



Preapproved Routine Impact Assessment For Manual Excavations and Ground Disturbances

Sable Island National Park Reserve
Mainland Nova Scotia Field Unit
August 2021

Manual Excavations and Ground Disturbances on Sable Island National Park Reserve

Preapproved 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 as a manager of federal lands under the *Impact Assessment Act* (IAA).

This PRIA is intended to provide guidance on appropriate mitigations when small disturbances to the surface vegetation and substrate are required at Sable Island National Park Reserve. It is recognized that established vegetation is critical to the integrity of the sand substrate and disturbance of the surface vegetation and root layers can leave areas vulnerable to erosion. Additionally, due to the dynamic properties of the sand environment and the long history of human habitation on the island there is also the potential to encounter cultural artefacts when digging. It is recognized that the ongoing operation of the station will result in the disturbance of the ground and removal of established vegetation, which may be unavoidable.

This PRIA is applicable to both Parks Canada employees and contractors working for PCA. Prior to the commencement of work, a project description will be provided to the Field Unit Impact Assessment Officer for review and recommendation to the Resource Conservation Manager. The review will confirm the applicability of this PRIA to the proposed work and the need for additional mitigations. The SINPR Operations Manager and Ecologist will be consulted. Following completion of an IA Pathway Decision and FUS sign-off, work may proceed. The Impact Assessment Officer will document the use of this PRIA for the proposed work in both the Field Unit and National IA tracking systems. Verification of the use of required mitigation measures may be delegated by the IAO to on-island PCA staff, given the remoteness of SINPR.

Scope of Application:

This PRIA covers minor excavations carried out manually, including the following types of activities:

- a) Digging small holes (e.g., fence maintenance or signage)

- b) Removing built up sand around infrastructure (e.g., septic tanks, pull-pits, water and electrical utilities, buildings)
- c) Removing built up sand or vegetation around waste materials or debris (e.g., for remediation)
- d) Excavations for privies or waste water pits
- e) Installing fence posts

Conditions and Exceptions:

This PRIA does not cover:

- Excavations which exceed 3 m³ or a surface area exceeding 5 m² of material removed from one location. Total excavations should not exceed 12 m³ or 20 m² for a project.
- Excavations where contamination impacted soil and/or groundwater will be encountered.
- Excavations that require the use of machinery powered by an internal combustion engine.
- Excavations near or within the footprint of known cultural resources (see maps in Cultural Resources Inventory for Sable Island).
- Excavations occurring in or within 5 m of a freshwater pond.
- Excavations within 50m of the perimeter of a seabird colony from May 1st to August 31st (See attached map).
- Excavations within Roseate tern critical habitat at East Light (See map in Appendix).
- Excavations within Sable Island Sweat Bee critical habitat (See map in Appendix).
- Excavations within potential Sable Island Sweat Bee nesting habitat, identified in the Appendix, unless a survey has been conducted within the preceding 12 months and in which no individuals or nests were located.
- The project results in residual adverse effects on an individual, a residence, or the critical habitat (see maps at Appendix) of a listed species at risk (endangered, threatened, or extirpated status) under the *Species at Risk Act*.

Approved geographic areas of application:

This PRIA applies to all of Sable Island National Park Reserve.

Valued Components and Effects Analysis

Freshwater:

- May result in exposure of the groundwater lens, making it more susceptible to disturbance or contamination

Soil and Landforms:

- Disruption to the sand and organic layers impacting key soil-forming processes
- Exposure of subsurface contaminants in groundwater or soil

Flora and Fauna:

- Damage to and removal of vegetation, disturbance of adjacent natural areas, root exposure and physiological stress.
- Wildlife sensory disturbance causing displacement/habitat avoidance, including species at risk.
- Damage to flora through trampling or covering with sand.
- Injury to horses or seals from open excavations
- Potential disturbance to nesting birds or bird colonies

Cultural Resources:

- Potential to discover or uncover cultural or archeological artifacts
- Impacts to archaeological resources (known or potential) from displacement or destruction, resulting in loss of heritage value

Parks Canada Specialists

Impact Assessment Advice:

If there are any questions on how to apply this PRIA, consult the Mainland Nova Scotia Field Unit's Impact Assessment Officer. The SINPR Operations Coordinator and Park Ecologist are available to provide additional site specific information.

Cultural Resource Advice:

If there is any uncertainty or questions regarding potential adverse effects to known or potential cultural resources, consult the Mainland Nova Scotia Field Unit's Cultural Resource Manager. These queries should be initiated as early as possible in the project cycle, preferably at the project description stage. For additional information, refer to the current version of the Sable Island Cultural Resources Inventory.

Mitigation Measures

General:

1. All work must be performed in accordance with the ordinances and laws set out in the *Canada National Parks Act* and Regulations and any other applicable legislation.
2. Follow key timing windows for natural resources and visitation as directed by Parks Canada (Table 1).
3. Before digging, ensure that the area is clear of known (or potential) engineering works (e.g., electrical, plumbing). Consult the SINPR Operations Manager in advance of digging. Exercise caution when working in areas that have high likelihood of buried infrastructure.

Groundwater

4. Excavations have the potential to intersect shallow groundwater lenses, which are variable in their location and depth below the surface. For excavations >1.0 m in depth, contact the Park Ecologist and Operations Manager in advance for input. When digging,

be cognizant that you may be near the subsurface freshwater. If freshwater is encountered, stop work and contact the IAO and / or Project Manager for direction.

Soils and Landforms

5. When digging is completed, return sand to the location it came from or remove and use as fill in another location; do not cover existing vegetation.
6. Upon discovery of obvious or potential surface or sub-surface contamination, stop work immediately. Secure the site (i.e., prevent injury or entrapment hazard) and notify the Operations Coordinator or Operations Manager immediately.

Flora and Fauna:

7. Site will be evaluated before work commences by SINPR Ecologist (or delegate) for flora and fauna, in general, and Species at Risk, in particular. If species are identified which may be impacted by the proposed activity, then work will be halted and the Park Ecologist contacted.
8. Protect nearby vegetation by placing removed vegetation or soil/sand onto a tarp or wheelbarrow and not directly onto surrounding vegetation.
9. Vegetation (i.e., Marram grass, mixed vegetation) should be removed with a shovel keeping as much of the root system intact by removing as much contiguous vegetation and associated soil as possible. Protect vegetation from drying out (cover and water, or temporarily plant vegetation in an area of bare sand).
10. Reinstate the soil and vegetation to its pre-disturbance location and orientation. Promptly transplant living vegetation and organic matter after removal into a nearby storage area or similar habitat requiring re-vegetation.
11. Outside of nesting season, excavation sites in known seabird colonies will be returned to original condition as much as possible.
12. Large excavations which pose a risk of entrapment or injury to seals (during Dec – Feb) or to horses must either be covered, fenced off, or not left unattended until they are made safe.
13. Depending on the scale of the project, time the work to coincide with periods of vegetative growth to minimize effects of the disturbance (Table 1). For example, in the early spring disturbed areas should rapidly vegetate with new marram grass whereas digging in late fall may result in the area remaining bare and susceptible to wind erosion throughout the winter.
14. Disturbed marram grass areas may be replanted with grass collected from a suitable donor location after discussion with Park Ecologist.

Species at Risk:

15. Digging work will not take place inside of tern colonies when birds are present (May 1st to August 31st).
16. Sable Island Sweat Bee (SISB)
 - a. The SINPR Ecologist will be consulted in advance of digging to evaluate the potential of the site for SISB (see Figure 3 for photo examples of potential nesting habitat).
 - b. If any nesting activity is observed, digging shall not take place.

- c. If potential nesting habitat is identified, alternative locations will be identified. If no alternative locations are possible, digging and all other activities (e.g. foot traffic, equipment storage) within the potential nesting habitat will be minimized. If a nest is inadvertently disturbed, stop work immediately and contact the Park Ecologist.

Cultural Resources:

17. If cultural resources (e.g. artifacts, structural features, distinct or unusual soil deposits that suggest past human activity) are revealed during operations, the discovery must be reported to the Sable Island Operations Coordinator immediately and shall not be disturbed prior to an archaeological assessment of their nature and significance. The Sable Island Operations Coordinator shall contact the Field Unit Cultural Resources Manager and the Terrestrial Archaeology unit immediately.
18. The following information shall be sent to the CRM Manager. This data is needed to perform an archaeological assessment:
 - a. Photographs of the cultural materials in-situ (in place) – including both close-up images of the materials and broader location images.
 - b. GPS coordinates of the find location (point, line, or polygon).
 - c. Description of how and when the cultural materials were found, the extent to which they have been impacted by operations activity, and the measures taken to protect the cultural materials following discovery.
19. The archaeological assessment will determine the significance of the find and recommend mitigation actions relative to its heritage value. In some cases, cultural materials may not be disturbed due to their heritage value and the project will require modification to avoid the cultural materials (e.g. a building foundation). In other cases, moveable cultural materials (e.g. scattered artifacts) may be recorded and removed thereby allowing operation to continue without need of modification. The recommended mitigation measures will vary depending on the extent and types of cultural materials found and site-specific variables.

Visitor Safety and Experience:

20. For excavations which pose a risk to public safety (i.e., deep enough to cause injury), pylons, hazard tape, or other warnings or notifications will be used to mark the area.
21. Operations staff will discuss ongoing projects with visitors if excavations are prominent enough to attract attention.

Table 1: Timing Windows table for impacts on fauna or visitors for digging

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
SI Sweat Bee	Inactive				Active and foraging (mid May to mid October) ¹						Inactive	
Birds	Small gull roosts at various locations			Nesting terns & gulls (in limited areas)				Large roosts on Beach		No nesting activity		
Seals	Grey Seal Birth and Weaning	Haul outs are present var. locations on beach			Harbour seals pup on beach		Haul outs are present var. locations on beach				Grey Seal B & W	
Horses	Potential presence of horses consistent throughout year											
Visitors	No or limited visitors				Visitor Season (typically weekends only)						No or limited visitors	
Vegetation	No growth			Growing season						No growth		

¹ Parks Canada Agency. 2020. Recovery Strategy and Action Plan for the Sable Island Sweat Bee (*Lasioglossum sablense*) in Canada [Draft]. *Species at Risk Act* Recovery Strategy Series. Parks Canada Agency, Ottawa. xx + XX pp.

Approval

Original document approved and signed by Eric Nielsen, Field Unit Superintendent, on August 24, 2021.

Appendix

Figure 1: SINPR overview map showing locations with Cultural Resources significance.

Figure 2: Known Sable Island Sweat Bee nesting locations at Main Station.

Figure 3: Sable Island Sweat Bee nesting preferences.

Figure 4: Roseate Tern critical habitat at SINPR Main Station



To request a copy of this document with images, please contact ia-ei@pc.gc.ca.

Figure 1: Known areas containing or expected to contain cultural resources on Sable Island National Park Reserve

Figure 2: Known Sable Island Sweat Bee nesting locations at Main Station, as of 2021 (nesting locations may be subject to change).

Figure 3: Examples of Sable Island Sweat Bee nesting preferences.

Figure 4: Roseate Tern critical habitat at SINPR Main Station, encompassing the tern nesting area (yellow polygon) plus a 200m buffer (green shaded area). Note – tern nesting habitat may change over time. When in doubt consult the SINPR Ecologist.