediately on site during works in and near water.
- The crossing of any waterbody (including wetlands) by construction equipment, or the use of construction equipment in waterbodies is prohibited without prior approval from Parks Canada.
- Timely and effective action shall be taken to stop, contain and clean-up all spills as long as the site is safe to enter. The ESO shall be notified immediately of any spill. In the event of a major spill (see following point for definition), the ESO and Jasper Dispatch shall be notified immediately, and all other work shall be stopped and all personnel devoted to spill containment and clean-up.
- A major spill is defined as:

Material	Immediate Notification Requirements	Written Spill Report Requirements
Any deleterious substance that enters a water body of any type (e.g., stream, lake, wetland, drainage, sewer) or poses a threat to human safety (e.g., slippery road, explosive hazard, poisonous gas).	Any Quantity, notify the SO and Jasper Dispatch.	Required; Major Spill
Any substance that is hazardous or toxic to the environment including but not limited to, waterproofing agents, grout, cement, concrete finishing agents, hot poured rubber membrane materials, asphalt cement, sand blasting agents, paint, solvents and hydrocarbons (e.g., fuel, grease, hydraulic fluid).	<100 L, immediately notify the SO. > 100 L, immediately notify the SO and Jasper Dispatch.	At the discretion of the ESO. Major Spill if not contained. Required; Major Spill

- Dispose of any contaminated materials at provincially certified disposal sites outside of EINP. All applicable documentation demonstrating proper disposal will be provided to Parks Canada.
- The costs involved in a spill incident (the control, clean up, disposal of contaminants and site remediation to pre-spill conditions), shall be the responsibility of the proponent. The site will be inspected to ensure completion to the expected standard and to the satisfaction of Parks Canada.

Demolition

- Prior to commencement of demolition activities, all structures must be surveyed by experienced personnel from within or approved by Parks Canada for the presence of wildlife (e.g., roosting bats, nests, dens). Work should not take place during critical wildlife stages. Should wildlife be discovered, work will cease and designated Parks Canada staff contacted for further direction.
- Prior to demolition or repair work on bridges, docks, wharves or any other physical work, an assessment must be conducted for regulated materials such as asbestos, lead paint, treated wood, florescent bulbs, light ballasts, transformers and other electronic components, mercury and PCBs. All regulated materials must be disposed of/recycled at an approved disposal facility.
- 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.
- All applicable documentation demonstrating proper disposal shall be provided to Parks Canada.
- Burning or burying of hazardous materials or any materials (e.g., plastics) which may be harmful to the environment is prohibited.

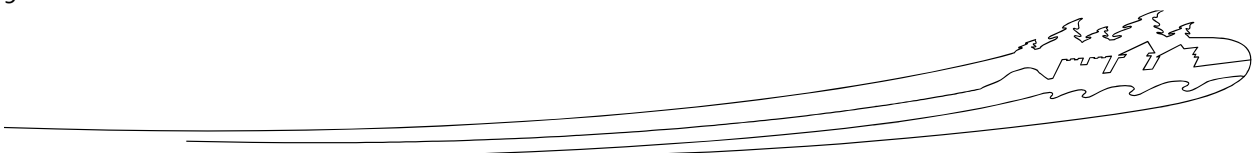




- If undocumented contamination is found, cease work immediately and contact designated Parks Canada staff.
- Consult with designated Parks Canada staff to determine whether full excavation and removal of all subsurface infrastructure (e.g., pipes, cement structures, wires) is required. Backfill any excavation with clean, weed-free topsoil.
- 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 sediment
- Cover and contain fine particulate matter during transport to and from the site.

Erosion and Sedimentation Management

- When work involves disturbance of soils, the use of erodible materials (e.g. sands, topsoil), or working near or in water bodies, erosion and sediment control measures shall be implemented by the contractor to prevent the transport of sediment into any waterway, waterbody, or wetland.
- An Erosion and Sedimentation Control Plan (ESCP) must be prepared for the components of the work undertaken in proximity to watercourses, wetlands or riparian environments. This plan should be prepared by a qualified professional and is subject to review by Parks Canada Staff.
- Requirements of an ESCP can be scaled to the scope and associated risks of the project, as determined by Parks Canada IA specialists, but may include:
 - Project design and spatial concept of environmental sensitivities (e.g. waterbodies, wetlands, slopes, etc.)
 - Erosion prevention procedures, as applicable (e.g. project schedule, minimization of work area, site management, ground cover measures), and location of implementation.
 - Sedimentation control procedures, as applicable (e.g. sheaths, curtains, sediment fences, check dams, sediment traps, rip rap, etc.), and location/method of implementation.
 - Detailed plans for in-water works such as isolation measures and project timelines
 - Water management plans including site control, equipment needed, and proposed dewatering locations
 - Monitoring of prevention and control measures and corrective actions (repairs)
 - Removal on non-biodegradable materials once site is stabilized
- Acquire any necessary erosion and sediment control equipment (i.e. sheaths, curtains, landscaping fabric, sediment fence, curtains, coir rolls, etc.) and install prior to risk of sediment transport.
- Ensure all erosion and sediment control devices are weed free. Straw and hay based erosion control is not permitted. Erosion and sediment control products made of 100% biodegradable materials (e.g., jute, sisal or coir fiber) should be used when possible, including backings.
- All products must be approved by Parks Canada and installed prior to commencement of work.
- Maintain and repair all erosion and sediment control structures in a timely manner. If the design of the control measures is not functioning effectively work is to stop and they are to be repaired.
- Install all erosion and sediment control devices according to Typical Drawings included in ESCP. Typical Drawings must be on site and available at the request of the ESO.
- Schedule work to avoid extreme wet/saturated, windy, and heavy rainfall conditions that may increase erosion and sedimentation. Temporarily stop work when such conditions contribute to erosion and sediment transport.
- Minimize extent of vegetation cover removal and grubbing. Clearly mark construction boundaries to prevent accidental damage to vegetation.





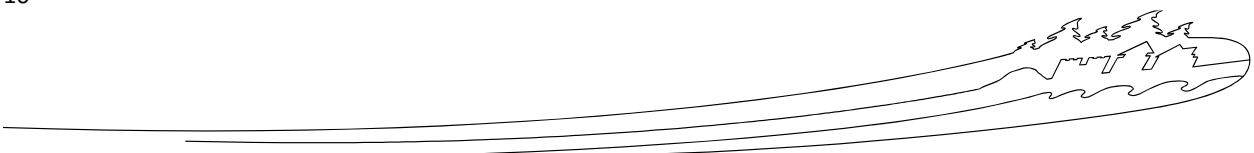
- Minimize the length of time soils are exposed or disturbed. Complete work in one area before commencing work in another area. Plan project activities to minimize soil handling and limit equipment movement over exposed soils and steep or unstable slopes prone to erosion.
- The site will be secured against erosion during any periods of construction inactivity or shutdown.
- Excavated material and debris must be stored in a stable area, above the HWM or active floodplain and 15m from drainage features and/or the top of steep slopes. Protect excavated material from re-entering the waterbody, (i.e. cover with erosion blankets, seed or plant with native vegetation).
- Following completion of work, prior to removal of sediment and erosion control measures, all disturbed surfaces and shorelines shall be stabilized and/or re-vegetated as soon as possible. Plant species/seed mix must be approved by Parks Canada.
- Remove accumulated sediments prior to removing erosion control products. Silt or debris accumulated around a temporary cofferdam must be removed prior to withdrawal of cofferdam

Construction Materials and Practices

- Ideally, use timber that contributes to sustainable practice, such as recycled old growth or certified materials (e.g., Forest Stewardship Council certification). Trees of significant importance to the landscape must not be used unless otherwise directed by designated Parks Canada staff.
- When building with unfinished wood, consider using species native to the area as directed by designated Parks Canada staff.
- Use natural material and environmentally-friendly finishes (e.g., paints and stains) and products whenever possible.
- When practical, consider pre-fabrication at an approved off-site location to minimize on-site construction impacts.
- When practical, treatment of wood products (e.g., preservatives, paints, stains) should be done at an approved location prior to transport to the site. Field treatments should be applied over tarps or in another approved contained area and not be applied over or within 30 meters of water. Treatments must be approved by designated Parks Canada staff (non CCA application specified).
- Treated wood is not recommended for use in waterbodies, and must be handled, installed, and disposed of according to the [Parks Canada Guide for the Use, Handling and Disposal of Pressure Treated Wood 2009](#) or contact the Parks Canada [Environmental Management Team](#) for advice.
- Avoid using creosote, arsenic, and/ or CCA treated wood. These materials are toxic and can harm fish populations and should be disposed of according to the above regulations.
- Minimise the number of saw cuts made to treated wood in the field. If unavoidable, cut treated wood away from waterbodies and over tarps to catch debris; cuttings, sawdust and other treated wood waste material must not enter waterbodies.
- All cuttings, sawdust and other treated wood waste material must be collected and disposed of at an approved disposal facility.
- Treated wood must not be burnt or left onsite to decay.

Boardwalk and Culvert Maintenance

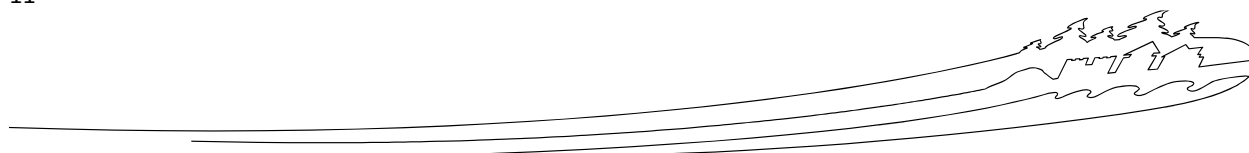
- Minimise the extent and duration of work within watercourses and bank areas.





- when working in close proximity to fish bearing waterbodies or in/near waterbodies that feed directly into fish bearing waterbodies, respect [timing windows](#)¹ to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed.
- Conduct in-stream work during periods of low flow or at low tide and not when flows are elevated due to local rain events or seasonal flooding.
- Locate crossings at straight sections of the watercourse, perpendicular to the bank, whenever possible. Avoid crossing on meander bends, braided streams, alluvial fans, or any other area that is inherently unstable and may result in the erosion or scouring of the bed.
- Avoid crossing streams or waterbodies with steep and highly erodible (e.g., dominated by organic materials and silts) banks and beds.
- Minimize the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of waterbodies below the High Water Mark. If material is removed, set it aside and return it to the original location once construction activities are completed.
- Ensure contingencies are in place for occurrence of unexpected high flow conditions during the activity.
- When removal and application of protective coatings on bridges is required implement the following:
 - Remove paint or protective coatings in a manner that prevents paints, paint flakes, primers, solvents or other waste material from entering the watercourse.
 - When feasible, use tarps to trap and prevent falling debris, spills or drips from entering the watercourse.
 - Store, mix and transfer paints and solvents on land and not on the bridge to prevent spills into the watercourse.
 - Contain paint flakes, abrasives and other waste materials and dispose at an approved location; waste materials must not be deposited into watercourses or riparian areas.
- When removal of debris is required within culverts and around bridge piers and abutments, implement the following:
 - Remove materials with hand tools when feasible. If machinery is required, operate from land and minimise damage to the bank of the watercourse.
 - Limit removal of accumulated material (e.g., branches, stumps, woody materials, garbage) to the area within the culvert, immediately upstream of the culvert and to that which is necessary to retain culvert function and water flow. For bridges, only remove debris necessary to protect piers and abutments.
 - Remove accumulated material and debris slowly to allow clean water to pass, to prevent downstream flooding and reduce amount of sediment-laden water going downstream.
- Boardwalks should be high enough above the existing ground surface to allow grasses and native shrubs to re-vegetate around the structure and beneath deck boards.
- Limit ground disturbance under boardwalks to the installation of staircase posts and sills.
- Stabilize shoreline or banks disturbed by any activity associated with the project.
- Restore bed and banks of the waterbody to the original contour and gradient; if the original gradient cannot be restored due to instability, a stable gradient that does not obstruct the natural water flow should be restored.
- If replacement rock reinforcement/armouring is required to stabilize eroding or exposed areas, ensure rock is installed at a similar slope to maintain a uniform bank/shoreline and natural stream/shoreline alignment.

¹ <http://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/index-eng.html>





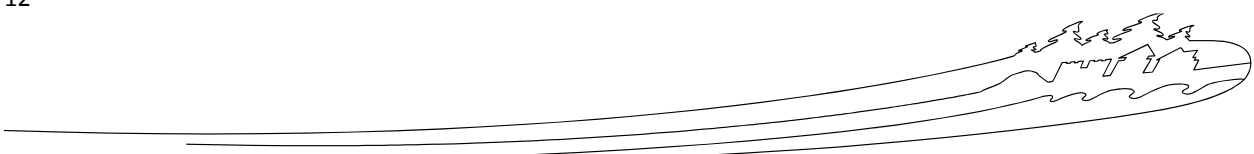
Wharves, Piers, Docks, Boathouses and Launch Ramps

1. Minimize disruption to habitat by ensuring removal activities do not include dredging, blasting and/or placement of fill below the high water mark. Ensure existing rocks and logs in the aquatic environment remain in place.
2. Remove existing structures and/or pilings in a manner that prevents foreshore disturbance and/or sediment generation.
3. If piles cannot be pulled out, cut or break off any piles as close to the waterbody bottom as possible.
4. Remove any old structures or pilings to a suitable upland disposal site away from riparian vegetation to avoid waste material from re-entering the watercourse.
5. Remove debris by hand, where possible.
6. Only clean material, free of particulate matter, shall be placed in the water.
7. During installation/replacement of new cribs under a boathouse, at least 50% of the total boathouse length must be clear unobstructed open spans to allow for water circulation and fish movement.
8. Space elevated decks and walkways to allow light penetration to the foreshore.
9. Avoid use of Styrofoam (polystyrene) buoyancy billets, they are friable and deposit plastic particles into the receiving environment. If used, Styrofoam® floats must be fully enclosed in a protective coating to prevent breakdown of the material during use, seasonal removal, and reinstallation.
10. Decking on docks, floats, piers and gangways should 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 such as ThruFlow decking which allows 40% of light to pass through the deck surface and enter the water column.
11. 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.
 - Use inert or untreated materials (e.g. fir, cedar, hemlock) as supports for structures submerged in water. Treated lumber must not be used as it may contain compounds that can be released into the water and become toxic to the aquatic environment. Treated wood must be handled, installed, and disposed of according to the [Parks Canada Guide for the Use, Handling and Disposal of Pressure Treated Wood 2009](#) or contact the Parks Canada [Environmental Management Team](#).
12. Cut, seal and stain (non-toxic) all lumber away from the water and ensure it is completely dry before use near water.
13. Ensure plastic barrel floats are free of any chemicals inside and outside before they are placed in water.

Small Mooring Activities

Traditional mooring buoys consist of an anchor (mushroom anchor or large block of concrete or similar material), a length of chain, connecting chain tackle, buoyant rope or light chain and a surface float. Conservation mooring systems (or eco-mooring system) have been developed to replace traditional moorings and substantially reduce or eliminate the impact on sensitive resources when the chain moves across the bottom. A typical conservation mooring consists of a helical screw anchor, elastic rode, a mid-water column buoyant float to keep all parts off the bottom and a surface float with moorage attachment point.

14. Ensure moorings (including anchors and floats) are made of clean, inert material.

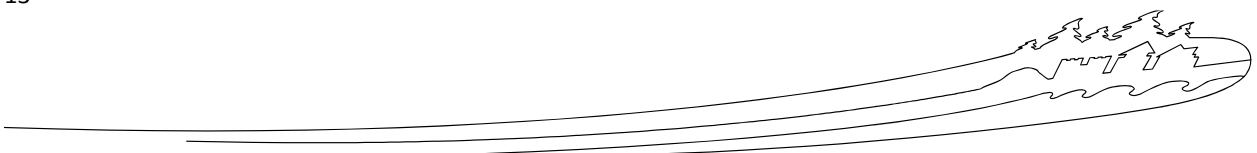




15. Locate moorings in depths that allow structures and vessels to remain afloat at the lowest possible water levels and prevent propellers from disturbing bottom sediments.
16. Select mooring anchors of an adequate size to secure vessels or structures and prevent the anchor from shifting or dragging along the bottom.
17. Size the length of mooring lines, chains or cables to avoid excess line, chain or cable accumulation on the bed of the waterbody.
18. Pre-cast and cure concrete anchors, if required, away from water prior to use to prevent seepage of potentially toxic substances into the waterbody.
19. Remove derelict or unused floats, lines, chains or cables and dispose of in accordance with appropriate legislation and standards.
20. Do not install or replace traditional mooring in sensitive substrate areas.
21. 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.
22. Where restoration of sensitive areas is needed, convert chain moorings to conservation moorings.

Wildlife

- If a project is to be conducted near or in water, it is the proponent's responsibility to ensure they avoid causing "serious harm to fish" in compliance with the *Fisheries Act*. The [advice on the Fisheries and Oceans website](#) will help proponents avoid causing harm and comply with the Act.
- The least risk to fish window for work in and around freshwater is from June 15 – Sept 15
- If the water body in the project area has fish or is connected to waters at any time that have fish the project must meet the [self-assessment criteria on the Fisheries and Oceans website](#), if not a project review can be made by Fisheries and Oceans Canada to assess whether the project requires authorization or authorization can be requested directly. Given the level of detail required for a review and/or authorization request the EIA officer may need to consider a more involved EIA pathway in those circumstances.
- Identify and protect important herptile habitats—such as aquatic breeding sites for amphibians, caves and seepage areas for salamanders, turtle nesting grounds, or snake hibernacula. If work must be completed during summer months, choose a time period that minimizes risk to all species at site.
- Avoid or terminate activities on site that attract or disturb wildlife.
- Secure materials that might attract wildlife (e.g. petroleum products, human food and garbage).
- If wildlife is observed at or near the work site, allow the animals the opportunity/space to leave the work area to the surrounding habitat and away from areas of potential conflict.
- Vacate the area and stay away from the immediate location if wildlife display aggressive behaviour or persistent intrusion.
- Notify the ESO immediately about dens, litters, nests, carcasses (road kills), wildlife activity or encounters on or around the site or crew accommodation. Other wildlife-related encounters are to be reported to ESO within 24 hours.
- No feeding, baiting, or luring of any wildlife is permitted. Do not approach or harass wildlife.
- Notify the ESO immediately if wildlife obtain access to garbage, food or other attractants. that were intentionally or accidentally left out.





Cultural Resources

- Notify the site supervisor upon accidental finds or discovery of any archaeological resources. If crews observe and cultural features (i.e., structural remains, human remains, or concentrations of artifacts and/ or identifiable subsurface features), they should stop work in the immediate area, leave in place, mark the location (e.g. with prominent flagging) and contact the ESO or designated Parks Canada staff to take photographs and, if possible, depth measurements. The Parks Canada representative must provide the information immediately to the Terrestrial Archaeology section for an assessment of significance and to discuss any protective measures that might be needed before work can resume. In all cases, cultural managers must be made aware of the finds.

Visitor Safety and Experience

- If possible, schedule construction activities outside peak visitor season.
- The work site will be closed and marked while active construction, repair or maintenance is underway; consider temporary detours or reroutes as appropriate.
- If closing the area is not possible, maintain a safe working distance between work activities and visitors; consider the use of lookouts to manage traffic through the construction/hazard area.
- As much as possible, schedule noisy activities to minimise impacts to visitors, especially around campgrounds and other high visitor use areas.
- Secure and clearly mark unattended safety hazards (e.g., excavations, unsecured decking on a bridge, debris piles) with fencing, warning signs, area closures or combination thereof.

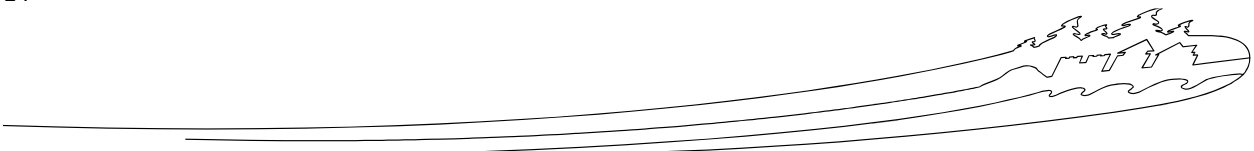
Site Clean Up/ Waste Disposal

- Clean tools and equipment off-site to prevent the release of wash water that may contain deleterious substances.
- Where possible, sweep up loose material or debris. Any material thought to pose a risk of contamination to soils, surface water or groundwater should be disposed of appropriately off-site.
- Construction, trade, hazardous waste and domestic waste materials shall not be burned, buried or discarded at the construction site or elsewhere in Parks Canada protected heritage places. These wastes shall be contained and removed in a timely and approved manner and disposed at an appropriate waste landfill site located outside the Parks Canada protected heritage place. Construction waste storage containers, shall be emptied when 90% full. Waste containers will have lids, be wildlife proof if there attractants and waste loads shall be covered during transport.
- Sanitary facilities, such as a portable toilet, shall be provided and maintained in a clean condition.

9. OTHER Considerations

Check all that apply

- ☐ Public/stakeholder engagement
- ☐ Aboriginal engagement or consultation
- ☒ Surveillance





- ☒ Follow-up monitoring, required to evaluate effectiveness of mitigation measures and/or assess restoration success
- ☐ Follow-up monitoring, required by legislation or policy (indicate basis of requirement e.g. required by the *Species at Risk Act*)
- ☐ SARA Notification

For any of the boxes checked above, briefly describe what was done, how the results were incorporated into the BIA and/or outline plans for what is needed.

10. SIGNIFICANCE OF RESIDUAL ADVERSE EFFECTS

11. EXPERTS CONSULTED

Include Parks Canada experts. Add as many entries as necessary for the project.

Department/Agency/Institution: Parcs Canada Parks Canada	Date of Request: 2016-10-01
Expert's Name & Contact Information: Aaron Osicki Aaron.osicki@pc.gc.ca / Tel: 403-292-4692	Title: Archaeologist, Archaeology and History Branch, Heritage Conservation and Commemoration Directorate Parks Canada, Calgary
Expertise Requested: To determine project requirements regarding Cultural Resource Management	
Response: Park Archaeologists reviewed project plans and performed a site visit, and determined there were no archaeological concerns regarding the project. Email response attached in Section 14.	

12. DECISION

Taking into account implementation of mitigation measures outlined in the analysis, the project is:

- ☒ not likely to cause significant adverse environmental effects.
- ☐ likely to cause significant adverse environmental effects.

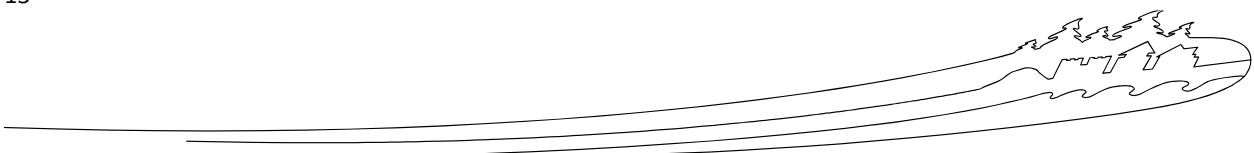
NOTE: If the project is identified as likely to cause significant adverse effects, CEAA 2012 prohibits approval of the project unless the Governor in Council (Cabinet) determines that the effects are justified in the circumstances. A finding of significant effects therefore means the project CANNOT go ahead as proposed.

FOR SARA REQUIREMENTS:

- ☒ There are no residual adverse effects to species at risk and therefore the SARA-Compliant Authorization Decision Tool was not required

OR, the SARA-Compliant Authorization Decision Tool ([Appendix 2](#)) was used and determined:

- ☐ There is no contravention of SARA prohibitions
- ☐ Project activities contravene a SARA prohibition and CAN be authorized under SARA
- ☐ Project activities contravene a SARA prohibition and CANNOT be authorized





13. RECOMMENDATION AND APPROVAL

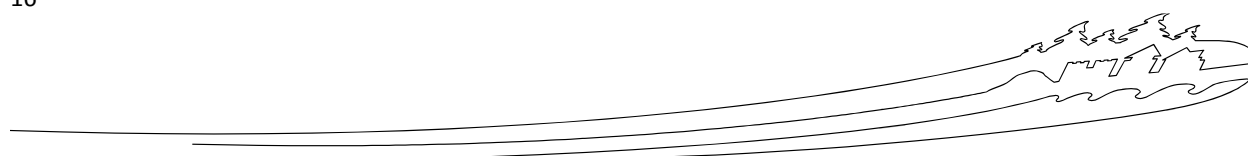
(Add additional blocks as required)

Prepared by: EIA author (name & position): Lori Parker Environmental Assessment Scientist Elk Island National Park of Canada	Date: 30/06/2017
Recommended by: Functional manager of the project (name): Mark McIntyre	Date: 30/06/2017
Approval signature: Name & position (<i>Field Unit Superintendent, Director of a Waterway</i>):	Date:

14. ATTACHMENTS

14.1. BMPS

14.2. Other (e.g., project area diagrams, sensitive area maps, project execution plan, previous analysis)





EINP - Living Waters Boardwalk Improvement Project

Aaron Osicki to: Lori Parker

Co: Brendan Carmichael, Gwyn Langemann, Bill Perry, Virginia Sheehan

06/10/2016 08:42 PM

I li Lori,

In reviewing and assessing the work proposed for the Living Waters Boardwalk Improvement project, we have no archaeological concerns regarding this project. Should there be any future changes to the project footprint/scops of ground disturbance, please notify us as this may affect our review and assessment of the project. In addition, the Accidental Finds protocol should be followed during construction (see below).

Rational:

- Minimal changes to the tie-in locations/current alignment (the tie-in locations being the areas of highest archaeological potential - moderate potential).
- Existing tie-in locations have already been significantly impacted with trail/boardwalk construction (including vegetation clearing, trail grading, cement footing installation at tie-in, and asphalt paving of some of the trail).
- Realignment areas occur in inundated areas (i.e. low archaeological potential).
- No Known sites are to be impacted by the proposed project (the nearest site is 599R/505R, located +50m NNE).

Please feel free to get in touch with me if you have any additional questions or concerns, or require any additional detail.

Cheers,
Aaron

Accidental Finds

In the event that items are found when archaeologists or cultural resource managers are not present on site during construction activities.

There may be cultural resources present in the project area that have not yet been discovered. If staff observe any significant cultural resources while working, they should stop work in the immediate area, and contact the project manager, or a Parks Canada archaeologist (contacts listed below), to discuss any protective measures that might be needed. Significant resources that could be considered grounds for work stoppage include, but are not limited to, human remains, concentrations of artifacts and/or identifiable subsurface features. In all cases, cultural managers must be made aware of the finds.

Contacts

Bill Perry
Archaeologist, Archaeology and History Branch,
Heritage Conservation and Commemoration Directorate
Parks Canada, Calgary
Bill.perry@pc.gc.ca
Tel 403-221-7989
Cell 403-701-5614

Aaron Osicki
Archaeologist, Archaeology and History Branch,
Heritage Conservation and Commemoration Directorate
Parks Canada, Calgary
Aaron.Osicki@pc.gc.ca
Tel 403-292-4662
Cell 403-689-3997

Attachment 2: Archaeological Assessment Recommendation.





15. NATIONAL IMPACT ASSESSMENT TRACKING SYSTEM

- ☐ Project registered in [tracking system](#)
- ☒ Not yet registered (CEAA 2012 requires PCA submit a report to Parliament annually. EIAs must be entered in the tracking system **by the end of April** to enable reporting.

*****Ensure that all required mitigation measures and conditions (e.g. follow-up monitoring requirements) are included in project permits and authorizations*****

16. REFERENCES

Environment and Climate Change Canada. *Reducing Risk to Migratory Birds*. Accessed May 2017.

Department of Fisheries and Oceans Canada. *Self-Assessment Criteria*. Accessed May 2017.

Department of Fisheries and Oceans Canada. *Measures to Avoid Causing Harm to Fish and Fish Habitat*. Accessed May 2017.

Parks Canada. 2013. *Cultural Resource Management Policy*.

Parks Canada. 2010. *Standards and Guidelines for the Conservation of Historic Places in Canada: A Federal, Provincial and Territorial Collaboration*. Second edition.

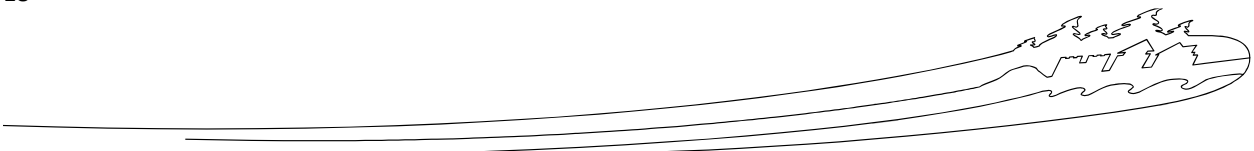
Parks Canada. 2009. *Parks Canada Guidelines for the Use, Handling and Disposal of Treated Wood*.

Parks Canada. 2016. *Campground and Day Use Area Maintenance and Modification National Best Management Practices*.

Parks Canada 2017. *Works in and Around WaterBodies National Best Management Practices (DRAFT)*.

Northern Prairies Field Unit. 2014. *General Projects Best Management Practices*.

Last Update: June 18, 2017.

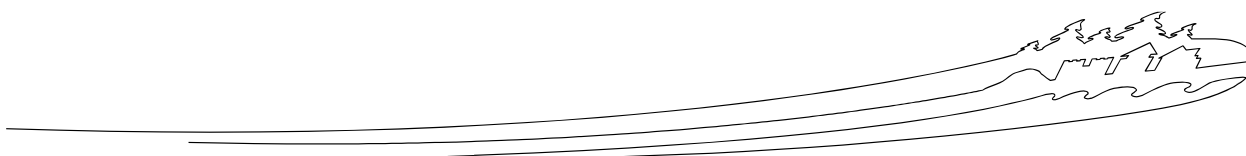




Appendix 1 : Effects Identification Matrix (optional)

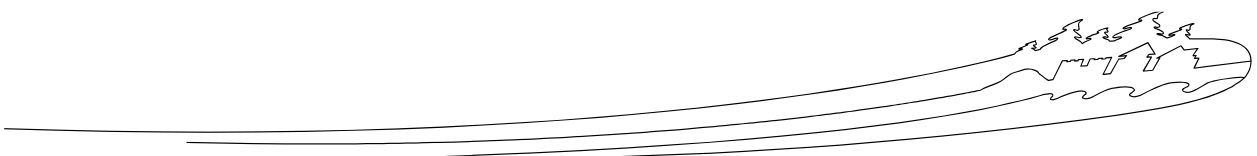
Section A focuses on direct effects of the project and **Section B** on indirect effects that are caused by changes to the environment.

A. Direct Effects								
			Valued components potentially directly affected by the proposed project					
			Natural Resources				Cultural Resources	
			Air	Soil & landforms	Water (surface, ground, crossings, etc.)	Flora (specify, including SAR)	Fauna (specify, including SAR)	Cultural resource sites
	Phase	Examples of Associated Activities						
Project Components	Preparation / Construction / Operation / Decommissioning	Supply and storage of materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Burning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Clearing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Demolition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Disposal of waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Blasting/ Drilling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Dredging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Excavation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Grading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Backfilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of machinery	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Transport of materials/ equipment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Building of fire breaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of Chemicals	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Set up of temporary facilities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





A. Direct effects continued								
			Valued components potentially affected by the proposed project					
			Natural Resources				Cultural Resources	
			Air	Soil & landforms	Water (surface, ground, crossings, etc.)	Flora (specify, including SAR)	Fauna (specify, including SAR)	Cultural resource sites
Project Components	Phase	Examples of Associated Activities						
	Preparation / Construction / Operation / Decommissioning	Waste disposal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Wastewater disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use/Removal of temporary facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of Chemicals	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Active fire stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Prescribed burn cleanup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Planting	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Culling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Vehicle Traffic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

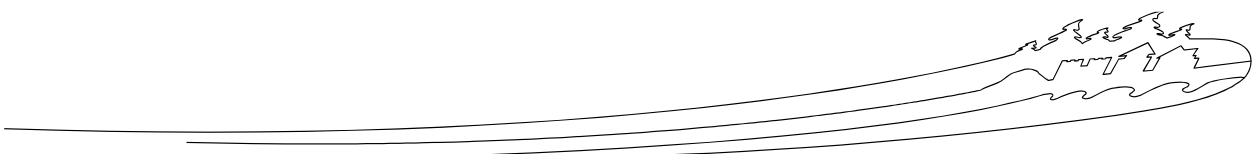




Section B of the matrix should be used to identify potential indirect effects that may result from impacts of the project to components of the environment you have identified on the preceding pages (see Section A - direct effects to natural resources). Consideration of indirect effects is required under CEAA 2012 Sections 5(1)(c) and 5(2)(b), and by the PCA mandate. For example:

- if the proposed project could lead to adverse effects to water quality and quantity, could this then effect the quantity and quality of water resources (e.g. potable water) used by an Aboriginal community?
- could there also be adverse socio-economic effects to a community that relies on recreational fishing tourism?
- could changes to the environment (e.g. digging, clearing) affect visitor access, opportunities, or safety?

B. Indirect Effects (all phases)							
		Impacts as a result of changes to the environment					
		With respect to non-Aboriginal peoples:	With respect to Aboriginal peoples:		With respect to visitor experience		
		Health and socio-economic conditions	Health & socio-economic conditions	Current use of lands and resources for traditional purposes	Access & services	Viewscapes, and positive National Park experience	Safety
Phase	Natural resource components affected by the project						
Preparation /construction operation/implementation/decommissioning	Could impacts to <u>air</u> lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>soils and landforms</u> lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Could impacts to <u>water</u> (e.g. surface, ground water and water crossings) lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Could impacts to <u>flora</u> (including SAR) lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>fauna</u> (including SAR) lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Appendix 2: SARA-Compliant Authorization Decision Tool

- This tool is for use when the BIA has determined that project activities will lead to residual adverse effects to THR, EN, or EX species at risk (i.e. even after mitigation measures are applied, there are effects to individuals, residences or critical habitat of THR, EN or EX species at risk).
- This tool provides a structured process to determine if a SARA authorization is required, if it can be issued, and how to issue it.
- Guidance for each question is provided within the form and should be deleted from the final version.
- Consultation with a representative of the [Species Conservation and Management \(SCM\)](#) team is encouraged to help ensure consistent application of this tool.

Part A – Does a SARA authorization need to be considered for this activity?
1. Will the activity lead to residual adverse effects that contravene a SARA prohibition for a listed endangered (En), threatened (Th) or extirpated (Ex) species at risk, its residence or its critical habitat? (Clearly indicate if the activity will affect one/or more listed species).
SARA prohibitions: s.32 - Cannot: kill, harm, harass, capture, or take individuals; possess, collect, buy, sell or trade individuals or parts of individuals; s.33 – Cannot damage or destroy residences; s.58 – Cannot destroy any part of critical habitat; s.80 - Cannot carry out an activity that is prohibited under a protection order.
<input type="checkbox"/> Yes. Residual adverse effects of the activity will contravene a SARA prohibition. <input checked="" type="checkbox"/> No. A SARA authorization is not required.
Document how activities will contravene a SARA prohibition. Then continue to Question 2 .

Part D – SARA Authorization Decision
Select the appropriate answer and continue to Part E.
<input checked="" type="checkbox"/> This activity does not require a SARA authorization at this time, as indicated in Question 1.

Part E – SARA Authorization Recommendation and Approval	
Prepared by: Lori Parker, Environmental Assessment Scientist	Date: 2017-05-20
Recommended by: Lori Parker, Environmental Assessment Scientist	Date: 2017-05-20
Decision Approval	
Name & Position (<i>FUS/Director of a Waterway, or Delegate</i>):	
Signature:	Date: YYYY-MM-DD

