

Limestone Islands

Park Management Plan



MNR 51643-1

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Cover Photo: Henry Kujala

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Park Superintendent Killbear Provincial Park R. R. #1 Nobel, ON P0G 1G0 Telephone: (705) 342-5492 APPROVAL STATEMENT

I am pleased to approve the **Limestone Islands Provincial Nature Reserve Management Plan** as the official policy for the protection and management of this park. The plan reflects the Ministry of Natural Resources' and Ontario Parks' intent to protect the natural and cultural features of Limestone Islands Provincial Nature Reserve and maintain and develop high quality opportunities for recreation and heritage appreciation for the residents of Ontario and visitors to the Province.

The plan for Limestone Islands Provincial Nature Reserve will be used to guide the operation, management and development of the park over the next 20 years. The plan may be reviewed throughout its life span to address issues or changing conditions, and may be amended as the need arises.

I wish to extend my sincere thanks to all those who participated in the public consultation process.

Yours truly,	
Adair Ireland-Smith	Date
Managing Director	Suit
Ontario Parks	

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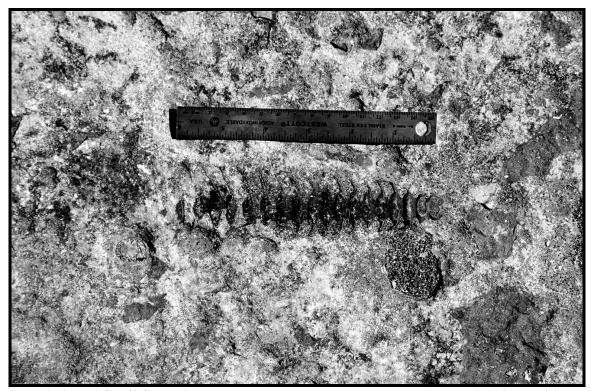
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Caspian Terns and Ring-Billed Gulls

Photo: Jim Gardner



Cephalopod fossil formation

Photo: Christina Heidorn

STATEMENT OF ENVIRONMENTAL VALUES

The Ministry of Natural Resources' Statement of Environmental Values (SEV) was prepared in accordance with the Environmental Bill of Rights (EBR). It describes how the purposes of the EBR are to be considered whenever decisions are made which might significantly affect environment. The primary purpose of the EBR is "to protect, conserve and, where reasonable, restore the integrity of the Ministry's environment." From the perspective, that broad statement of purpose translates into four objectives in its SEV:

- to ensure the long-term health of ecosystems by protecting and conserving our valuable soil, aquatic resources, forest and wildlife resources as well as their biological foundations;
- to ensure the continuing availability of natural resources for the long-term benefit of the people of Ontario;
- to protect natural heritage and biological features of provincial significance; and
- to protect human life, the resource base and physical property from the threats of forest fires, floods and erosion

The Ministry's SEV has been considered throughout the preparation of this management plan review. The management plan for Limestone Islands Provincial Nature Reserve will further the objectives of managing Ontario's resources on an ecologically sustainable basis.

1.0 INTRODUCTION

Limestone Islands Provincial Nature Reserve is located in Georgian Bay, approximately 40 kilometres west of Parry Sound (Figure 1). The Limestone Islands are the most remote of Georgian Bay's 30,000 Islands. The islands, composed of limestone bedrock, are unique compared to the others in the 30,000 Islands chain, which are typified by barren granite bedrock and wind-swept pines. The nature reserve boundary is defined as 400 metres from the natural water's edge of each island. encompassing a total area of approximately 450 hectares (Figure 2).

The two main islands are low, flat lying shelves dominated by level expanses of barren, pitted limestone, with the interior of the islands being largely cobble meadow.

Limestone Islands Provincial Nature Reserve supports a rich natural and cultural heritage. Many of the natural resources are both regionally and provincially significant. The concentration of the significant earth and life science features on such a small and isolated landmass adds greatly to the value of the site and Ecodistrict 5E-7.

Some of the most significant features in Limestone Islands Provincial Nature Reserve are the nesting colonial waterbirds. These include such species as the Caspian Tern, Common Tern, Ring-Billed Gull, Herring Gull, Double Crested Cormorant and Great Black-backed Gull. The occurrence of Great Black-backed Gulls and Little Gulls on the islands are considered to be very rare in Ontario.

Approximately 165 species of vascular plants have been recorded in the nature reserve, none of which are considered to be

KEILEUTED Islands Primary Road Provincial Park/Reserve Boundary Legend Secondary Road Tertiary Road This map was produced by: Ontario Parks, Central Zone ⊗ Ontario Limestone

Figure 1: Regional Location of Limestone Islands Provincial Nature Reserve

South Limestone Island Wallis Rocks **North Limestone** Island Legend PARKS Note: This map is illustrative only.
Do not rely on it as being a precise
indicator of routes, locations of
features, nor as a guide to navigation. Access Point Nature Reserve Boundary This map was produced by: Ontario Parks, Central Zone ⊗ Ontario Limeston Islands

Figure 2: Limestone Islands Provincial Nature Reserve Boundary

rare. Approximately 19% of the plant species found in the nature reserve are non-native. For comparison, O'Donnell Point Provincial Nature Reserve, also located in Ecodistrict 5E-7, has fewer than 6% non-native species; many counties in southern Ontario typically have over 30% non-native species. A major fire that occurred on South Limestone Island during the 1970s has significantly influenced the current species composition. In the absence of further major disturbances the percentage of non-native species will likely decline with time.

Limestone Provincial Islands Nature Reserve, containing the only islands to be composed of limestone bedrock in the 30,000 Islands chain, has one of the best exposures of the lower member of the Bobcaygeon Formation in this province. These Middle Ordovician rocks are well exposed as a limestone pavement, revealing in fossil form such early life forms as horn corals, large cephalopods and trilobites, which are rare for the Bobcaygeon Formation. The Wallis Rocks, which are part of the nature reserve, consist of ancient Precambrian granitic bedrock and mark the presence of a geological contact and unconformity.

In addition to the earth and life science features of the islands, cultural resources have also been discovered. Several pits, believed to be the remains of ancient Native camps, and artifacts such as pottery shards and charcoal suggests the islands were used by the Iroquois and may have been used by the Huron when they were dispersed from the mainland in 1649-1650.

The unique and sensitive cultural, earth and life science features of Limestone Islands Provincial Nature Reserve makes this area deserving of Ontario Parks' highest level of protection. Visitation to the nature reserve is

actively discouraged because of the fragile nature of the resources present. Publicity is kept to a minimum and the islands are not treated as a tourist attraction.

2.0 SUMMARY OF SIGNIFICANT ISSUES

2.1 Protection

The most significant issue surrounding Limestone Islands Provincial Nature Reserve is the protection of the nesting colonial waterbirds, earth science features, fossil formations and sites of potential archaeological or cultural importance. Due to the numerous sensitive features of the nature reserve, unauthorized visits to the islands are prohibited.

An interest in the nesting colonial waterbirds is what attracts most visitors to the islands, however colonial species, such as the Caspian Tern, cannot tolerate disturbances while incubating or rearing young chicks. There is a need to maintain natural conditions to allow these colonies to survive.

In addition to human pressures on the tern colonies, the Ring-Billed Gull colonies on the islands are an extra pressure to the breeding terns due to the gull's more aggressive breeding behaviour.

2.2 Access

Access to the islands requires a level of control to avoid negative impact on the nesting colonial waterbirds. Due to the remote location of the islands, it is difficult for Ontario Ministry of Natural Resources staff to monitor use of the islands. Public information is necessary to ensure that the islands are accessed only at appropriate

locations and times in order to minimize impact. In order to control use levels, visitors must receive permission from the superintendent at Killbear Provincial Park prior to visiting the nature reserve.

The Ministry of Natural Resources will visit the nature reserve at least once during the breeding season each year to reinforce access regulations and monitor for unauthorized use.

3.0 CLASSIFICATION

Provincial Parks in Ontario fall into one of six classes: wilderness, nature reserve, historical, natural environment, waterway and recreation. Limestone Islands is classed as a nature reserve.

Nature reserves are areas selected to represent the distinctive natural habitats and landforms of the province. They are protected for educational purposes, as gene pools for research and for their intrinsic values. Permitted activities and management practices are directed solely toward the achievement of protection and heritage appreciation objectives as outlined in regulations and objectives of Ontario Parks.

Limestone Islands is designated as a nature reserve class park due to its many significant and representative features including the nesting colonial waterbirds. This designation provides the highest level of protection for the nature reserve's significant resources.

4.0 GOAL

The goal of Limestone Islands Provincial Nature Reserve is:

To protect the provincially significant natural and cultural heritage of Limestone Islands Provincial Nature Reserve and to provide low environmental impact, educational and research opportunities to benefit present and future generations.

Islands Limestone Provincial Nature Reserve is governed by the *Provincial Parks* Act, Ontario Provincial Parks Policy and Ontario Provincial Parks: Planning and Management Policies (1992). Management of the islands will also conform to other relevant legislation and regulations, including the *Environmental Assessment* Act, Fish and Wildlife Conservation Act and the federal *Migratory Bird Convention Act*.

5.0 OBJECTIVES

There are four distinct objectives providing specific direction for the management of Ontario's parks system: protection, recreation, heritage appreciation and tourism. As a nature reserve class park, Limestone Islands contributes primarily to the protection and heritage appreciation objectives.

5.1 Protection Objective

To protect the significant elements of Limestone Islands Provincial Nature Reserve's natural and cultural landscape.

The protection objective will be accomplished through appropriate zoning, land use controls, research, monitoring and a greater park ecosystem approach to park planning and management. The greater park ecosystem can be defined as the area surrounding Limestone Islands Provincial Nature Reserve from an ecological, social and economic point of view. It is also the

area where most of the impacts affecting the nature reserve originate.

5.1.1 Life Science

Isolation and minimal disturbance are important factors for colonial waterbird nesting success. For these reasons. Limestone Islands Provincial Nature Reserve provides an ideal and important nesting site for Double-crested Cormorants, Ring-billed Gulls, Herring Gulls, Caspian Terns and Common Terns. Little Gulls, Great Black-backed Gulls and Blackcrowned Night Herons have also been recorded as breeding on the islands. There have been over 100 bird species recorded on the Limestone Islands of which 10 are considered to be rare. A total of 19 breeding bird species have been confirmed. Many of the breeding birds are highly sensitive to disturbances, thus the continued protection of these birds is of a high priority for Limestone Islands Provincial Reserve.

Over 165 vascular plant species have been recorded for the nature reserve. None of the plants recorded are considered to be rare. However, 5% of the species typically occur on alvars, which are considered to be globally rare ecosystems.

5.1.2 Earth Science

Limestone Islands Provincial Nature Reserve has considerable earth science significance, due to its bedrock formations and high-quality fossil exposures.

The nature reserve lies at the contact boundary between the limestone basin underlying Lake Huron and the Precambrian Shield that characterizes most of central Georgian Bay. Consequently, North and South Limestone Islands are composed of low, flat limestone bedrock outcrops, while Wallis Rocks consist of Precambrian granitic rocks. The limestone outcrop is rare in Ecodistrict 5E-7 and is distinguishable from the rest of the 30,000 Islands of Georgian Bay, which are comprised of granitic bedrock of the Precambrian-aged Grenville Province.

North and South Limestone Islands feature one of the best exposures of the Middle Ordovician-aged lower member of the Lower Bobcaygeon Formation in the province. This well-exposed limestone pavement is rich in fossils of early life forms, including horn corals, large cephalopods and trilobites.

Several well-preserved cobble beach ridges can be found on North and South Limestone Islands. These are relict beaches of the post Lake Nipissing era, about 2000-5000 years ago, when water levels in Georgian Bay were higher than today. These features are particularly well developed and are uncommon along the shore of Georgian Bay. They are considered to be of provincial significance.

A large, modern, active cobble spit development is located at the northern end of North Limestone Island.

The limestone outcrops are sensitive to fossil collecting, which leaves outcrops scarred and removes valuable natural heritage information. The cobble beaches are composed of unconsolidated material and are therefore very sensitive to foot traffic. Ensuring these features continued protection is of great importance.

5.2 Heritage Appreciation Objective

To provide opportunities for unstructured exploration and appreciation of the natural and cultural heritage of Limestone Islands.

Exploration and appreciation of the islands will be permitted, provided that it is compatible with and complementary to the protection of cultural, earth and life science features. Use of the nature reserve requires prior permission of the superintendent and, subject to their discretion, may require supervision of a ministry representative.

6.0 BOUNDARY

Figure 2 shows the Limestone Islands Provincial Nature Reserve boundary. The boundary of the nature reserve extends 400 meters from the shoreline's natural water's edge out into Georgian Bay and includes the lakebed. The boundary is described under Ontario Regulation 951, Schedule 126, Appendix B. There are no proposed additions to the nature reserve.

7.0 ZONING

Lands and waters contained within nature reserve class parks are zoned in accordance with the significant features and level of protection required. Zoning categories are based on the *Ontario Parks: Planning and Management Policies*, which establish permissible development, use and management practices.

The entire Limestone Islands site is zoned as nature reserve due to the diversity of vegetation communities, the colonial waterbirds and distinctive earth science features. Nature reserve zones provide the highest level of protection for cultural, life and earth science resources.

8.0 RESOURCE STEWARDSHIP POLICIES

Provincial Limestone Islands Nature Reserve will be managed in accordance with the nature reserve class policies as set out in the Ontario Provincial Parks: Planning and Management Policies. Resource stewardship initiatives may be accomplished through partnerships and sponsorships. A resource stewardship plan will be prepared to provide prescriptions for the proper specific stewardship and management of park resources. Regulations under the *Provincial* Parks Act prohibits any person from removing, damaging or defacing any relict, artifact or natural object in a provincial park or nature reserve

8.1 Land and Water Management

The rare and significant landforms and archaeological features occurring within Limestone Islands Provincial Nature Reserve will be periodically monitored to continued undisturbed their ensure existence. As many of these features are sensitive to disturbance, access to these discouraged will be through appropriate signage. The collection of fossils is not allowed

8.2 Vegetation Management

Vegetation management will be directed to the maintenance of an evolving natural succession, unless alternative strategies are desirable.

Rare and significant species that occur within Limestone Islands Provincial Nature Reserve will be protected. Specific enhancement and reintroduction programs may occur as deemed necessary. All rare species will be periodically monitored to ensure their continued existence.

Non-native plant species will not be intentionally introduced into the nature reserve. The control of non-native species and noxious weeds may occur. Native insect infestations and diseases will normally be allowed to progress naturally unless there is a threat to the nature reserve's valued natural features. Chemical control will only occur where no other means of control is feasible.

Although natural and human caused fires may be suppressed in nature reserves where ecologically appropriate, the isolated location of the islands will make fire suppression infeasible in most cases.

8.3 Fisheries Management

Sport fishing and commercial fishing, including commercial bait fishing, will not be permitted within the nature reserve.

8.4 Wildlife Management

Wildlife management will be directed to the maintenance of an evolving natural succession, unless alternative strategies are desirable. Adaptive management strategies may be addressed in a resource stewardship plan.

Efforts to control the breeding of Double-crested Cormorants may occur if evidence suggests that they are having a negative impact on any of the nature reserve's valued features or the water quality of Georgian Bay. Any attempts to control breeding will be consistent with provincial policy.

Rare and significant wildlife species will be periodically monitored to ensure their continued existence within the nature reserve. Where deemed appropriate, monitoring efforts may incorporate the

observations of Naturalist Clubs and Canadian Wildlife Service census data. Protection and recovery strategies as outlined in a resource stewardship plan will be implemented as necessary for the perpetuation of such species.

8.5 Cultural Resources Management

Little information on the cultural resources of the islands is currently available beyond the preliminary reconnaissance investigations. Historical and archaeological study of the area by qualified applicants will be encouraged. Any potential sites or artefacts will not be disturbed until further research is completed.

9.0 OPERATIONS POLICIES

9.1 Natural Heritage Education

The purpose of Natural Heritage Education for the site is to educate potential and actual visitors about the sensitivity of the resources present so that they can be appreciated without being disrupted. An interpretive plan for Limestone Islands Provincial Nature Reserve may be created and updated as necessary.

Any interpretive program(s) will be low profile and designed for low-intensity, self-use. An information leaflet will be developed for the nature reserve containing information on the sensitivity of the site and its unique biotic and abiotic features.

Off-site programming may be used in an effort to educate people about human disturbance to the significant natural features of the islands. Limestone Islands Provincial Nature Reserve may be discussed in interpretive programs at Killbear Provincial Park. Human disturbance and its

effect on the significant natural features of the islands will be highlighted in any interpretive discussion about the nature reserve.

Individuals or groups who inquire about the nature reserve will generally be discouraged from visiting the site and will be given information about the islands' significance and their sensitivity to disturbance through an information leaflet kept on file at Killbear Provincial Park

9.2 Research

Research by universities and other qualified applicants will be encouraged. All research activities will conform to the *Ontario Parks Research and Information Strategy*, and Ontario Parks policies. Permits may also be required under the *Migratory Bird Convention Act*. Prior written permission is required to conduct research. All research will be non-intrusive in order to safeguard protection objectives.

Research may deal with all aspects of scientific study, inventory or surveys of vegetation, geological, fossil, ecological, cultural and recreational resources and processes. Research privileges will be revoked if excessive disturbance occurs. There will be no research conducted during the nesting season, unless the birds themselves are being studied.

Records will be kept of all research occurring on the islands to avoid duplication. Any samples taken from the islands, including fossils, will be stored appropriately and their storage location will be recorded. These samples will be made available to other qualified researchers where appropriate.

9.3 Recreation Management

Recreational use of Limestone Islands Provincial Nature Reserve will be actively discouraged. Recreation on the islands will be limited to low intensity day use activities. after the nesting season, which occurs 1st May and between August Appropriate activities include walking, painting, photography and nature appreciation. Non-permitted activities include, camping, cooking or campfires, and hunting.

Tours supervised by a ministry representative may take place during the later part of the nesting season with superintendent permission. All supervised tours taking place during this time period will be asked to report to Ontario Parks any wildlife findings and the status of park facilities.

Permanent signs on both the North and South Limestone Islands currently identify the Limestone Islands Provincial Nature Reserve and indicate that no hunting or camping is allowed (Figure 3). Additional regulatory signage may be erected as necessary.

Figure 3: Limestone Islands Provincial Nature Reserve Signage South Limestone Island Wallis Rocks North Limestone Island Signs
1) Provincial Park Sign
2) Interpretative Display
3) Nesting Habitat Sign Legend PARKS ONTARIO Access Point Nature Reserve Boundary 250 • This map was produced by: Ontario Parks, Central Zone ⊗ Ontario Limestone Islands

10.0 DEVELOPMENT POLICIES

10.1 Access

Limestone Islands **Provincial** Nature Reserve is accessible only by boat or floatplane. Access will generally only be permitted at the designated access point on the South Limestone Island (Figure 2). Access to North Limestone Island may be permitted for research purposes. Access to either island requires superintendent permission, and will generally be prohibited during the nesting season from May 1st to August 1st.

Low flying aircraft are not permitted over the islands during the nesting season. Floatplane or helicopter landings within the nature reserve will not be permitted except under emergency circumstances.

10.2 Interpretive Facilities

There will be limited interpretive facilities provided within Limestone Islands Provincial Nature Reserve. Interpretive facilities will be restricted to signage, interpretive panels, buoys and/or leaflets. Passive, self-use interpretation requires the use of signage to convey information. An interpetive panel describing the significant features and their sensitivity to disturbance may be erected on the South Island (Figure 3).

10.3 Research Facilities

Permanent research or management facilities will not be permitted within Limestone Islands Provincial Nature Reserve. Temporary facilities may be with the superintendent's erected permission. Clearing of vegetation will not be permitted. Any such facilities should not

disturb the islands' sensitive environment and must be removed upon completion of the research.

10.4 Operational and Maintenance Facilities

There will be no maintenance facilities provided within Limestone Islands Provincial Nature Reserve.

11.0 IMPLEMENTATION PRIORITIES

Requirements of the *Provincial Parks Act* and *Environmental Assessment Act* will be met in defining and implementing management policies. An appropriate level of planning and public consultation will precede all resource stewardship initiatives. Resource stewardship initiatives and preparation of implementation plans may be contingent upon the availability of funding and unforeseeable changes in priorities or policy.

Implementation priorities include, but are not restricted to:

- 1) Monitoring visitor use:
- 2) Encouraging research on all aspects of the nature reserves' resources with specific attention given to the colonial waterbirds and cultural resources;
- 3) Ensuring an interpretive plan is developed and updated as necessary;
- 4) Developing and implementing a resource stewardship plan;
- 5) Ensuring appropriate signage and visitor information is available and kept up-to-date and:
- 6) Conducting a detailed life science inventory.

The park management plan will have a 20-

year life span and will be reviewed and amended as necessary to address issues or changing conditions.

12.0 SUMMARY OF PUBLIC CONSULTATION

Public consultation is an important part of the management plan review process. The Limestone Islands Nature Reserve Management Plan review included four phases:

- Phase 1 Terms of Reference
- Phase 2 Background Information
- Phase 3 Preliminary Management Plan
- Phase 4 Approved Park Management Plan

Phase 1 consisted of the preparation of terms of reference for the management planning process in the Spring of 2001. An initial invitation to participate was mailed out to announce the upcoming public consultation and planning process and public notices were posted at various sites. In addition, a policy proposal file was posted on the EBR Environmental Registry.

Phase 2 involved the preparation of a background information file. The public was invited to review and comment on the background information, and asked to provide any additional information that was not on file. Some specific groups were contacted in advance to provide information for the formation of the preliminary plan.

Phase 3 included the preparation, approval and publication of the preliminary management plan during February 2002. Public notice was placed in two local newspapers to invite written comments and advise of a public open house held at Killbear Provincial Park on June 22, 2002.

An updated policy proposal file was posted on the EBR Environmental Registry.

Phase 4 involved the preparation of the recommended nature reserve management plan. All comments received during the previous phases of the process were considered in the preparation of the document. Upon final approval, the management plan was published and released. A policy decision file was posted on the EBR Environmental Registry. Mandatory contacts and all those persons who participated in the planning process received a copy of the final document.

Reference copies of the terms of reference, preliminary management plan, approved management plan and other supporting documentation will be retained on file at Killbear Provincial Park and Ontario Parks Central Zone office.

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