

**A**

**CONSERVATION PLAN**

**FOR**

**SABLE ISLAND**

**Sable Island Preservation Trust**  
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# A CONSERVATION PLAN FOR SABLE ISLAND

## I. Introduction

In 1998, Environment Canada completed a Conservation Strategy for Sable Island and the final document was approved and signed by representatives of both the federal and provincial governments. This strategy had been developed in consultation with the broad range of island users, and with individuals and organizations knowledgeable and interested in island issues.

The Conservation Strategy enumerated the physical and biological characteristics of the island, and discussed the effect of human activities on that environment.

Two core reasons were provided for the development of the Strategy:

- a. to preserve the island's biological diversity, and
- b. to manage and minimize the impacts of human use.

This document is intended to be a companion to the Conservation Strategy – reinforcing its recommendations, but also adding additional detail and specifying some concrete measures.

This plan is not intended to be the final word. In fact, it is essential that this plan be reviewed and extended at periodic intervals – at least every five years.

However, for this initial step, the focus is on the priority conservation concerns as identified in the Conservation Strategy. By focusing on simple steps and a clear direction, it is hoped that well-defined progress can be made, and provide guidance for future activities and policies.

## II. Strategies

The Conservation Strategy was organized around each facet of the island ecosystem, and as a consequence repeatedly referred to human impacts and mitigation measures. Many of the recommendations dealt with human activities and reflect the fact that past human activities may have damaged to the island ecosystem.

This document is organized a little differently from the Conservation Strategy, and mitigation and control of human activities is relegated to one section.

Some of these recommendations require significant funding, but others are simple formalization of policy.

### **III. Physical Environment**

#### **Dunescape**

Sable Island is, fundamentally, a sand dune. The island is currently about 45 km long, but it experiences considerable structural change due to natural forces such as the action of the wind and waves. Erosional activities at one part of the island are the source of depositional activities at others. These are large natural cycles, and as an example, the Conservation Strategy points out that the major long-term natural threat to Sable Island appears to be the steady rise in sea level relative to the island's shoreline since the end of the last glaciation, about 10,000 years ago.

Human activities have undoubtedly had a role in influencing some island structural changes.

Recommendations:

1. A program should be implemented to catalog and monitor erosion in areas of human activity, for example, on roadways and around buildings.
2. An erosion control program should be implemented to deal with past anthropogenic erosion.

#### **Hydrology**

Long-term precipitation has created a lens-shaped body of fresh water underlying Sable Island, which floats on top of the salt water due to the difference in specific gravity. Where the fresh water lens intersects the ground surface, there are freshwater ponds.

The island sand is highly permeable, so this freshwater table can be affected by saltwater intrusions and contamination by toxic substances.

Recommendation:

3. Monitoring wells should be instituted to provide continued data on the freshwater table.

### **IV. Flora of Sable Island**

More than 170 species of plant have been identified on Sable Island, with around 25% of the species introduced by humans.

The island's vegetation stabilizes the island by anchoring the sand in place. From salt-water tolerant species found on the island's margins, to more fragile species in the island's center, they all act to stabilize the island's topography.

There have been changes in the extent and nature of the vegetative cover, which is the essential component of island stability and accordingly also the most important determinant of the island's future.

Recommendations:

4. Air-photo mosaics should be constructed every decade to monitor island-wide changes in vegetation patterns.
5. Periodic vegetation surveys should be encouraged, using the methodology of Catling et.al. (1984)
6. Habitats of significant plant species (particularly endemics or Nova Scotia rarities) should be accurately mapped.

## **V. Fauna of Sable Island**

The island's fauna, the horses, seals, and birds, have been the object of scientific research for many years. With the exception of the two seal species, the resident populations have generally been stable for decades.

- The wild horses have become a symbol of Sable Island, and are the most widely known component of the island.
- The Grey Seal breeding colonies on Sable are the largest in the world.
- The famed Ipswich Sparrow breeds only on Sable Island, and the tern colonies on Sable are a significant component of the Atlantic regional population.

Populations of fish and insects have also been studied, but less extensively.

The Conservation Strategy notes that a number of species have become extinct on Sable Island, but recommends that no re-introductions take place until immediate conservation concerns have been addressed, and only following adequate research.

Recommendations:

7. Scientific research activities should be encouraged.
8. A periodic census should be conducted of all the major island species. Census techniques should be standardized to enable comparisons to be made in future years.
9. Updated maps of migratory bird nesting areas should be maintained.
10. Rare and endemic invertebrate populations should be documented.
11. Habitat enhancement measures could be considered for the tern-breeding areas, with particular emphasis on the East Light colony, the largest and most stable of the island's breeding areas.

## VI. Human Activities

Sable Island has been used by humans for more than 400 years, and has had a continuous human presence for more than 250 years. The Conservation Strategy recommends that a continuous human presence be maintained on the island to ensure ongoing protection for the island ecosystem.

Early human activities had a significant destructive effect on the island's vegetation, wildlife, and stability. While the current human presence is less damaging, the signs of past anthropogenic damage and neglect are widespread.

In recent years, the amount of human activity on the island has decreased, in part due to the implementation of fees to recover support costs. The pattern and scale of future human activities are uncertain.

The immediate implementation of basic environmental policies will serve to prevent further damage.

### Recommendations:

#### (Terrain and Hydrology)

12. No construction that interferes with sand movement should be permitted unless as part of an authorized terrain management program.
13. There must be strict enforcement of storage and handling regulations for toxic substances such as fuel. The spill reporting procedures in place at the station should be extended to all island operators.
14. Sewage disposal techniques appropriate to the volume and location of the wastes must be maintained.
15. Garbage must be returned to the mainland, or with authorization, may be accepted for disposal at the station.
16. Water pumping must be constrained to levels supportable by the characteristics of the freshwater lens.
17. To minimize the possibility of salt-water intrusion on the fresh water lens through lateral migration, wells should be as close to the island's center as possible.
18. No wells should be placed near areas susceptible to ocean flooding.
19. In general, no foreign substance should be introduced into the water table.

#### (Flora)

20. Surface excavations should be prohibited unless authorized, and then only by following accepted practices to ensure the island's topography is not destabilized.
21. No activities should be permitted in areas vulnerable to destabilization by wind, such as dune faces or the base of dunes.

22. If monitoring reveals anthropogenic destabilization, where possible, the group or agency responsible for the damage should be required to fund the repairs.
23. Plant specimens should not be removed without authorization.
24. The introduction of plants should be prohibited
25. Activities that have the potential to damage the island's vegetation cover should be prohibited. This includes a prohibition on all camping and open fires.
26. Re-introductions of extirpated flora and fauna should not be considered until immediate conservation concerns have been satisfied.

(Fauna)

27. No species should be introduced to the island.
28. Activities that disturb the wildlife should be prohibited.
  - a. Horses should not be chased, approached, offered food, or touched.
  - b. Seals should not be approached or disturbed during breeding or while hauled out on the beach, except as authorized by the federal Department of Fisheries.
  - c. Bird colonies should not be approached. Activities that disturb birds and force them to leave their nests should be avoided, except as authorized by the Canadian Wildlife Service. This includes walking in large groups over vegetated terrain
29. Aircraft over-flights should be restricted to altitudes of 300m and above. Aircraft landing or taking off from the island should minimize the time spent at low altitudes. To further avoid disturbing the wildlife, aircraft should avoid sharp turns over the island.
30. Where invasive research on wildlife is to be conducted, there should be a formal protocol reviewed by the appropriate agencies.

(Historical)

31. Unauthorized treasure hunting or removal of artifacts from Sable Island should be prohibited.

## **Vehicles**

Vehicle use on Sable has increased considerably over the decades. Where once the vehicle population consisted of four or five tractors, now there are almost 30 vehicles, 70% of which are all-terrain vehicles.

This vehicle use has led to some problems:

- There have been instances where horses, seals, and birds have been hit by vehicles.
- Terrain has been damaged by vehicle traffic over the dunes
- Vehicles have been used in a manner that disturbs the wildlife.

Recommendations:

32. Markers and signs should be installed to ensure all users know the approved roads. The current system of marker posts at approved island crossings should be expanded.
33. Vehicle travel should be restricted to the open beaches or over the established roads. No vehicle traffic should be permitted on the dunes, vegetated areas, dune slopes, or in dune blowouts. If vehicles are required to travel over dunes or vegetation, a formal vehicle protocol must be submitted for approval, and the project should have an environmental monitor.
34. Wildlife should have the right-of-way, and vehicles should give them a wide berth.
35. Vehicles must be driven with care and attention at all times.
36. To reduce the risk of collisions with wildlife, vehicle traffic on inland roads should obey a speed limit of 20 km/hour

### **Visitors and Tourists on Sable Island**

Every year the island receives a number of visitors supporting ongoing island operations, research or other projects. This includes civil servants, researchers, and contractors.

Recommendations.

37. Only authorized visitors should be permitted on Sable Island.
38. Environmental briefing documents should be developed for issue to all island visitors.
39. All visitors to the island should be required to acknowledge their understanding of the environmental regulations.
40. The activities of all visitors should be monitored to ensure compliance with regulations.

Tourism has major implications for the future of the island. There have been many proposals to conduct tourism activities on Sable, but all have faced serious logistical difficulties. Without a framework in place to ensure the island was protected, commercial tourism has been prohibited.

The Conservation Strategy points out that financial viability is not sufficient to justify tourist activities to proceed, but instead tourism should be assessed by its effect on the island. While tourism can serve educational needs, and potentially provide funds for the island, including conservation projects, the Conservation Strategy emphasizes that tourism *per se* is unnecessary from a conservation perspective.

The following recommendations do not deal with the business aspects of tourism on the island, for which a separate Tourism Policy will be needed, and which is currently under development.

The Conservation Strategy recommends that tourism development should proceed at a slow pace, with tight controls, and should be liberalized only as the assessment of impacts becomes clearer.

For this conservation plan, it is recommended that tourism activities should be limited in the following manner.

Recommendations:

41. The island's Fee Schedule should be modified to include fees for logistical support of tourism activities.
42. Tour operators must provide an environmental assessment of their activities, describing their environmental procedures, safety procedures, and logistics. Tourism licenses and other financial issues must be negotiated well in advance, and on an annual basis.
43. Tourist visits must be scheduled in advance, and tourists must be met on arrival by island staff.
44. To ensure compliance with the regulations, tourists should be monitored and escorted by island staff.
45. Boardwalks or marked paths should be established through areas of interest.
46. To minimize disturbance to the wildlife and fundamental island operations, tourism activities should be
  - Restricted to designated portions of the island.
  - Restricted to the months of August through October
  - Limited in intensity to no more than 24 persons on the island at one time
  - Limited in scope to no more than 500 persons per year.
47. Where overnight stays are anticipated, the number of tourists should be governed by station operational and infrastructure requirements, which currently means a maximum of 6 visitors. In conjunction with the limits on overall numbers of persons, this will ensure minimum effect on the island's infrastructure.

## **VII. Legal administration**

Currently, there is legislated protection for the wild horses under the Canada Shipping Act, and for the birds under the Migratory Bird Act. The seals have de facto protection by virtue of the island's management by the Department of Fisheries and Oceans. Island access and human activities are regulated under the Sable Island Regulations of the Canada Shipping Act.

The Conservation Strategy discusses investigation of a more formal legal framework to protect the island.

Recommendations:

48. The benefits and potential of obtaining protection for the island through joint federal-provincial co-designation should be investigated.
49. An island manager should be designated to represent government authority on the island. This person should have enforcement officer status, and have the authority to enforce environmental regulations on Sable Island. To ensure compliance with environmental policies, a system of fines and penalties must be established.
50. Investigate further the value and feasibility of obtaining international status such as World Heritage Site designation or Biosphere Reserve Status.
51. The linkage of island management with coastal zone legislation such as the Oceans Act, and Marine Protected Areas such as the Gully, should be investigated.

## **VIII. Final Comment**

This document is only a first step, but these recommendations, if implemented, mark a significant departure from the past.