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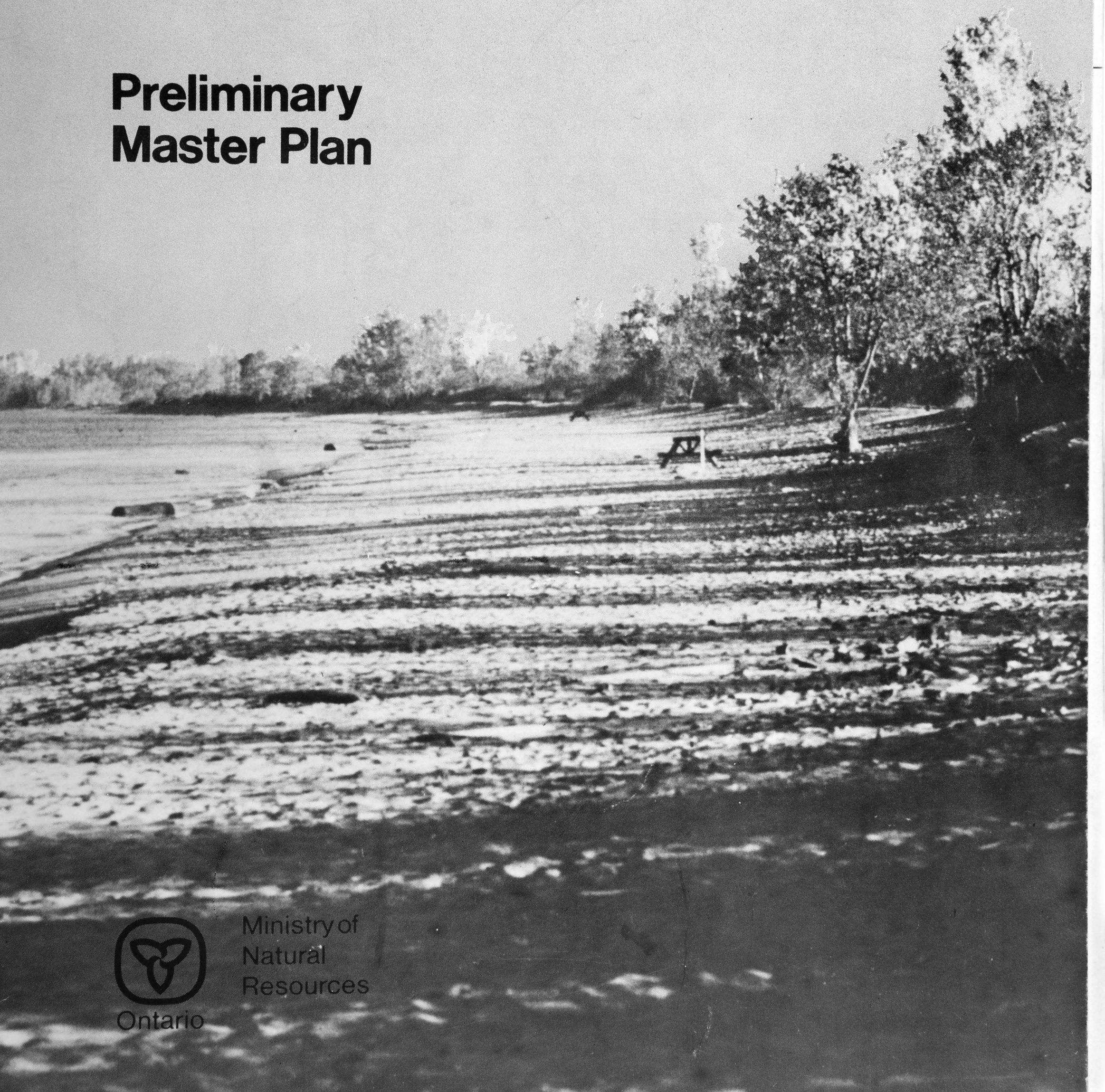
Sandbanks Provincial Park

Preliminary Master Plan



Ministry of Natural Resources

Ontario

Ministry of
Natural
Resources

Ontario

Your file:

Our file:

.Napanee District
Napanee, Ontario

August, 1977

Dear Sir/Madam:

Please find enclosed a copy of the Sandbanks Provincial Park Preliminary Master Plan. This plan contains numerous recommendations which will guide the future management of the park's resources and the redevelopment of some of the park's facilities. The recommendations were made after gathering and analyzing information on the physical, cultural and ecological features of the park and the public use of facilities.

We are anxious to receive your response to the recommendations outlined in this preliminary master plan. Please complete the accompanying comment sheet and/or write a letter and send it to the following address before October 15, 1977:

District Manager
Ministry of Natural Resources
Napanee, Ontario
K0K 2R0

If you prefer, you may contact Ministry personnel by telephone at either the District Office, Napanee (613-354-2173) or at Sandbanks Provincial Park (613-393-3314). After reviewing all of the comments received from the public, a final master plan for Sandbanks Provincial Park will be prepared and made available for general information.

We encourage you to take this opportunity to participate in the future development and management of Sandbanks Provincial Park. Your contribution to the planning of this park will enhance the quality of the activities and features which will be provided. Thank you for your interest.

Yours very truly,

R.G. Bailey
District Manager
Napanee

Encl.

Comment Sheet

If you have any comments on the park's goal and objectives, classification, management strategies, development program or any other aspect of the preliminary master plan for Sandbanks Provincial Park, please detach this and make use of the space provided below. Mail your comments before October 15, 1977 to:

District Manager
Ministry of Natural Resources
Napanee, Ontario
K0K 2R0

Name_____ Organization_____
(Please Print)

Address_____

Sandbanks Provincial Park

Preliminary Master Plan

August, 1977

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Metric Measures

Unit	Equivalent
centimetre (cm)	0.3937 inches
metre (m)	3.2808 feet
kilometre (km)	0.6214 miles
square kilometre (sq km)	0.3861 square miles; 100 ha
hectare (ha)	2.4710 acres
cubic metre (cu m)	35.3148 cubic feet
litre (l)	0.2200 gallons
kilogram (kg)	2.2046 pounds
kilowatt (kw)	1.3410 horsepower
degrees celsius (^{o} C)	^{o} C x $\frac{9}{5}$ + 32 = degrees Fahrenheit (^{o} F)

Master Plan Highlights

The preliminary master plan treats two separate but nearby provincial parks, namely Sandbanks Provincial Park and Outlet Beach Provincial Park and the land in between, as one area and plans for the development of this area as one large park.

It is proposed to designate this park as a natural environment park under the Ontario Provincial Parks' classification and zoning scheme and to call it Sandbanks Natural Environment Provincial Park.

This plan reexamines the significance of the park's resources, and allows for the restoration and management of those areas of international, provincial and local significance which should be protected and preserved, and the development of a wide variety of recreational facilities which will provide users with recreational opportunities while they learn about the natural and cultural values of the park and Prince Edward County.

The plan identifies the ecological conflicts and establishes parameters of use to solve ecological problems.

The plan recommends one development concept which best utilizes the resource for recreation, yet preserves the unique natural and cultural features.

The goal for the park is to provide recreational opportunities which will give visitors a wide variety of recreational programs and an opportunity to learn about the values of the park and Prince Edward County and to preserve and protect the significant natural and cultural features contained in the park.

The objectives for the park are: (1) To provide those forms of recreation associated with beach areas, within the limits of the resource values and capabilities; (2) To preserve the important natural features within the park; (3) To restore to a more natural state those areas of ecological importance which have been disturbed by past management and recreational use; (4) To provide a three-phase program of information, interpretation and outdoor education which will encourage visitors to discover and appreciate the park's resources and facilities; (5) To contribute to the tourism economy of Prince Edward County by providing year-round natural environment recreational experiences which complement the private sector but remain compatible with local and regional land use

The plan recommends the development of 600 campsites phased into operation over a twenty-year period. The provision of 1800 parking spaces will accommodate day-users for beach use and for interpretive program and trail use.

Total capacity of the park at any given time will be 2000 campers and 7000 day-users.

The development program for the park initially recommends the construction of 350 campsites in the intervening area between the two present parks and a reduction in the number of campsites in the Outlet Beach area to 250. Over a twenty-year period the remaining 250 campsites at Outlet will gradually be replaced by 250 new sites in the intervening area.

A new management approach will be actively fostered. Private enterprise will be encouraged to operate and/or develop the campgrounds in the new park.

The park will be open year-round and offer a wide variety of seasonal recreational pursuits to encourage outdoor activities at the park.

The park will be a focal point for visitor services programming for Prince Edward County. Other parks in the county will have satellite programs which complement that at Sandbanks.

Introduction

In Prince Edward County on the shore of Lake Ontario there are two provincial parks which exist very close together. They are Outlet Beach Provincial Park and Sandbanks Provincial Park. They have some similar features yet have very different backgrounds. This report deals with these parks together so the planning for each of them is compatible and complementary.

Terminology used in this document may be somewhat confusing to those who are familiar with the former parks called Sandbanks and Outlet Beach. These two parks are herein referred to as the Outlet sector and the Sandbanks sector. The property between them is referred to as the intervening sector. The relationship of these areas may be seen on Figure 1.

Outlet Beach Provincial Park has been in operation since 1959 as part of the Ontario Provincial Park System. In that year the park area was comprised of 107 ha. It was established by Ontario Regulation 117/63 and was later expanded to 273 ha to include newly purchased areas and water boundary extensions.

The Sandbanks area was established as a Forestry Station in 1921. Attempts were made to arrest the sand movement which was engulfing adjacent farm land at a rate of 12 m year. Most native species and numerous exotic species of trees were planted as well as a number of grasses and grains. Few of these plantings were successful; however Scots pine, Carolina poplar and black locust responded the best. In 1957, an overall reforestation program was initiated. Snow fences, mulching, and laying brush together with belt-planting produced quite favourable results.

In 1962 the Sandbanks area came under the Division of Parks and the planting program was continued. The park was established by Ontario Regulation 165/70 and encompasses 729 ha including its water boundaries in West Lake and Lake Ontario.

A proposal to purchase 481 ha of private land between Outlet Beach sector and the Sandbanks area was approved by the government in 1971. About one-half of this land has now been acquired. Additional purchases of about 140 ha will permit the operation of the two parks as one administrative unit.

Master planning for this unit has been ongoing since 1972. Three different planning teams have been involved in the production of this preliminary plan. It is expected that a final master plan can be produced for the park by 1978. Public participation by local residents and county officials has been a part of the planning process to date. Participation in the planning process by park users is being encouraged this summer through the distribution of information brochures on the planning proposals.

Development of Outlet Beach Provincial Park took place from 1957 to 1968 and, of Sandbanks Provincial Park, from 1966 to 1970. A total of 530 campsites existed in 1970. This number has been gradually reduced to 363 in recognition of the fragility of the resource base. A further reduction is needed to adequately protect the environmental features which are present in the area.

Because of the public's familiarity with the two present parks and the need to come up with one name to designate the new park, it is proposed to call the park Sandbanks because of the significance of the Sandbanks resource on an international scale.

Figure 1

Park Area

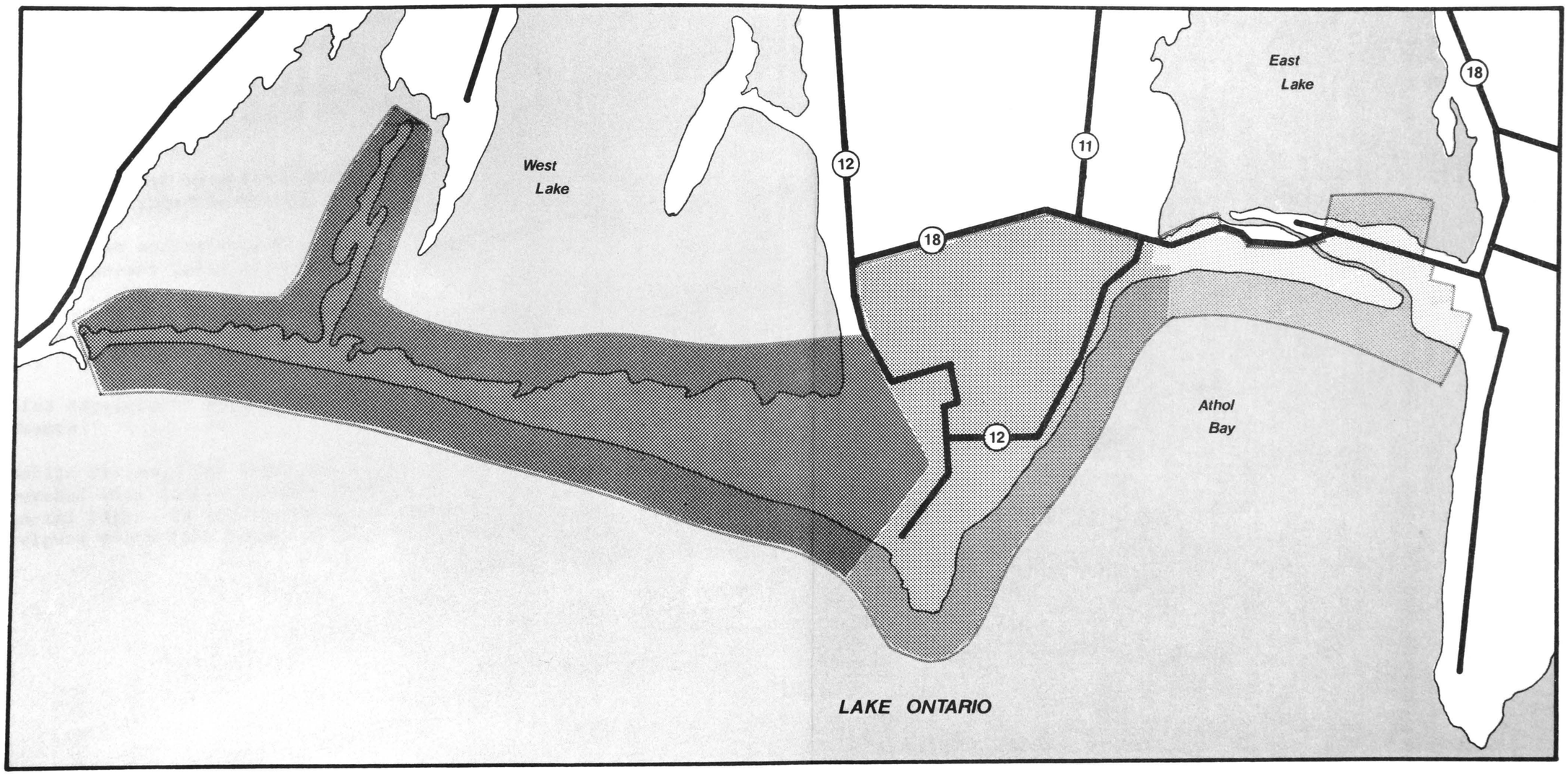
PARK BOUNDARY

18 COUNTY ROAD

SANDBANKS SECTOR

OUTLET SECTOR

INTERVENING SECTOR



0 .25 .5 1 2 3 Kilometres

Purpose of The Master Plan

The purpose of the master plan is to establish a policy framework and detailed quidelines for future planning, development and management decisions for Sandbanks Provincial Park. Specifically the plan:

- defines the role of Sandbanks within the Ontario Provincial Parks System;

- examines the availability of alternative recreational opportunities in and close to Prince Edward County;

- analyzes the ecological, cultural and physical features within the park, identifies their value and determines their use limitations;

- formulates goals and objectives for the park according to its classification within the Ontario Provincial Parks System;

- designates zones appropriate to the park's classification and outlines management policies for each zone;

- outlines a visitor services program which will enable park visitors to discover and appreciate the resources and facilities within the park;

- identifies development priorities and operational and staffing requirements.

Following public review, this plan, when approved by the Minister of Natural Resources, will direct furture development and management at Sandbanks Provincial Park. In accordance with Ministry policy, the plan will be reviewed every five years.

Regional Context

Resource Characteristics

Prince Edward County, locally called Quinte's Isle, is a 100,000 hectare peninsula jutting into Lake Ontario between Toronto and Cornwall. The charm of its small hamlets and rural setting, the spectacular viewpoints and its numerous recreational opportunities attract thousands of visitors each year (Figure 2 and Figure 3).

After the last glacial retreat (about 12,700 years ago) the land rebounded and the waters receded. Prince Edward County was left, almost an island, extending from the mainland into the eastern basin of Lake Ontario. Its shoreline was so irregular that it measured more than 800 km. In this location, exposed to the wave action of a very large water body and a prevailing westerly wind, the requisite conditions were present for the evolution of one of the most interesting and significant features of Ontario's natural and cultural resources; a series of baymouth bars along Prince Edward's west and southwest shores.

The Sandbanks complex is made up of two of these baymouth bar-dune formations and an intervening area of limestone bedrock overlain with gravel, sand and clay. The "Sandbanks" bar is the larger of the baymouth bars and, with its dunes, is probably the largest bar-dune system on fresh water in the world. The "Outlet" sandbar is similar, and, although not as spectacular from the point of size, it possesses a mature, stablized dune system which is lacking at "Sandbanks".

The park is in the Prince Edward County climatic region. This region's climate is strongly influenced by its proximity to Lake Ontario. Winters are milder and summers cooler than the adjacent mainland.

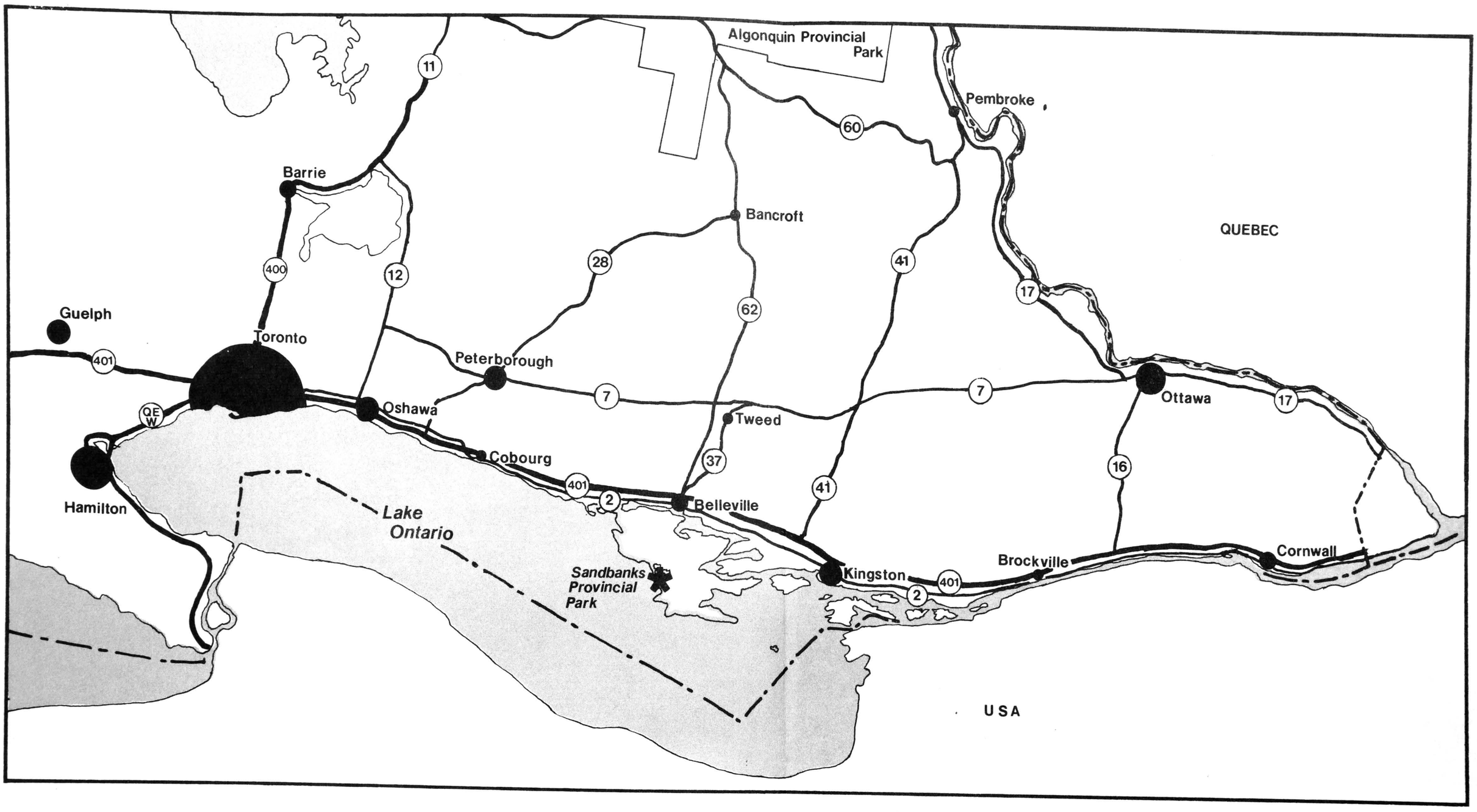
Land Use

The major land use in the vicinity of the park is agricultural. Much of the shoreland on East Lake, West Lake and Lake Ontario is resort commercial, seasonal residential or seasonal trailer park. There are a few permanent residences.

Population Centres

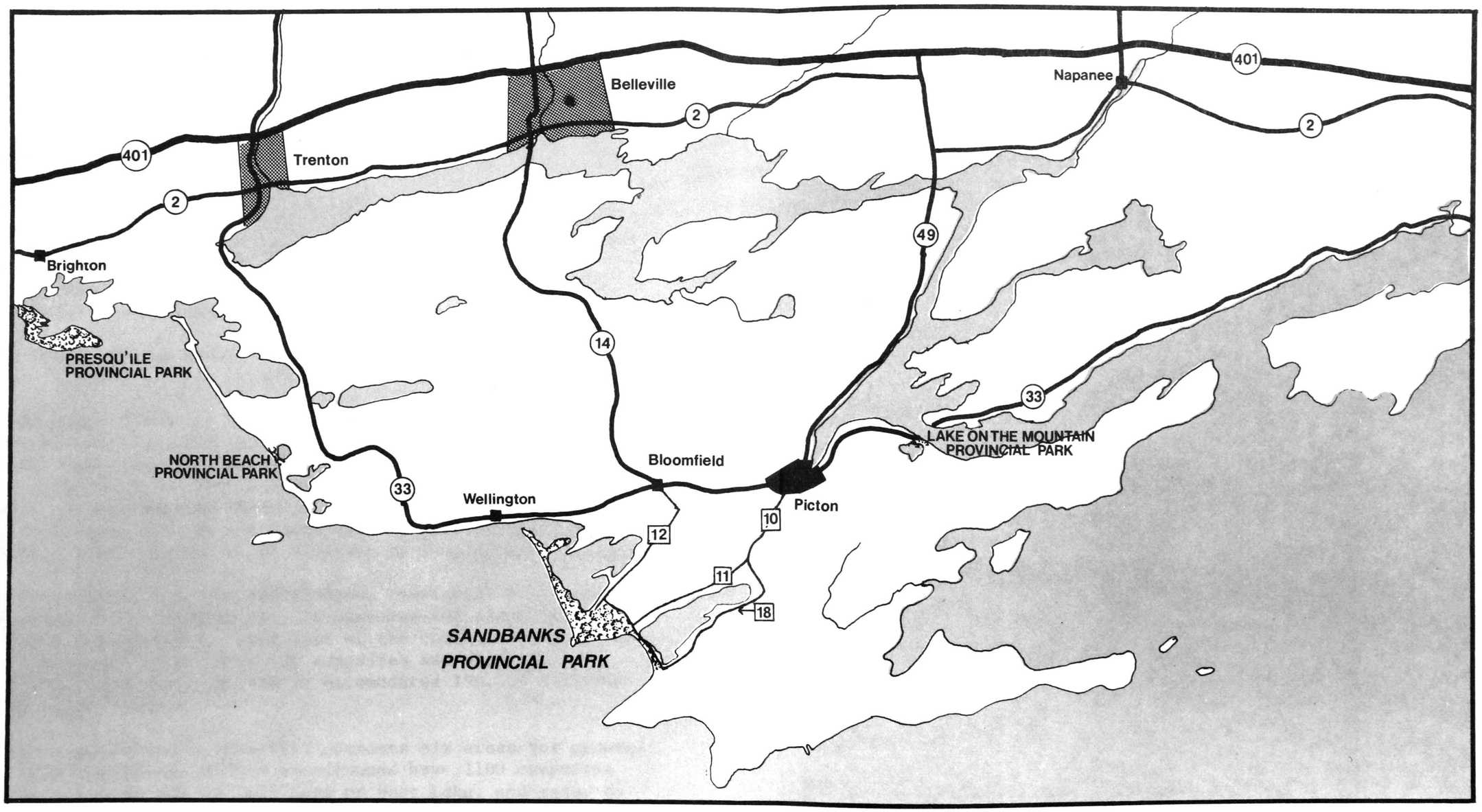
The population of Prince Edward County is about 22,000 (1975). Almost 5,000 persons live in the county town of Picton, 1,000 in the village of Wellington and 750 in the village of Bloomfield.

The cities of Belleville and Kingston supply the bulk of the day-use visitors of the park. Belleville (with a 1975 population of 35,000) is a 40-km distance and Kingston (population 60,000) is 77 km from the park. These two cities, Prince Edward County and the southern portion of


Algonquin Provincial Park
Pembroke
11
60
Barrie
Bancroft
QUEBEC
28
41
400
12
62
17
Guelph
Toronto
401
Peterborough
7
7
Ottawa
17
QE W
Oshawa
Tweed
Cobourg
37
16
401
41
2
Belleville
Hamilton
Lake Ontario
Sandbanks Provincial Park
Brockville
Cornwall
Kingston
401
2
USA
0 10 20 40 80 120 Kilometres

Regional Context

PROVINCIAL PARK
PROVINCIAL HIGHWAY
COUNTY ROAD



0 .5 1 2 3 4 Kilometres

Hastings, Frontenac, Northumberland and Lennox and Addington comprise the local market area. An increase of 14 percent in population has been projected for the market area from 1971-1981. Prince Edward County recorded a 4 percent increase from 1974-1975.

Access Routes

Tourists using the Highway 401 and Highway 2 corridor can reach Sandbanks on Highway 33 from Trenton or Highway 14 from Belleville to Bloomfield then south on County Road 12 to the park, or on Highway 49 to Picton and by County Road 10 and 11 to the park. Access from the east is also possible via Highway 33, the Glenora Ferry and County Road 10 and County Road 11 from Picton.The park is about 40 km from the Highway 401 and Highway 2 corridor.

Railway access is feasible only to Belleville or Trenton. A small craft airfield is located at Picton.

The waters surrounding the county provided the best means of access in the earliest days. Today commercial linkages are not available; however the many nearby ports host thousands of pleasure craft. The Canada-Ontario Rideau-Trent-Severn Study report has exhaustively reviewed the boating opportunities in Prince Edward County. Water access to Sandbanks is not expected to be significant (Figure 3).

Recreation in Prince Edward County

This is the only provincial park in Prince Edward County supplying camping opportunities. In addition to Sandbanks, two other provincial parks supply day-use opportunities. North Beach, on the western shore of the county offers beach-oriented day-use for the Belleville-Trenton area residents. It accomodated about 100,000 users in 1975. Lake on the Mountain Provincial Park in the north-eastern part of the county is a small picnic area. No record of visitors is available.

Just across Adolphus Reach is Adolphustown Provincial Park, operated by the St. Lawrence Parks Commission. It contains 109 campsites and hosted 65,000 visitors in 1975. Just west of the county near Brighton, is Presqu'ile Provincial Park. With 520 campsites and over three kilometres of excellent beach, in 1976 it accomodated 190,500 visitors and had 75,500 camper nights.

Prince Edward Conservation Authority operates six areas for general recreation. Near Sandbanks, private campgrounds have 1100 campsites available. Most of these are on East Lake or West Lake, and cater to larger camping units and are available for full-season rentals.

Park Area

Location

The park occupies much of the southwestern shoreline of Prince Edward County between Wellington on the north and Salmon Point on the south. Specifically, it includes:

Hallowell Township	-	Sandbanks Provincial Park Con. SS West Lake Gore H and Parts of lots 1, 2 and 3
Athol Township	-	Outlet Beach Provincial Park Part Block B Block I

Legal Status

Sandbanks Provincial Park and Outlet Beach Provincial Park are described in regulations under The Provincial Parks Act. Of the intervening 481 ha, some 227 ha have been acquired. This plan recommends the eventual purchase of the remaining 254 ha over time. This 254 ha has been allocated to one of three acquisition priorities (Figure 4). Category "A" lands, comprising 137 ha, are those lands required for forwarding the plan. Their acquisition is urgent. Category "B" lands are those which would be inholdings within the park and therefore an operational problem. These should be acquired as soon as possible. They comprise some 5 ha. Category "C" lands comprise the rest of the study area, about 112 ha. Acquisition would allow better control over the park and facilitate management.

Present Situation

Development

Development and facilities presently existing in the two park sectors include an 11,370 m swimming beach, 14.5 km of interior park roads and 4.3 km of agreement access road and one bridge (Figure 5). There are 413 camping units, four group camping areas to accommodate a total of 100 persons, 100 ha of picnic area with 1500 picnic tables and parking for 300 units and 12 wells supplying 11 pressure water systems. In addition, there are two docks, three boat launch areas, four kilometres of hydro lines, a 1.6-km nature trail and 134 park buildings 28 of which are of a major category including office, warehouse, washrooms, concession building etc. while 106 are vault toilets.

Forest Management

Forest management to date has been limited to the planting of approximately one million trees. An exhaustive reforestation plan has

Figure 4

Land Ownership

PARK BOUNDARY

LANDS PRESENTLY UNDER PUBLIC OWNERSHIP

CATEGORY "A" LANDS

CATEGORY "B" LANDS

CATEGORY "C" LANDS

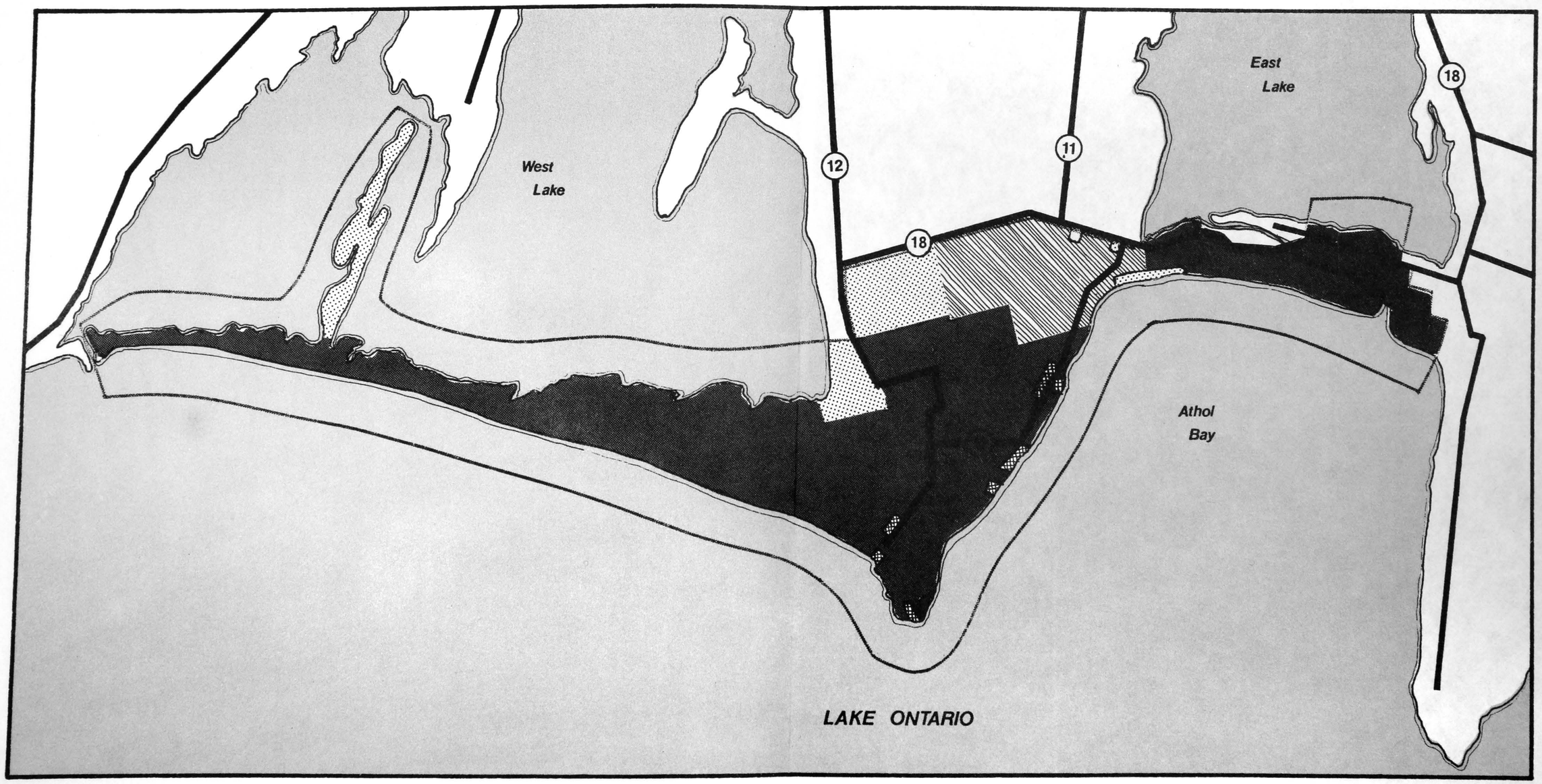
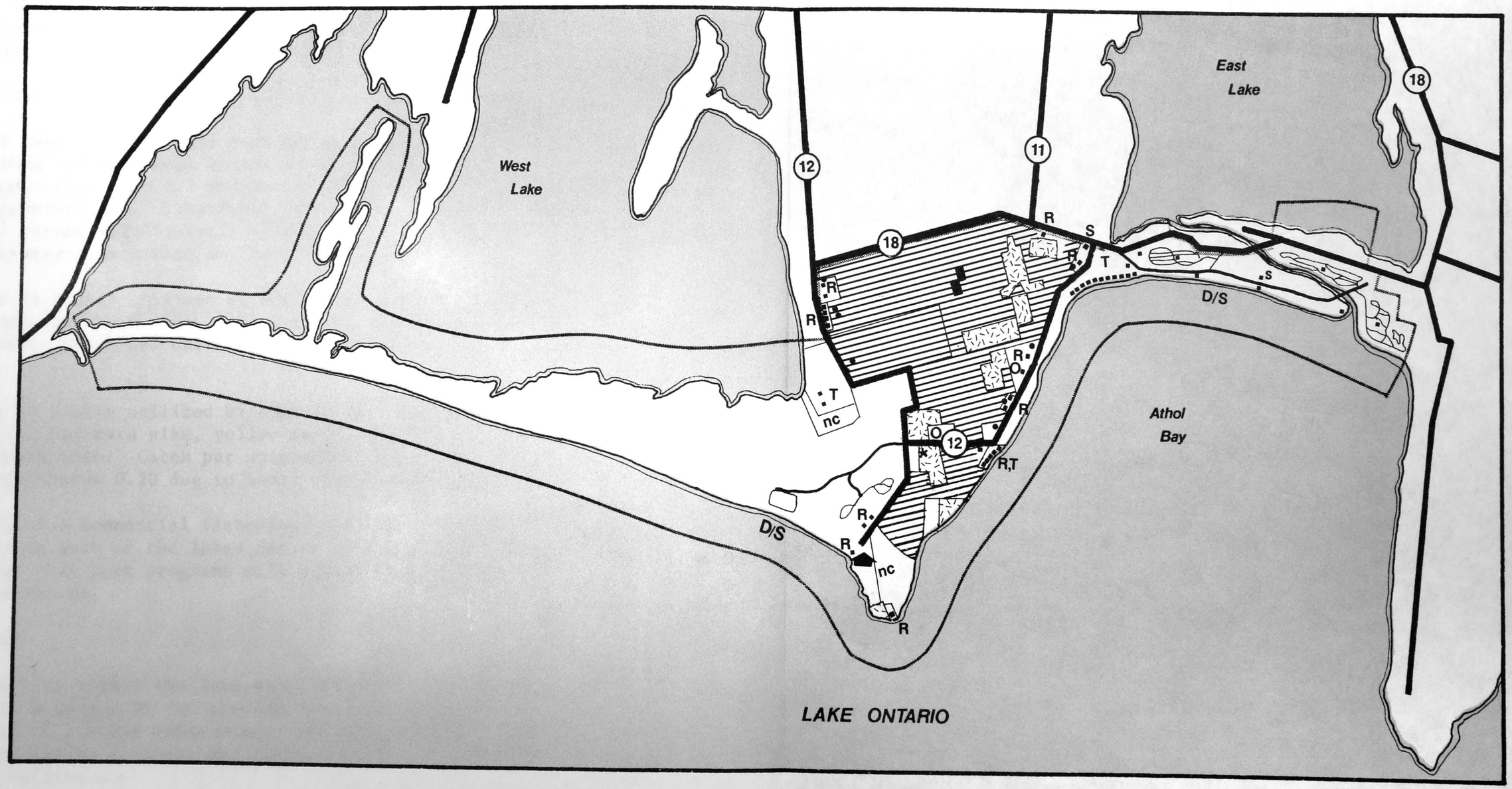


Figure 5

Present Development

PARK BOUNDARY
T TOURIST ESTABLISHMENT
R RESIDENCE, COTTAGE
S STORE
LODGE
• BARN
▪ BUILDINGS (RESIDENCE & COTTAGE)
* EVAPORATOR
DUMP
CAMPGROUND ROAD

CULTIVATED
WOODED
nc NOT CULTIVATED
O ORCHARD
D/S DAY-USE/SWIMMING



been prepared for both park sectors. The success of the plan is being hampered by the lack of suitable planting stock. Arrangements are being made to have the requisite stock produced so that the plan can be forwarded.

Forest Protection

The present fire control equipment consists of 25 backpacks and a supply of hand tools. An agreement exists with the Hallowell and the Picton Fire Departments to assist in the control of fires at Sandbanks and Outlet. Trucks are unable to penetrate the central part of Sandbanks because of the lack of roads. The control of interior fires is, therefore, dependent upon the effective use of backpacks and hand tools.

Fish and Wildlife

Both West Lake and East Lake provide excellent opportunities for anglers. Though the park does border on both these lakes, recent surveys indicate that only 0.7 percent of the park users participate in fishing opportunities. Therefore, it is not expected that park programs will either significantly affect or be significantly affected by angling pressures on either of these two lakes.

East Lake is highly utilized by anglers as a sport fishery for yellow pickerel, northern pike, yellow perch, smallmouth bass and largemouth bass. Catch per unit effort for these species is holding well at 0.20.

West Lake is highly utilized by anglers as a sport fishery for yellow pickerel, northern pike, yellow perch, smallmouth bass and, at times, largemouth bass. Catch per unit effort for these species has recently dropped below 0.20 due to heavy winter fishing pressure.

Very productive commercial fisheries have been operating for at least 20 years in each of the lakes and as with the sport fishery, it is not expected that park programs will affect or be affected by the commercial operations.

Land Management

Some properties within the land area in between the two existing parks have been acquired by the province and for the most part are under some form of interim management. All other private lands continue to be used as seasonal dwellings, farms, residences or commercial establishments.

At the present time, five land use permits are issued on an annual basis, four of which are issued to allow interim use of lands and buildings acquired by the province but which have not yet been incorporated into the park. One land use permit allows a private campground operator to utilize sand frontage on West Lake as a beach area for patrons.

Figure 4 and Figure 5 show the location of the current uses of private lands within the study area.

No major subdivisions directly affect or influence the park area; however, there is major residential development along the east shore of West Lake, in the village of Wellington and in a small hamlet (Cherry Valley) on the south shore of East Lake. Other seasonal residences and farm lands also front the two lakes. The effect on the park of development on these lakes is perceived only as a visual and audible disturbance resulting from heavy motor boat traffic.

The former Lake Ontario Cement Company Limited pit lease was expropriated in 1973 and now rests as Crown land. The pit area and access road to it has for many years been a traditional "back entrance" to the Sandbanks whereby visitors could swim and bathe in the warmer protected waters of the West Lake.

Mining

Although there is presently no mining taking place in the park, Lake Ontario Cement operated a 6.5 ha quarry for sand which was used as a component in "Portland" cement, a product which the company markets. This area was leased by the Ontario government to the company under a rather complicated agreement. The lease was cancelled in 1973 when the government expropriated the leasehold interest in the property. It is now officially Crown land and will become part of the park.

Pollution

The shoreline of Outlet Beach Provincial Park and Sandbanks Provincial Park, as with much of the Lake Ontario shoreline at the eastern end of the lake, has for many years been an area of alewife and algae accumulations. The strong unpleasant odour which emanates from dried accumulations of these deposits unquestionably detracts from any shoreline-oriented outdoor recreational activity. Very little further action can be taken to control this problem beyond that of cleaning up deposits on the sand portions of the shoreline.

The village of Wellington, the hamlet of Cherry Valley, a canning factory, several farms, residences, and commercial establishments share the shoreline of East Lake and West Lake with the park complex. However, no direct or obvious sources of pollution from these areas of development are known. The village of Wellington has been considering installing central sewage facilities. Control over further commercial and residential development is provided through the Official Plan for Prince Edward County.

Other Agencies

Above ground hydro and telephone wires extend into and through the study area serving existing residences and park facilities. Some of the hydro system is owned by the Ministry of Natural Resources where sections occur within the Outlet Beach and Sandbanks park proper. The balance is owned and operated by Ontario Hydro. Telephone lines are the property of Bell Canada.

Small Craft Harbours Branch of Environment Canada have been involved in the maintenance of a channel between West Lake and Lake Ontario and, possibly, could become involved with the maintenance of the channel from East Lake to Lake Ontario. Involvement by this agency or the Department of Transport in maintaining these channels and, thence, water levels in East Lake and West Lake, is not likely to affect recreational use by park visitors.

Market Analysis

As the population of Ontario increases, it is reasonable to assume that the number of people who may potentially use provincial parks will increase too. In order to understand the pressures to which Sandbanks and Outlet will be subjected in the future, it is necessary to establish the parks' market area and determine the population size (existing and projected) of this area. From these figures and the park statistics, it is possible to determine the percentage of the area's population which maybe potential users of the park complex.

Market Area

Studies indicate that park visitors reside within a given distance of the park. The type of use, be it day-use or camping, is directly related to the distance the visitor travels to the park. Day-users seldom travel more than two hours to visit a park for the day, while most campers reside within a three hour drive of the park. The market area for the park complex is defined in terms of these travel time zones. Based on the one-hour, two-hour and three-hour driving radii from Sandbanks and Outlet Beach, the population statistics are given in Table 1 (Figure 6). By the year 2001, the present population in the two-hour and three-hour travel time zones will increase by approximately 105,000 and 1.5 million, respectively. Then by determining the origin of the park users in relation to the travel time zones and relating this to the projected population it is possible to estimate the potential park users for the year 2001.

Sandbanks is experiencing additional visitation by others from beyond these travel time zones. The Province of Quebec and such American states as New York and Pennsylvania, which are readily accessible by the Ivy Lea Bridge, account for a small percentage of the park users. Therefore, it is also necessary to project the additional potential users who will come from these areas to use the park.

Futhermore, provincial planning strategies predict that the future growth in Southern Ontario will be concentrated east of Toronto in areas along the lake such as Port Hope-Cobourg and the Kingston area. The impact of the concentration of population growth in this direction will have a considerable influence of the projected demand for parks and recreation and on the resources of the Sandbanks and Outlet Beach complex.

All the predictions are subject to the influences of various socio-economic variables. The impact of rising fuel costs, increased mobility and travel preferences can have negative and positive influences which can inaccurately be predicted and, more properly, can only be acknowledged.

Market Area

ONE HOUR DRIVING TIME

TWO HOURS DRIVING TIME

THREE HOURS DRIVING TIME

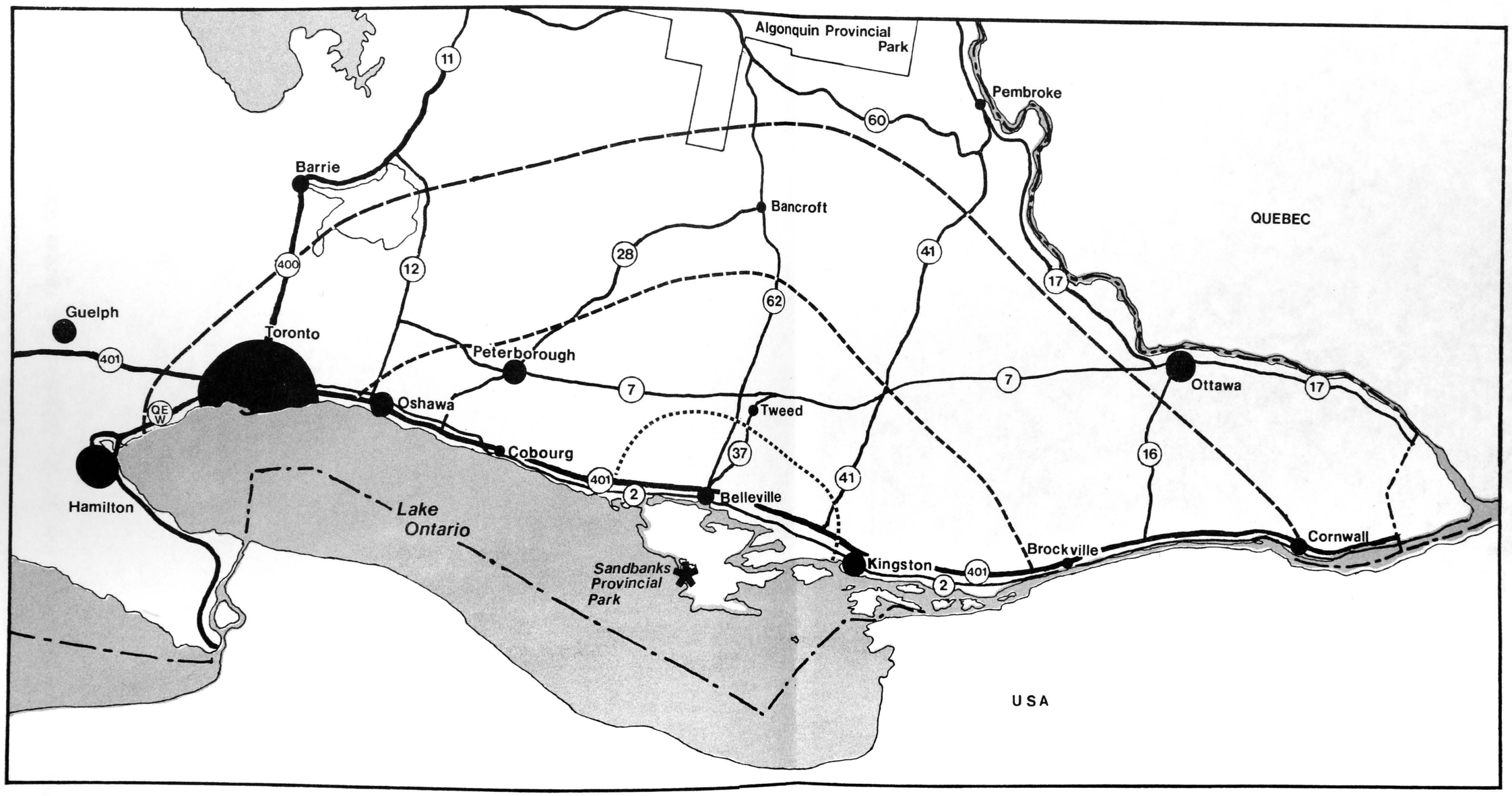


Table 1: Present and Projected Population Figures for Travel Time Zones

Travel Time Zone	Population		
	1976 Census	2001 Projected	Percentage Increase
one hour	84,000	91,000	8.3
two hour	503,000	608,000	20.8
three hour	3,500,000	4,800.000	38.0

Source: Ministry of Treasury, Economics and Intergovermental Affairs Demographic Projections.

Visitation Trends

The Sandbanks area is a very popular location for both camping and day-use recreations as is indicated by the user statistics (Table 2 and Table 3). However, it is subject to much greater numbers of day visitors than campers due to the type of attractions as the extensive sand beach is a day-use feature. Projections for future use of the park by these two groups are difficult to accurately determine but estimates are given below.

Campers

The number of campers who visited Outlet Beach, 1966 to 1969, is given to Table 2, and the combined number of campers to Sandbanks and Outlet Beach, 1970 to 1976, is given in Table 3. The origins of the campers, as shown in Table 4, are given approximately according to the travel time zones previously defined. The figures for the origin of campers in 1969 are based on data which was not easily broken down into the established travel time zones, and therefore adjustments had to be made.

Camper visitation trends for the years 1969 to 1975 show that the camper statistics increased by 25 percent and that the number of park visitors living beyond the three hour driving time is increasing. Other information on the type of camping trips enjoyed at the park is given in Table 5.

It can be seen that a small majority of camping visitors had never been to the park before (52 percent) and of those that had, most had visited as day-users (73.5 percent). The majority of campers staying at Outlet Beach and Sandbanks did so for a weekend vacation or for a couple of days (51.2 percent). The park was however the main destination for 70 percent of the visitors who came primarily for the water-oriented recreation (24.8 percent), on the recommendation of others (17.1 percent) or because of the park's proximity to places of interest (11.7 percent). In summary then, it is apparent that people from the urban centres are attracted to Sandbanks and Outlet Beach for weekend excursions in order to utilize the beach and lake-oriented recreation resources.

In order to forecast in what numbers that campers will utilize the park complex in the future, it is necessary to compare the present origin statistics with the projected population increase. For the three hour travel time zone with a population increase of 38 percent, the park can expect an increase of approximately 9,285 campers and 21,355 camper-nights (based on an average stay of 2-3 days) by the year 2001. However, users beyond a three hour drive are not included and fluctuations of various socio-economic variables can influence the mobility of people and the patterns of use for a provincial park.

The figure given is strictly a projected participation potential and does not indicate demand. The occupancy rates of greater than 75 percent indicate the demand trend which is obviously very high (Table 2 and Table 3). The desirable occupancy level is 60 percent,

Table 2: Camper Use at Outlet Beach, 1966-1969

Year	Campers	Camper-nights
1966	20,983	60,060
1967	25,096	69,365
1968	27,363	86,520
1969	28,304	93,101

Source: Ontario Provincial Park User Statistics, 1966-1969.

Table 3: Camper Use at Outlet Beach/Sandbanks, 1970-1976

Year	Campers	Camper-nights	Average July/ August Occupancy (Percentage)
1970	34,316	123,989	75
1971	39,467	122,514	72
1972	37,484	120,289	75
1973	38,428	123,364	80
1974	38,589	132,608	83
1975	34,906	122,187	85
1976	31,979	114,012	78

Source: Ontario Provincial Parks Statistical Reports 1970-1976.

Table 4: Camper Origins for Outlet and Sandbanks

Area	1975 Percentage	1969* Percentage
Within one hour drive	6.1	(included together as 0 to 2 hour drive)
Between one and two hours drive	15.1	27**
Between two and three hours drive	37.6	45
Beyond three hours drive in Ontario	24.4	16.0
Quebec	6.3	6.0
U.S.	6.7	5.0
Other	3.8	1.0
Total	100.0	100.0

*based on five percent sample of 1969 camper user survey approximately divided into travel time zones.
** figure represents origins within two hours drive of park.

Table 5: Camping Trips to Outlet Beach and Sandbanks*

5A: Previous Visits

Yes	47.8
No	52.2

5B: Percentage who Camped at Sandbanks Year Before

Yes	26.5
No	73.5

5C: Role of Park

Main destination	70.3
One of Several	18.4
Stopover	11.3

5D Type of Trip from Home

Weekend Trip	51.2
Annual Vacation	42.7
Other	6.1

5E Number of Nights on Vacation

1	15.7
2	25.1
3-7	30.0
8-10	9.3
11-14	10.6
15-21	5.3
22+	4.0

5F: Length of Stay at Park this Visit by Days

1	32.6
2	28.3
3	13.8
4	7.0
5	3.9
6	4.5
7	3.2
8+	6.5

5G: Number of Days of Stay Last Year

None	61.5
1 Night	3.0
2-5 Nights	16.1
6-10 Nights	12.7
11-20 Nights	5.9
21+ Nights	0.8

5H: Reason for Stopping at Sandbanks

Close to home	8.8
Convenient to place of interest	11.7
Recommended by friends or media	17.1
Enjoyable past experience	9.4
Natural setting	7.3
Beach, water, swimming	24.8
Prefer provincial parks	1.5
Good campsite	4.1
Facilities in park	2.4
Visiting friends, business	7.1
Other	5.8

* all figures given as percentages

Source: Camper Survey, 1975.

the level at which it is safe to predict there will be campsites available to campers on peak weekend periods. Sandbanks and Outlet Beach are presently supplying 114,012 camper-nights and operate at 18 percent over the desirable level. To operate at the 60 percent occupancy level with the existing number of campsites, there would have to be a reduction in camper-nights and a reduction in the total number of campers per season. The other alternative, which is more acceptable, is to increase the number of campsites available to the increasing camper audience within a proper plan.

Day-use Visitation

Table 6 lists the day-use statistics for Outlet Beach and Sandbanks. The figures given are based on annual and daily permit sales for which it is assumed that each annual permit is used 15 times and the average party size is four (Ministry of Natural Resources, 1969-1976).

Information regarding the origins of day-users is available for 1971 and 1974 (Ministry of Natural Resources, 1971 and 1975) (Table 7 and Table 8). In 1971 over 80 percent of the day-users both in Sandbanks and Outlet Beach came from the Kingston area and returned to their homes on the same day. By 1975, the greatest portion of one-day trip visitors to Sandbanks or Outlet Beach were from the Belleville area. The Kingston area did, however, provide almost 30 percent of the one-day visitors to Outlet Beach in 1975.

It is important to note here that although the breakdown in categories between 1971 and 1975 is consistent, the population of each of the regions does not correspond exactly, and any comparison between the two years is influenced by this characteristic.

Of the day-visitors who were surveyed at Outlet Beach in 1975, 65 percent had planned their visit to the park as a day trip. As the parks are such a distance from the major highways, there was little use of the park as a short-term stopover. The average length of stay was 5.6 hours, typical of the parks surveyed in 1974. Therefore in general, the public visited Outlet Beach for the day and then preferred to return home in the evening. In addition, the return visitation was very high (82 percent had previously visited the park) which indicates a relatively high degree of satisfaction with day-use visits.

In Sandbanks, the majority of day visitors surveyed (54.4 percent) specified that they intended to stay overnight somewhere other than their permanent residence and more than one day in the vicinity. As the greatest proportion of the day-use visitors originated in the Metropolitan Toronto area, it is understandable why most visits to the Prince Edward County were extended trips.

In light of this fact, it is reasonable to assume that the day-visitors to the park sought accommodation from some of the nearby private and commercial operations. This is supported by the number of private accommodations available in the vicinity and their capacity as shown in Table 9.

Table 6: Day-use 1967-1976

Year	Number of Users*
1967	81,376
1968	114,380
1969	158,864
1970	147,608
1971	180,516
1972	123,080
1973	135,156
1974	133,712
1975	157,416
1976	126,664

* The number of users is equal to the number of daily permits sold multiplied by average party size of four plus the number of annual permits sold multiplied by four (average party size) and fifteen (average number of times used).

Table 7: Day-use Visitor Origins 1971

	Sandbanks		Outlet Beach	
	1-day trip	more than 1-day trip*	1-day trip	more than 1-day trip*
Metro Toronto	8.6	31.9	7.0	41.6
West of Toronto	0.0	0.0	0.0	1.9
Peterborough area	9.9	0.0	2.8	1.9
Kingston area	80.8	4.0	88.9	21.3
Ottawa area	0.0	15.9	1.4	9.7
	99.3	51.8	100.0	76.4
Other provinces		17.9		1.9
U.S.A.		12.0		15.5

* differences between day-use totals and 100 percent are insignificant when broken down and constitute a negligible market area.

Table 8: Day-use Visitor Origins 1975*

	Sandbanks			Outlet Beach		
	Total	1-day trip	more than 1-day trip*	Total	1-day trip	more than 1-day trip*
Metro Toronto	39.4	27.0	54.8	13.9	6.0	29.6
West of Toronto	10.0	6.8	12.6	4.6	0.7	10.4
Peterborough area	5.4	5.3	4.1	3.5	2.0	6.1
Kingston Area	5.8	12.5	0.5	19.8	29.0	3.0
Ottawa area	2.4	2.4	2.4	1.1	0.8	1.8
Belleville area	22.8	44.6	0.5	41.5	57.3	12.2
	86.0	98.6	74.9	84.4	96.5	63.1
Other Ontario	1.4	-	2.7	0.6	0.1	1.5
Quebec	1.1	-	2.0	3.3	0.1	9.6
U.S.A.	4.7	-	9.0	0.8	0.0	2.5
Other	6.8	1.4	11.4	10.0	4.0	23.3
	100.0	100.0	100.0	100.0	100.0	100.0

Source: Day-use Survey, 1974

Table 9: Private Accommodation (as of 1971)

Type	No. of Units	Capacity
Housekeeping Cottage	223	1064
Campsite	1449	5884
Other (Tourist Home)	61	167
Total	1733	7115

Of the 1733 units available, the majority are located near the park and also take advantage of the shoreline. However, the majority of the accommodation is oriented to the lakes, while the park provides the best opportunity to utilize the Lake Ontario beaches.

To summarize the day-use visitation trends, it is apparent that as the population of the urban areas increases, so will the potential day-use participation rates for the park increase. As mobility, fuel costs and travelling preferences are changing, it is difficult to accurately predict what proportion of the potential population increase will actually use the park and generate the demand in the area. However, the indications are that Belleville and Kingston will continue to be the primary market area of the day visitors who return home at night. On the basis of the present number of users from this area and the area's projected population increase to 2001, Sandbanks can expect an increase of 6,375 one-day visitors who will visit the area for the day only and then return to their home.

This prediction is further complicated by the influence of Metropolitan Toronto. Twenty-six percent of the day-visitors to Sandbanks came from Toronto and stayed overnight in the area. Often they returned the next day as well. Therefore, the Toronto area can be expected to generate an increase of 9,560 potential day-use visitors by 2001 who may be looking for accommodation in the area, either with friends or at private commercial establishments be they camping or motel-type operations.

In total then, the Sandbanks area can anticipate a projected potential day-use visitation of an additional 15,935 day-users and a potential camper increase of 9,285 visitors. This summary reflects how extensive the influence of the large population of Toronto is on the day-use at Sandbanks. It also indicates that intervening and alternative opportunities are more attractive to this same market group who are seeking camping locations.

Biophysical Resources

Climate

Prince Edward County is virtually an island lying off the northeastern shore of Lake Ontario. The lake has a marked modifying effect on the county's climate. Winter minimum temperatures are about six celsius degrees warmer than areas to the north and summer maximum temperatures are from two to four celsius degrees cooler than the mainland to the north. The growing season is 210 days, about 10 days longer than the adjacent mainland.

The county's position, in the lee of the prevailing westerlies off Lake Huron, results in slightly less than average precipitation for Southern Ontario. This, together with the relatively warm climate and the high evapo-transpiration, makes the county one of the most drought-prone areas in Southern Ontario.

Generally the climate is conducive to recreational pursuits. The longer growing season, the lower humidity and the milder winters combine to offer a variety of recreational opportunities which can be experienced by an increased number of people.

Geology and Geomorphology

During the Ordovician Period, (430-490 million years ago) this area was covered by warm seas. Calcareous shells of the crustaceans inhabiting these waters settled to the floor of the sea. As layer upon layer of these shells became compacted, the granite base was overlaid with some 275 m of limestone. This bed of limestone is called the Trenton Group and is composed of Cobourg and Sherman Falls rock units. On top of the Trenton Group was deposited about 30 m of Collingwood black shale (B.A. Liberty, 1960). During the glacial period which followed, the black shale and 60 m of the Trenton Group rocks were eroded so that the upper bedrock in the area is Trenton Formation medium-gray limestone. It is in thin beds, seamed and interbedded with calcareous shales, and it dips generally to the south.

About 12,700 years ago the last ice sheet retreated to the northeast and left till deposits of varying depths over the underlying bedrock. The till dposits were derived mainly from local Trenton limestone deposits. These soils occur together with comparatively level clay plains which were deposited subsequent to the Wisconsin glacial era when the county was covered by glacial Lake Iroquois.

As the glaciers receded and the tremendous weight of glacial ice was removed, the land rebounded to its present level. Although the land was covered by Lake Iroquois for about 500 years, the waters breached the St. Lawrence Valley about 12,000 years ago and the level dropped

15 m leaving these lands above water. Water levels were much lower at the Admiralty phase of early Lake Ontario and the shoreline of the county was many kilometres to the south of its present location. Isostatic rebound of the St. Lawrence Valley occurred and the level of the water rose about eight metres to its present height.

Between Picton and West Lake a narrow belt of kame and esker material has formed an uneven series of ridges and hills. These features indicate the path of a stream over or within the last glacial sheet. The esker ranges in height between 137 m at Picton to about 90 m at its southwestern extremity between East Lake and West Lake. There are large areas of outwash plains associated with this esker.

An immense sandbar, eight kilometres in length, separates West Lake from Lake Ontario (Figure 7). This bar, 1600 m wide at the southern end, tapers to 30 m at Wellington. Three kilometres to the southeast, East Lake is similarly separated from Lake Ontario by a much smaller sandbar. This bar is breached by the Outlet River from East Lake on the north to Lake Ontario at its southern end. The sand for these two bars was derived from glacial deposits and reworked by the waters of Lake Ontario and the wind to form two of the largest baymouth bars on the Great Lakes.

The process by which baymouth bars are formed is quite interesting. Waves in large expanses of open water are perhaps the major forces at work. The energy generated depends on wind speed, duration and fetch, and it increases exponentially with the size of the wave. Therefore, there is more than twice as much energy in a two metre wave than in a one metre wave. A baymouth bar is formed in an embayment with shallow sloping floors, at a point where wave energy first strikes. This point is generally accepted to be at a depth of water equal to one-half the wave length. Since the waves produced in low-frequency, high energy events such as Hurricane Hazel are in the order of 15 m long, this depth is about seven to eight metres. These large storm waves concentrate unconsolidated bottom materials into ridges or bars when they strike. The accumulated material accentuates the process by allowing successively smaller waves to ground and thereby deposit additional material. This continues until the bar is raised above the lake surface. The process requires a sufficient supply of sand and gravel material on an exposed coast with gently sloping embayments.

Topography

The baymouth bar which separates West Lake from Lake Ontario, comprises the Sandbanks sector. It is roughly triangular in shape, ranging in width from 1600 m at the southern end to less than 30 m at Wellington which is eight kilometres to the north.

The Lake Ontario beach is backed by low foredunes running the full length of the sector. At the extreme southern end, a system of high dunes, extending from West Point on Lake Ontario to West Lake, reaches 18 m in height. These dunes merge with a ridge along the West Lake shoreline which forms the backbone of the sector. Less than three kilometres to the north, these dunes disappear and merge with the foredune.

Figure 7

Geology and Geomorphology

PARK BOUNDARY

GEOMORPHOLOGY OF PROVINCIAL SIGNIFICANCE

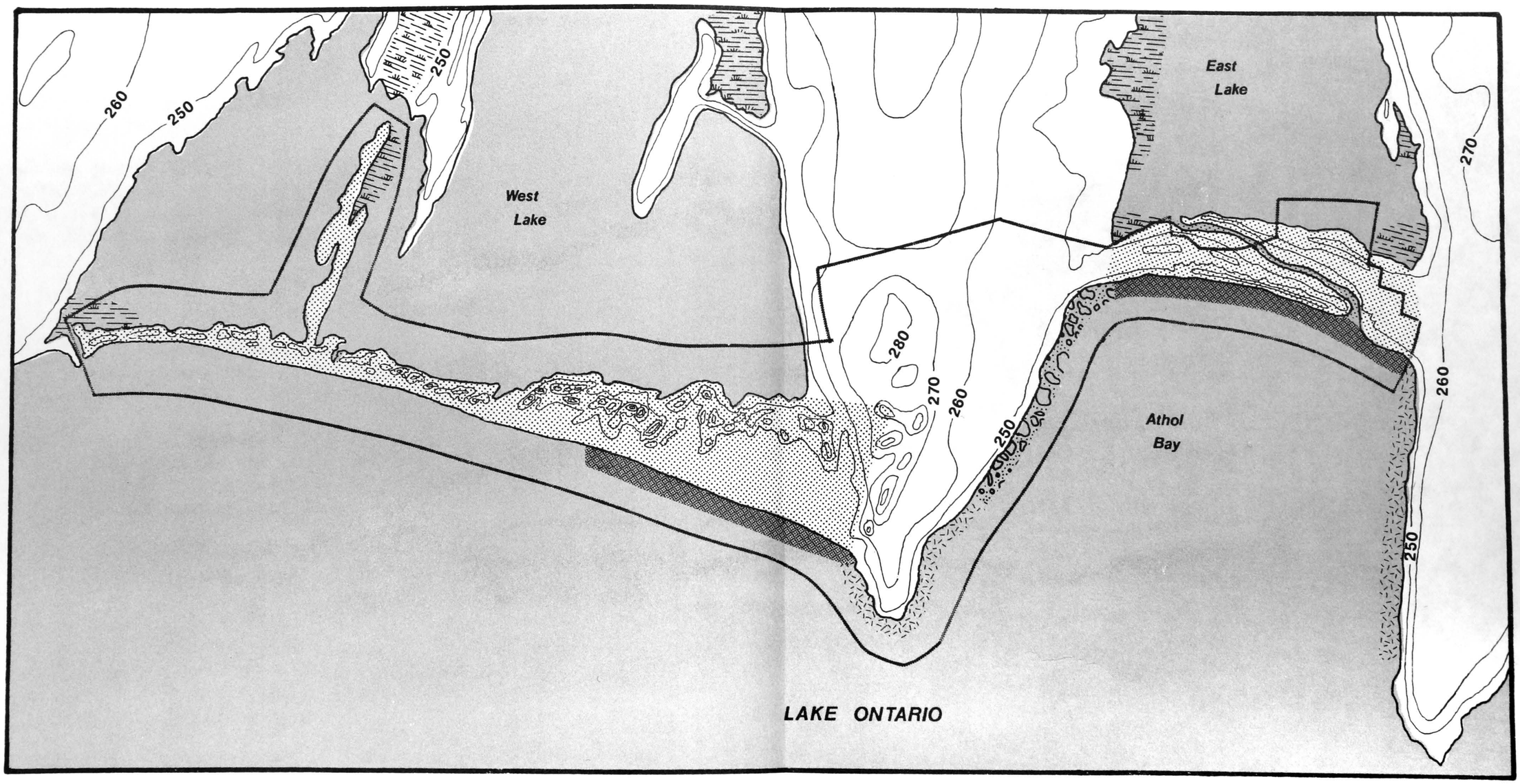
SAND BEACH

LIMESTONE SHELVES

GRAVEL BEACH

MARSH

250 CONTOURS AT TEN FOOT INTERVALS



0 .25 .5 1 2 3 Kilometres

Between the foredune to the west and the dunes on West Lake is an area known as the pannes; low-lying, wet ground which resembles a marsh-like environment.

In the northern half of the Sandbanks bar, the foredunes are interspersed with occasionally higher dune ridges and local, low, panne-like sections. Most of this area is somewhat protected by tall vegetation. However, a moderate amount of the sand is without cover.

The Outlet sector occupies the baymouth separating East Lake from Athol Bay on Lake Ontario. The bar consists, more or less, of a parallel series of similar physiographic areas. Beginning on the Lake Ontario side, there is the beach backed by a foredune system, the panne area, and in the middle and southern portions, a more or less stable open dune system. Between these dune systems which are not always clearly demarcated lies the panne area. Behind the stable forest-covered dunes is a low-lying section which grades into swamps or marshes on the East Lake side.

The intervening sector extends from West Point which is south and west of the Sandbanks sector to the northerly extension of the Outlet shoreline. The topography of this whole area is quite flat as the result of the limestone bedrock (Figures 7).

Soils

Soils are produced by the interaction of various living and non-living factors. For convenience these factors can be described under three categories; materials, conditions and processes.

Materials are the passive elements from which soils are formed and are essentially controlled by the geology and geomorphology of an area. These are influenced by the bedrock type, topography and the patterns of erosion and deposition.

Conditions are essentially passive elements whose actions limit or define the processes which may take place. Drainage is an example of a condition.

Processes are the actual active interrelationships which form soils from parent materials within the limits determined by conditions. Vegetation and climate are examples of processes although vegetation in some cases does provide the parent material.

The soil types identified within the park are described briefly here. For a more complex analysis, refer to Ontario Soil Survey Report 10 "Soil Survey of Prince Edward County" (Richards and Morwich, 1948).

The soils of both sandbars originated from the water-sorted sands and gravels deposited during the last glacial period. These have been reworked by lake and wind action to form the sandbars in the park area. The soils are classed as Eastport sands. These form the basis of the dunes which have been severely eroded in the Sandbanks sector and have remained relatively stable in the Outlet sector.

The Outlet sector sands have been severely leached yet support the growth of fir, cedar and spruce. The deposition of needles from these trees favours the formation of a mor layer. This results in a well-developed podzol soil, the only one in the southern Kingston Botanical Region.

Four other soil types derived from glacial debris occupy the intervening sector. Brighton gravelly sand dominates the northwestern portion of the area. This coarse material, derived from old beach deposits of sand and gravel, is low in organic content. It is extremely droughty because it is excessively drained. However, it has not been greatly affected by wind and water erosion.

Athol sandy loam occupies the western portion of the intervening sector adjacent to the Sandbanks sector. This soil type has not been greatly affected by erosion. It is a generally droughty soil because of its excessive drainage.

Ameliasburg loam occupies the eastern portion of this area adjacent to the Outlet sector. This is perhaps the most productive soil type in the park area. It is generally well drained with a tendency to be droughty and is able to support development.

Darlington loam occupies most of the eastern portion of the intervening sector. It is fairly deep and well drained and is an excellent soil for development purposes.

The only other soil type is Waupoos clay. This is the only soil in the park formed from lacustrine materials. It is not favoured for recreational development because its restricted drainage tends to cause it to puddle in wet weather and bake in dry weather.

Sampling of soil depths and types was done in the area and the results are shown on Figure 8. For recreational development sandy loam soils, deeper than 1.5 m, are classed as excellent; from 1.0 to 1.5 m are classed as good with some limitations; from 0.6 to 1.0 m are classed as moderately poor with some restrictions for development; from 0.3 to 0.6 m is very poor with severe development restrictions; and below 0.3 m can not support any development. In the intervening sector, though, about 50 percent of the soils were rate as good.

Hydrology

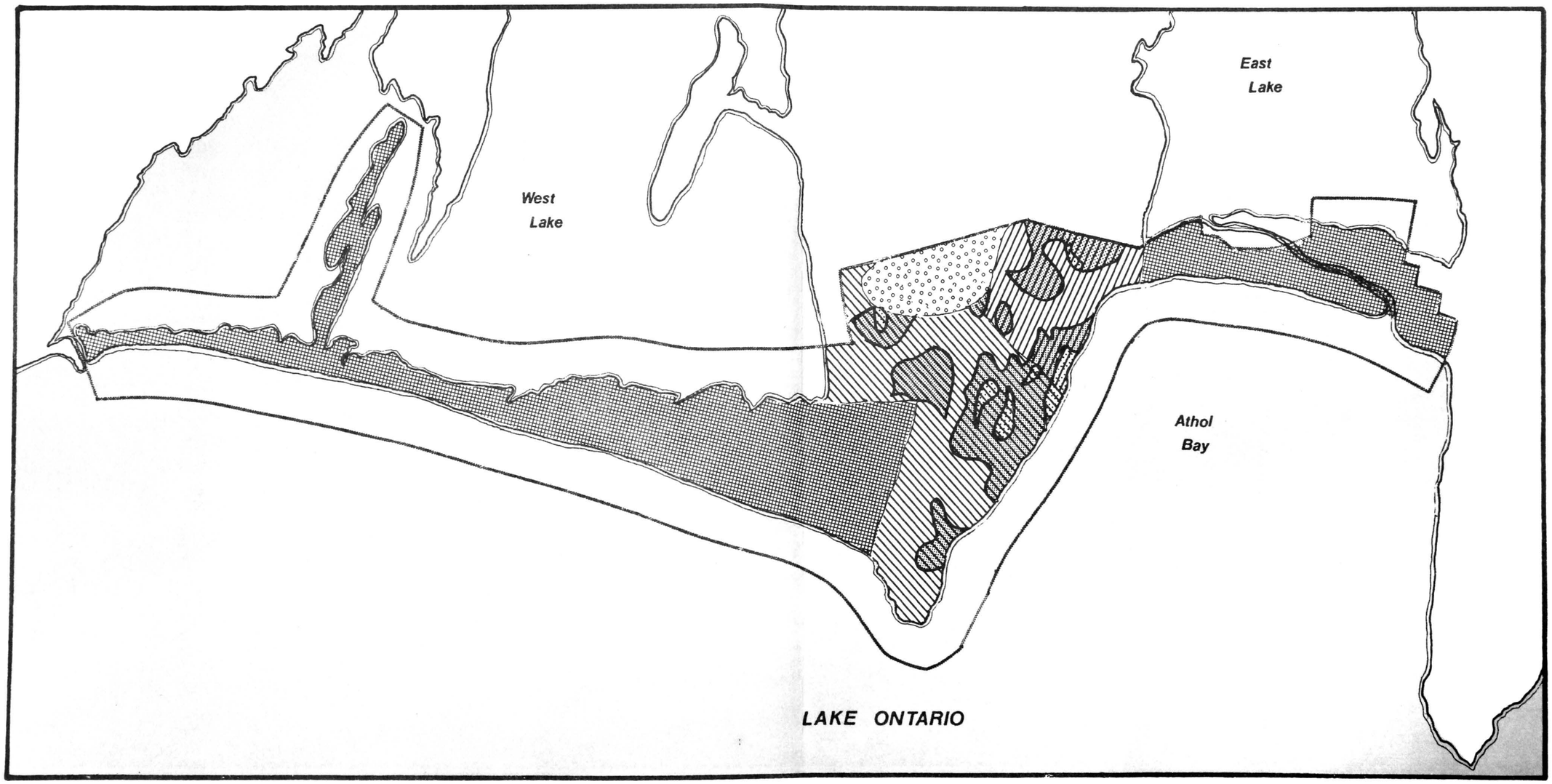
The only water course within the park area is the Outlet River which cuts diagonally across the Outlet sandbar and drains East Lake into Lake Ontario.

Drainage in the park is good. On the sandbars, in some areas the sand has been scooped away by the wind to expose the water table. These are the panne areas. The water in these pannes fluctuates daily and seasonally depending upon the water levels of Lake Ontario.

Figure 8

Soils

PARK BOUNDARY
SANDY LOAM
LOAM
CLAY
SOIL DEPTH OF 0.6 TO 1.0 M
SOIL DEPTH OF 1.0 TO 1.5 M
SOIL DEPTH OF GREATER THAN 1.5 M
FINE SAND (GREATER THAN 1.5 M)



0 .25 .5 1 2 3 Kilometres

SANDY LOAM

LOAM

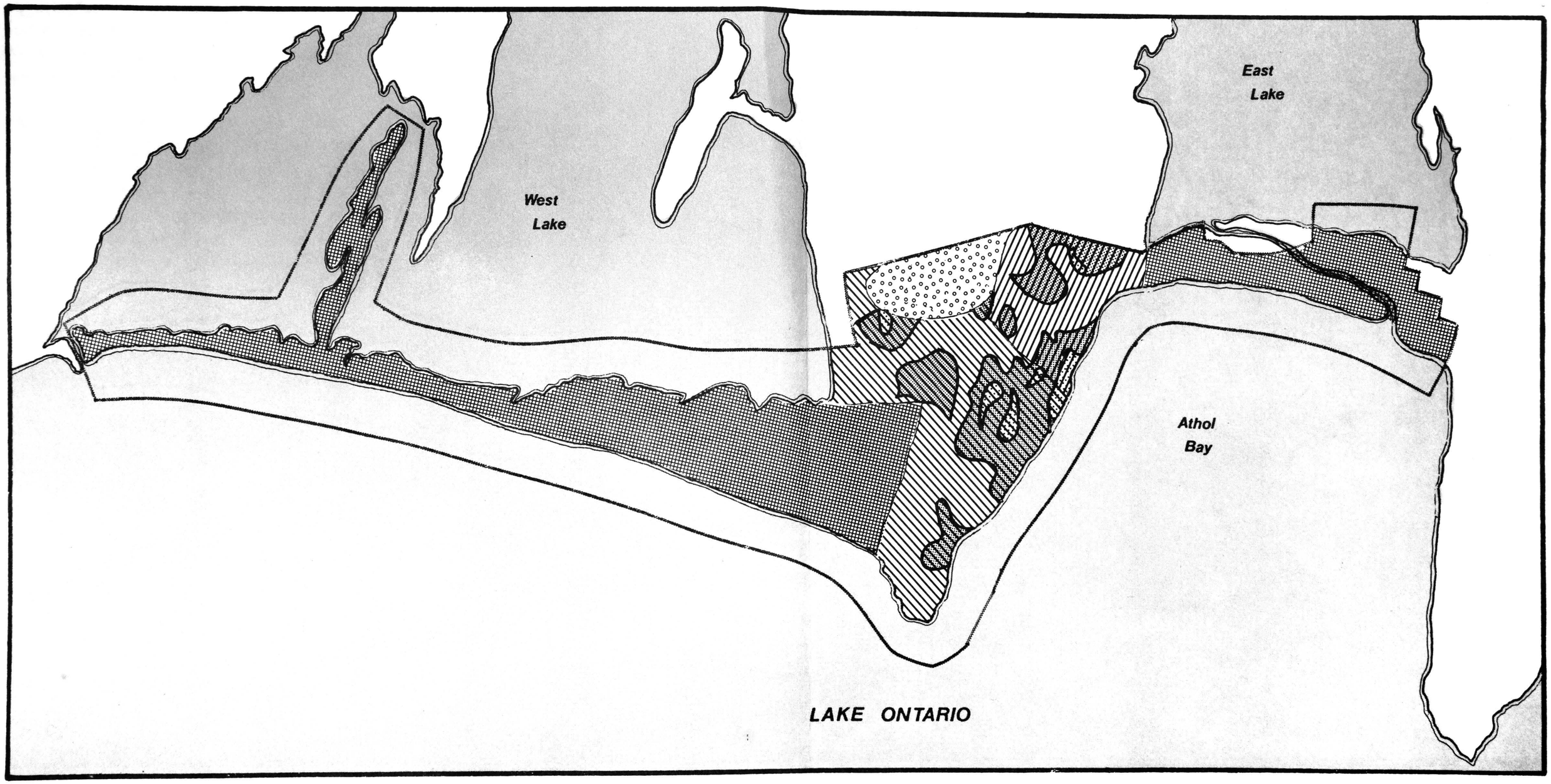
CLAY

SOIL DEPTH OF 0.6 TO 1.0 M

SOIL DEPTH OF 1.0 TO 1.5 M

SOIL DEPTH OF GREATER THAN 1.5 M

FINE SAND (GREATER THAN 1.5 M)



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Vegetation

The major influence which shapes the vegetation pattern is the climatic history. All vegetation was compressed into sharply delimited zones, south of the glacier's terminus, 12,000 years ago. As the glacier retreated to the northeast the boreal elements which occupied the most northerly zone and were best able to adopt to a cold climate followed the receding ice edge. As the climate warmed steadily during the next 6,000 years, the species which were less tolerant of the cold began to develop. During this warm, dry period, some of the western species extended their range eastward to Prince Edward County. As the climate cooled over the next 6,000 years, the western species retreated but left behind relict populations. At the same time the more southern species moved into the area.

The county falls into the Transition Zone - a zone of gradual change from a diverse southern deciduous flora to a species-poor northern boreal flora as one proceeds from south to north. The gradient in decreasing numbers of species parallels, to some extent, the gradient in decreasing environmental favourability. More importantly, it reflects the ability of a species to migrate rapidly and to compete and adapt in the relatively short period since the land has been exposed after the ice age (Rowe, 1967).

In general, the far northern species are the "pioneers", the fast travellers whose seeds are borne by light winds or water. These are the spruces, tamarack, birches, poplars and willows.

Farther south are the species with the larger seeds who migrate slower such as pines, maples and basswood. In the extreme south are the large seed species which depend mainly on animals for dispersal. These include oaks, hickories and walnuts.

Another major influence which shapes the vegetation pattern is the physiography. The thin till over the limestone bedrock in the park area has conditioned the vegetation to adapt to calcareous soils.

The third major influence on the county's flora has been the impact of man. Before the arrival of the first settlers to the county the vegetation of the area was in a dynamic state, still in the process of recovering from the effects of glaciation (Soper, 1955). It was a unique mixture of southern boreal and western species. The dominant vegetation composition was that of the Transition Zone; maple-beech hardwood forests with other tolerant species such as red and white pine, hemlock, ash and black cherry being important components. White pine was especially dominant on well-drained sites. The Sandbanks sector supported some magnificent stands of this species.

The forests were cropped for ship's masts and lumber or simply to make way for agriculture. The only forests that escaped were those which were predominately hard maple. To the settlers these were their chief source of sugar. This accounts for the fact that scattered about the county are the remnants of these maple bushes. Therefore it is evident that man has interfered with the natural development of

vegetation communities by eliminating some species or groups of species, by reducing the diversity of species by agricultural monoculture, by introducing weedy species and by cultural eutrophication.

Eutrophication is the natural process of gradual enrichment of the environment as a result of the interaction of the biotic and abiotic parts of the ecosystem. Cultural euthrophication is the interference of man in this natural process which results in a tremendous increase in the rate of aging in the process. The ecosystem under man's intervention has low diversity and high productivity. It is dominated by a few species which can produce living matter quickly enough to outstrip other species and gain dominance over the ecosystem. Such a system is, therefore, unstable. Each species in the ecosystem has its limits for responding to environmental change. The ecosystem is therefore only as stable as the sum of its constituent stabilities. Ecosystems containing only a few members consequently have a low diversity and are unable to respond favourably to environmental variability.

The flora of the area is the result of the interaction of a number of different forces. It is the result of dynamic processes of the past, the present and the future. It is still changing, - plants are still migrating; plant communities are varying; evidence of the vagaries of opportunity, competition and disturbance is increasingly noticeable.

Figure 9 indicates the different landscape units. Characteritic vegetation for each unit is summarized below. For a more complete description and analysis, refer to the ecological report for Prince Edward County (Carlisle, Whitcombe and Harris, 1973).

Unit A:

The Sandbanks foredunes represent the first outpost of vegetation. Shifting sand, blowing winds and generally adverse conditions limit species to those that can produce new plants by such means as rhizomes, stolons or suckers.

Although vegetational distribution seems to be fairly uniform , there is a general pattern of association. Wormwood, marram grass and Carolina poplar occupy the front of the foredunes where they are exposed to wind and wave action. The crest of the foredunes supports thickets of heart-leaved willow and sand cherry intermingled with wild grape, red osier dogwood, Canada wild rye grass and starry false Solomon's seal. To the rear of the foredunes, where it develops into the wetter panne areas, the more common species are rush, silverweed and horsetail.

Unit B:

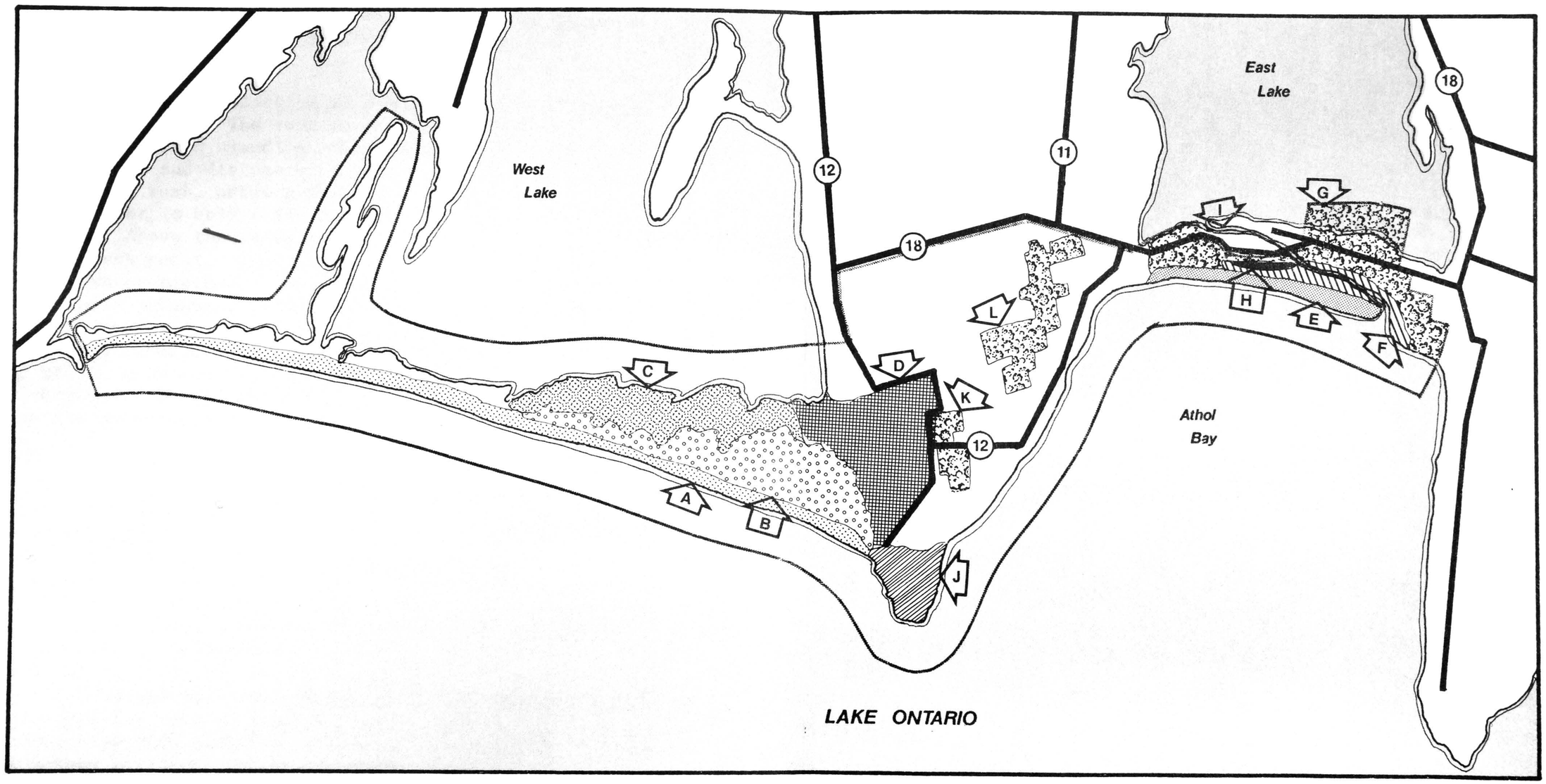
The panne area east of the foredunes supports an intricate mosaic of plant communities which provide a striking example of the interrelationship between biota and environmental conditions.

The pannes possess a relief of about 0.6 m. Since the surface elevation undulates from slightly above to slightly below the water table, there are patches of open water alternating with dry hummocks of land. Between the water and the dry hummocks are bands of moist sand where the water table is only about five centimetres below the surface.

Landscape Units

PARK BOUNDARY

UNIT A - FOREDUNES
UNIT B - PANNE AREA
UNIT C - BACKDUNES
UNIT D - REFORESTED AREA
UNIT E - OUTLET BEACH AND FOREDUNES
UNIT F - OPEN DUNES
UNIT G - FORESTED DUNES
UNIT H - OUTLET PANNE
UNIT I - OUTLET RIVER
UNIT J - WESTPOINT AREA
UNIT K - SUGAR BUSH
UNIT L - WOODLOTS



0 .25 .5 1 2 3 Kilometres

Several factors together give the pannes unique ecological conditions. The sand substratum contains a low concentration of nutrients which makes them relatively sterile. The presence of limestone fragments in the sand causes the pannes to be somewhat alkaline, and their closed nature prevents drainage other than by slow percolation through the dunes. The net effect of this closed system further emphasizes the low level of nutrients.

Perhaps the most dominant factor is the relationship between soil surface and water table which produces a continuum of conditions from excessively dry to permanently wet soils. Since the position of the water table changes irregularly as well as daily and seasonally, this effectively controls the species which can tolerate such environmental conditions.

The biggest, most diverse selection of pannes is in the southern part of the Sandbanks sector. The continuum of plant species in an environment which ranges from standing water to excessively dry includes epiphytic algae and diatoms with stonewort. Emergent vegetation includes beakrush, twig rush, arrow-grass, sedge, spike-rush and galingale. Where the standing water is only a few centimetres deep, horsetails and boneset are present. Above the waterline, a whole series of strikingly beautiful small flowers occur. They bloom from late July to early September when the water reaches a low point. This includes brook lobelia, nodding ladies-tresses, fringed gentian, purple gerardias, marsh St. Johnswort and grass-leaved goldenrod. On somewhat drier areas farther up grow several small fine grasses, and on sites which are even drier still, grow rushes, silverweed, field pussytoes, hawkweeds and wormwood. Heart-leaved willow, red-osier dogwood and white cedar cap the hummocks.

Unit C:

The backdunes provide a gentler environment and hence more stability. Characteristic vegetation tends to more woody species. Vegetation associations vary from north to south. The northern part of the bar, being narrow, supports vegetation which is characteristic of that on the foredunes; willow, white cedar, wild grape and poison ivy are the typical species with locally uncommon occurrences of red ash, dropseed, orange milkweed, cord and reed grass along the shore of West Lake. South of the narrows, as the bar widens, white cedar and cottonwood are the dominant species. White birch, basswood and white spruce occur as scattered species near the water. Farther south cottonwood predominates with basswood, chokecherry, red-osier dogwood, wild grape and poison ivy occurring on the backs and tops of the dunes. The areas of open sand support sea-rocket, sand-spurge and Russian thistle with hoary puccoon growing at the eastern limit of its range.

Unit D:

The reforested area, where the dunes reach their maximum height, supports a mosaic of patches of plantations, natural open sand vegetation and remnants of the old forest nursery.

Unit E:

The beach at the Outlet sector is bare because of its exposure to wind, wave and human activity. The low foredune which stretches almost the entire length of the beach supports heart-leaved willow, wormwood and cottonwood with a ground cover of false Solomon's seal. In the southern half of the park, the foredunes form a series of low, parallel ridges interspersed with panne-like areas.

Unit F:

The open dunes in the Outlet sector contain a number of dune ridges not covered by forest. Except for an occasional blowout, these ridges are quite stable, supporting a juniper heath. Some of the open areas are a combination of marram grass, starry false Solomon's seal, wild grape, and poison ivy or less commonly, bittersweet, Virginia creeper, hoary puccoon, Canada wild rye grass and bearberry.

Unit G:

The forested dune supports an odd mixture of northern species. The dominant tree cover is comprised of white cedar, balsam fir, white spruce and white pine, with scattered white birch and black cherry. The ground cover is mainly wild lily-of-the valley, starflower, columbine and white trillium. A more typical local climax forest occurs to the northeast where an association of white pine-maple-hemlock occurs. At the south end a hard maple-white cedar forest provides a canopy for an unusual assemblage of spring flowers, including Canada violet, dog violet and downy yellow violet, which form carpets particularly around the campsites.

Some provincially significant vegetation occurs in this unit. There is a small clump of white violet near the maintenance building, yellow lady's slipper occurs behind the park office and helleborine is common throughout the campground.

Unit H:

In the central portion of the Outlet sector is a low, moist strip of land extending from Martins' gate to Outlet River. This remnant of the Outlet pannes is nestled between the dune ridges where the juniper heath gives way to the coniferous forest. These pannes bear some resemblance to those of the Sandbanks sector. The ecological conditions are similar. The differences are due to their smaller size and their geographic position. Occurring between parallel dune ridges, they receive a greater nutrient inflow from the forest on one side and the heath on the other. They are, therefore, one step closer to a wet calcareous meadow than to true pannes with relatively exteme conditions. In additon to the typical panne environment species, then are some species associated with calcareous meadows such as marsh St. John's wort, blue-eyed grass, and the rare southern bluets. Western praire grasses are also represented here, relicts from their eastern advance during the dry period following the last ice age.

Unit I:

The Outlet River cutting diagonally across the baymouth bar drains East Lake into Lake Ontario. Two factors influence the vegetation found here - one is the flow of nutrient-rich , moderately eutrophic water from East Lake and the other is the busy motorboat traffic during the summer. This traffic limits the submerged aquatic growth in the main channel and, because of the erosion caused by waves, it controls the stream bank vegetation. Water-milfoil, pondweeds, coontail, wild celery, waterweeds, duckweeds, cattails, bullrush and bluejoint all occur in this environment. The western shore of East Lake, a small part of which occurs in the area of the group campgrounds, slopes very gradually to about a two metre depth at about 200 m offshore. Bullrush, pickerelweed, white water lily, skunk lily, wild rice, water willow, bladderwort and duckweed frequent this shore. In the northwest corner of the lake is a bluejoint sward giving way to cattail marsh, bullrush, reed, dodder, burreed, and arrow arrum in deeper water. East of this area, white water buttercup has been located. This is a very uncommon species.

Unit J:

West Point is the most westerly area of the newly acquired land south of Sandbanks sector. Sugar maple, red oak, and hop hornbeam occur here. Between 64 to 102 cm in diameter, these trees lack any appreciable height because of the constant exposure to the winds off Lake Ontario. Chokecherry is taking over many of the glades. Heart-leaved aster, trout lily, mayapple, white trillium, waterleaf, violets, nightshade, raspberry and burdock form the ground cover. Above the stormline on the exposed two-metre limestone cliffs can be found saxifrage, whitlow grass, columbine and bluebell.

Unit K:

The sugar bush is composed of patches of mature forest with sugar maple being the predominant species. Some of the maples are 100 cm in diameter. There are several large oaks and white cedars whose diameters approach 75 cm. Since these bushlots were formerly managed for maple syrup production, it is not surprising that hard maple forms the majority component. Scattered throughout, however, are a few black cherry, red ash, green ash and basswood. The forest floor supports mayapple, white trillium, wild geranium, violets and early meadow rue. Mother-wort occurs around the woods' edge.

Unit L:

A series of interconnected woodlots occupies about 20 percent of the area between the Outlet and Sandbanks sectors. These, too, are predominantly sugar maple with scattered birch, red oak, hop hornbeam, white birch, white cedar, shagbark hickory, basswood, hemlock, balsam fir, blue beech, largetoothed aspen, and white oak. The forest floor has a varying species association with one or more of the following: spotted touch-me-not, white trillium, wild geranium, herb robert, mayapple, early meadow rue, yellow violet, raspberry, Canada yew,

jack-in the-pulpit, trout-lily, yellow loosestrife, nettle, wild grape, nightshade, false Solomon's seal, true Solomon's seal, baneberry, enchanters' nightshade, maple-leaved viburnum, and beech drops. The open areas support vegetation which is typical of Farmington soils found in other parts of the country.

Fauna

Due to the park's location, it is a reasonably good area for birds migrating from the south to Prince Edward Point and along the shoreline to the mainland on their northward journey. As well, the great variety of habitats available attracts resident and breeding species. During the 1972 inventory, 61 different species were recorded in one day (August 23rd) and 106 species were recorded during the summer months.

Studies of migrating shore birds carried out in 1977 indicate that the Sandbanks sector may be of provincial significance as a stop-over point for this class of birds. Besides large numbers of single species counted there were recordings made of some species considered rare for the area (i.e., white rumped sandpiper - a western species). In all, 21 different shore bird species were observed.

On the basis of the wildlife records and the ecological reports, an inventory and assessment was made of this area's potential to support various species of fish and wildlife. This is extremely pertinent to the designation of zones, activities and management in the park. The results of the assessment are found in Figure 10.

The Kingston Field Naturalists have been active at Prince Edward Point since 1971. A total of 209 bird species are on record for the site (Weir, 1972). A close liaison will be maintained with the Kingston Field Naturalists and information from their surveys' will be available to park visitors. A complete checklist of park avifauna will be available as part of the visitor services program.

A detailed list of mammals, amphibians and reptiles, spiders, crickets and grasshoppers appears in Appendix B of the Environmental Inventory Report (Carlisle, Whitcombe and Harris, 1973). The mammals are representative for Southern Ontario. The arachnid fauna is similar to that of the northeastern United States, as are the other orders of insects reported.

Figure 10

Fish and Wildlife

PARK BOUNDARY

HIGH POTENTIAL AND CAPABILITY FOR WILDLIFE AND FISH

A MEDIUM POTENTIAL AND CAPABILITY

B SPRING VIEWING FOR WATERFOWL: REDHEADS, CANVASBACKS, RINGNECKS

C ANGLING: PICKEREL, PIKE, PERCH, PANFISH

D SEASONAL COMMERCIAL FISHING: HOOPNETS, CARP GILLNET

WATERFOWL NESTING AREAS

E LARGE OPEN FIELDS MAY PROVIDE HIGH VIEWING AND MANAGEMENT POTENTIAL FOR CANADA GEESE

F SPRING AND FALL WATERFOWL VIEWING: WHISTLERS AND BUFFLEHEADS IN FALL, GREBES IN SPRING

G SPRING WATERFOWL VIEWING: BLUEBILLS & RINGNECKS

H BEAVER AT BANK OF OUTLET CREEK

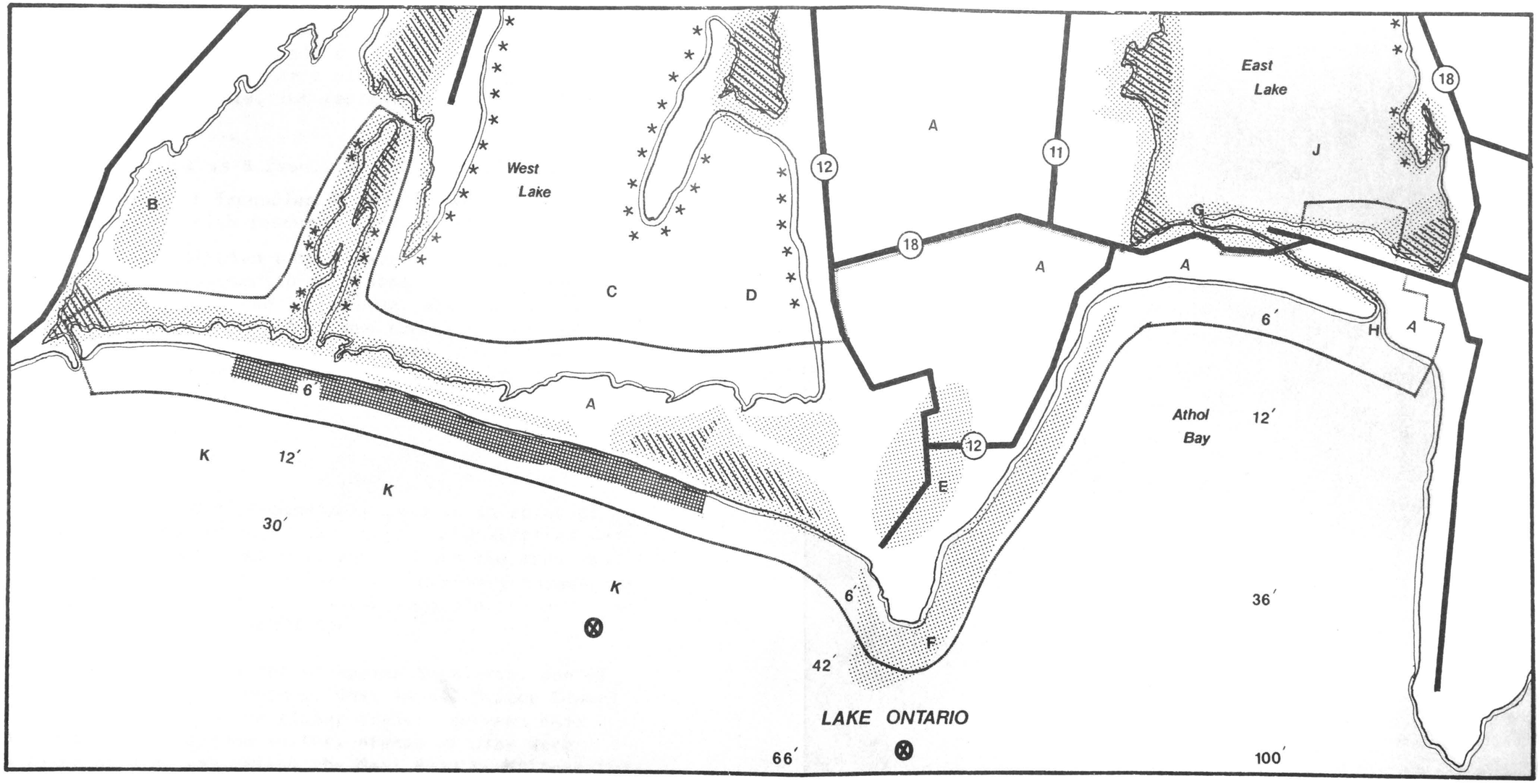
J ANGLING: PICKEREL, PIKE, PERCH, PANFISH, BASS: SEASONAL COMMERCIAL FISHING, HOOPNETS, CARP GILLNETS

K COMMERCIAL FISHING: GILLNET AND EEL LINES ETC.

* PICKEREL SPAWNING AREA

⊗ HISTORICALLY LOCATION OF SITINGS OF ATLANTIC SALMON, STURGEON

SPAWNING GROUNDS: WHITEFISH AND LAKE TROUT



0 .25 .5 1 2 3 Kilometres

Figure 10

Fish and Wildlife

PARK BOUNDARY

HIGH POTENTIAL AND CAPABILITY FOR WILDLIFE AND FISH

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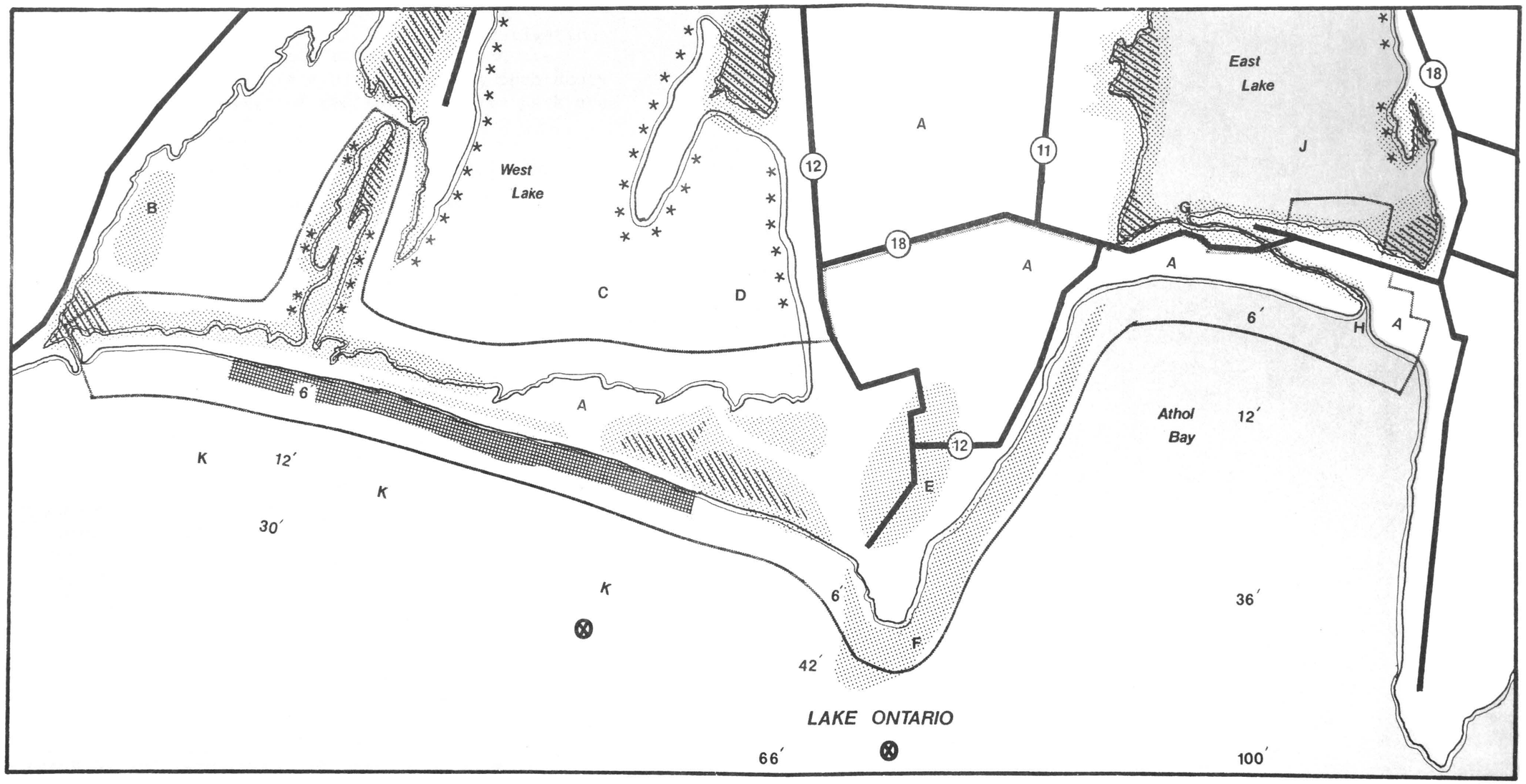

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Cultural Resources

Prehistory

The piecing together of the prehistory of Sandbanks has been made difficult by the shifting sands. Few artifacts have been found at Outlet/Sandbanks to give any meaningful understanding of the times before white man came to the area. However, the continuing archaeological survey of Prince Edward County and the investigation of specific locations such as the McDonald site near Picton are uncovering information which can give us a picture of the prehistory of the county as a whole. From this, information about the park area can be extracted.

Two of the themes developing as a result of the studies are:

1) the long succession of Iroquoian speaking people;
2) the Quinte area as a rich resource base for the Native people

Artifacts attributed to the Iroquoian people have been discovered in the area. The Indians were attracted to this area because of the excellent fishing opportunities at the lake along, what is now, the west side of Prince Edward County. Fishing was the area's dominant attribute attracting the Europeans when they arrived in the nineteenth century, and the Wellington fisheries have been some of the most profitable on the Great Lakes.

History

To study the history of the Outlet-Sandbanks area is to think of the environmental history. Few areas of the county have suffered so dramatically as a result of the presence of man. Since the area was first surveyed around 1810 human activity has not been very intense but the thorough modification of this area since that time is a testimony to the sensitivity of the landscape.

Settled in the late 1700's by the United Empire loyalists, one of the earliest settled areas in the province, what is now Prince Edward County was incorporated early into the timber trade. Between East Lake and West Lake near the Sandbanks sector, stands of pine were cut and the logs taken by what was called the Mast Road to Milford for shipbuilding.

Around the turn of the nineteenth century, barge and schooner navigation were extremely important to the development of settlements and the shipping of goods on Lake Ontario. However, around the 1820s the development of the steamboat service and then the development of the railways in the 1850s, superseded the schooner as the preferred mode of shipping on Lake Ontario.

By the 1850's, timber cutting was complete and the area was being used by the Loyalists and the Quakers for agricultural purposes. At this time, the area was becoming well-known for its commercial fishing opportunities. Fishery operations continued into the early 1900's when changing market demands, technology and the availability of fish species reduced their viability.

During this time, the area and landscape which is now known as Sandbanks was being formed. With the advent of "Barley days" in Prince Edward County, the remaining stands of wood were removed and the cattle were grazing on the grassy flats. By 1852 the area has been so completely razed, the sand was exposed, and by 1881, the formation and advancement of the sand hills was obvious. In addition flat marshy areas began to appear along the Lake Ontario shoreline. Eventually, many areas of mature cedar forest were inundated by the sand. Fields of crops, roads and buildings were devastated by the moving sand. Reforestation to halt the advance of the sand began as early as 1911, but intensive efforts were not made until the 1950s.

After 1860 the sanddunes had developed to the extent that they offered a recreational appeal similar to that of today. By the 1870s, large lodges had developed in the area such as Lake Shore Lodge which is located in what is now park property. The lodge was advertized as a first class hotel and the sand hills had the reputation as the most wonderful in the world.

Studies on the lodge have recently been completed and the recommendations were to restore and preserve the lodge because it was local, significant cultural asset. However, financial resources were not available to restore the lodge and over time vandals have ravaged the site to the point where it is no longer feasible to restore it. It presently represents a fire hazard to adjacent holdings which are presently, privately held and to the entire reforestation project in the Sandbanks sector. Therefore, what remains of the building should be removed as quickly as possible. Plans exist which could be used to construct a replica of the lodge should the money ever become available after the other proposed developments are completed.

The sand dunes then, are as much a man-induced phenomena as a natural phenomena. As a rather recent development in the history of the area, the blowing sands are responsible for obscuring other aspects of the area's history.

Figure 11

Cultural Features

PARK BOUNDARY

INDIVIDUAL FISHING RIGHTS WERE GRANTED ALONG THESE SHORES UNTIL 1835 WHEN THEY BECAME PUBLIC

A FISHING DERBIES ESTABLISHED IN 1930'S FOR TOURISM

B ARCHEOLOGICAL SITE: POTTERY, SINKER

C ARCHEOLOGICAL SITE: ARROWHEADS IN ORCHARD

D HISTORIC CANNING FACTORY

E REMAINS OF WEST LAKE BRICK PRODUCTS COMPANY

F OLD FIRE TOWER

G HISTORIC EVERGREEN HOUSE

H HISTORIC LAKESHORE LODGE

J OLD LAKEVIEW LODGE

K HISTORIC SHORE ACRES

L MACDONALD FARM

M OLD WHARF SITE

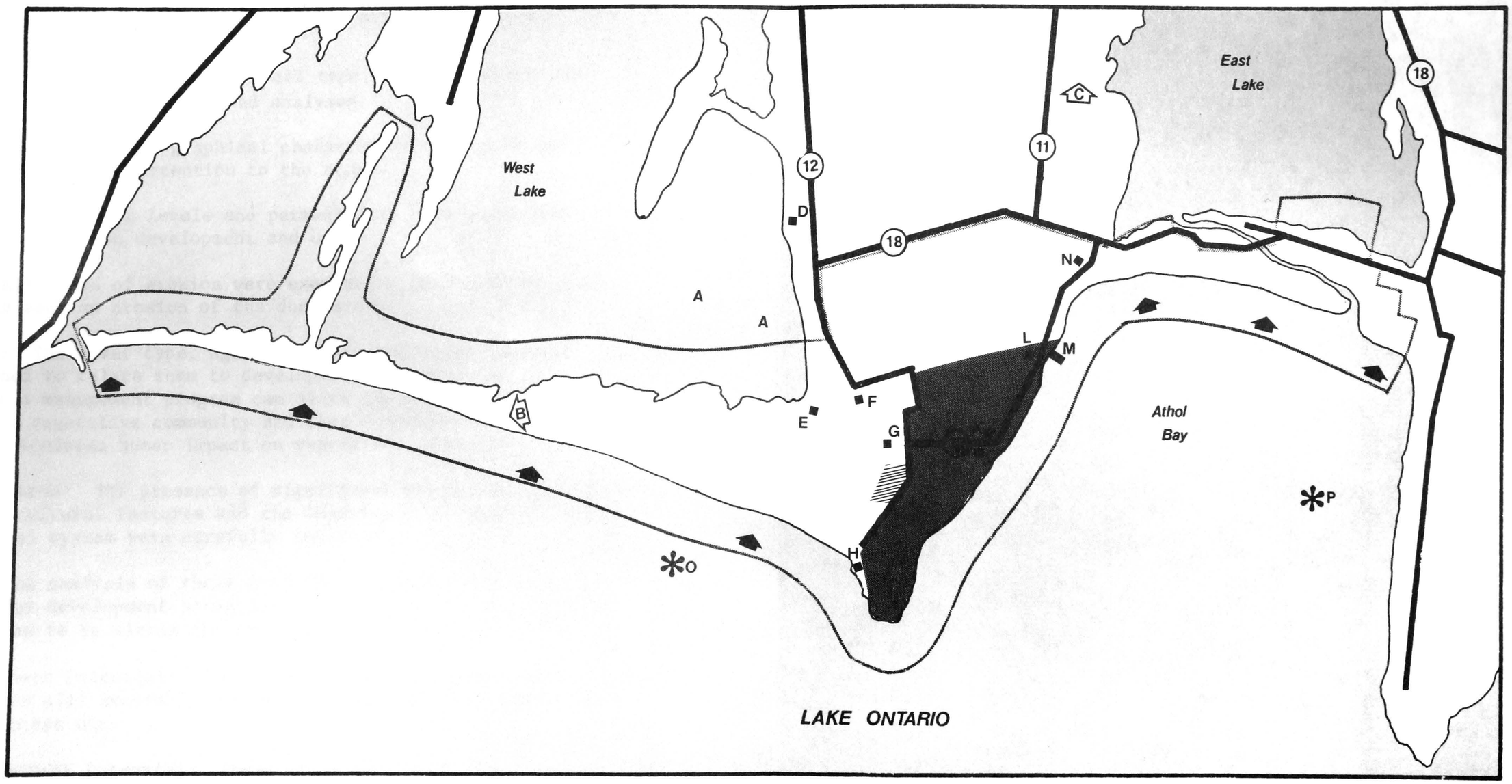
N WAITE HOUSE, DATING TO 1866

O SHIPWRECK OF THE ELANOR HAMILTON

P SHIPWRECK OF THE HENRY FOLGER (1800's) THE ENTERPRISE (1822) AND OTHERS

OLD SANDBANKS NURSERY (1921)

LAND FORMERLY OWNED BY KING'S COLLEGE UNIVERSITY OF TORONTO (1800's)



Environmental Analysis

An environmental analysis is intended to provide an indication of how suitable the land is for the development of facilities and the optimum intensity of development the land can withstand subject to its physical and aesthetical limitations (Figure 12 and Figure 13). The Sandbanks area was divided into numerous landscape units and a set of criteria were applied to each unit to determine the degree of development and use that would be appropriate for each. The following are the criteria used in the analysis.

Soil: The depth to the bedrock, soil type, moisture regime and parent material were all examined and analysed.

Relief: The general topographical character of the landscape was examined with special attention to the slope.

Drainage: Groundwater levels and permeability were studied to determine their effects on development and use.

Erosion: All types of erosion were examined. The important type in this park is aeolian erosion of the dune areas.

Vegetation: The cover type, age, condition and crown density were all examined to relate them to development and use. It is recognized that a management program can alter the effects of development on a vegetative community and that sensitive site planning is necessary to minimize human impact on vegetative communities.

Special Features: The presence of significant biological, geological aesthetical and cultural features and the importance of these in the overall provincial system were carefully analysed.

The sum of the analysis of these criteria provided a map showing areas with similar development potential (Figure 14). The development potential is given to be within the four categories described below.

High Development Potential: These areas present minimum constraints to development and will generally support all types of development and a high level of human use.

Medium Development Potential: These areas have some constraints on use. They can stand moderate development and moderately-intense activities but require careful site planning to ensure that development and use capabilities are not overtaxed.

Low Development Potential: These areas have severe constraints to the development and use of the areas. Trails and simple structures are permissible if carefully sited.

No Development Potential: These areas are unsuitable for any kind of development due to unstable or hazardous conditions or the presence of fragile earth and life science features.

Conclusions

The following conclusions were made by the planning team on the basis of the environmental analysis and the visitation records of the two existing parks: 1) development has been too extensive; 2) the resource is threatened by overuse; 3) the resource must be preserved; 4) the recreational pressures on the resource are increasing; 5) the recently purchased area should provide the bulk of facilities for extended use; and 6) the sandbars and dunes should be sensitively redeveloped for controlled and restricted day-use.

Therefore, the intervening sector will be called on to provide all of the camping and some of the day-use development. A careful analysis of the development potential indicates the maximum level of development to be 600 campsites. This figure is in agreement with recreation management expertise which recognizes that management problems will develop in parks where campsites exceed this number.

The present day-use capacity is adequate until at least the year 1981 and will remain at this level for now.

In addition, by calling the new park "Sandbanks" emphasis is placed on the resource values yet downplays the recreational connotation which Outlet has come to have in the minds of the public.

Viewpoints

PARK BOUNDARY

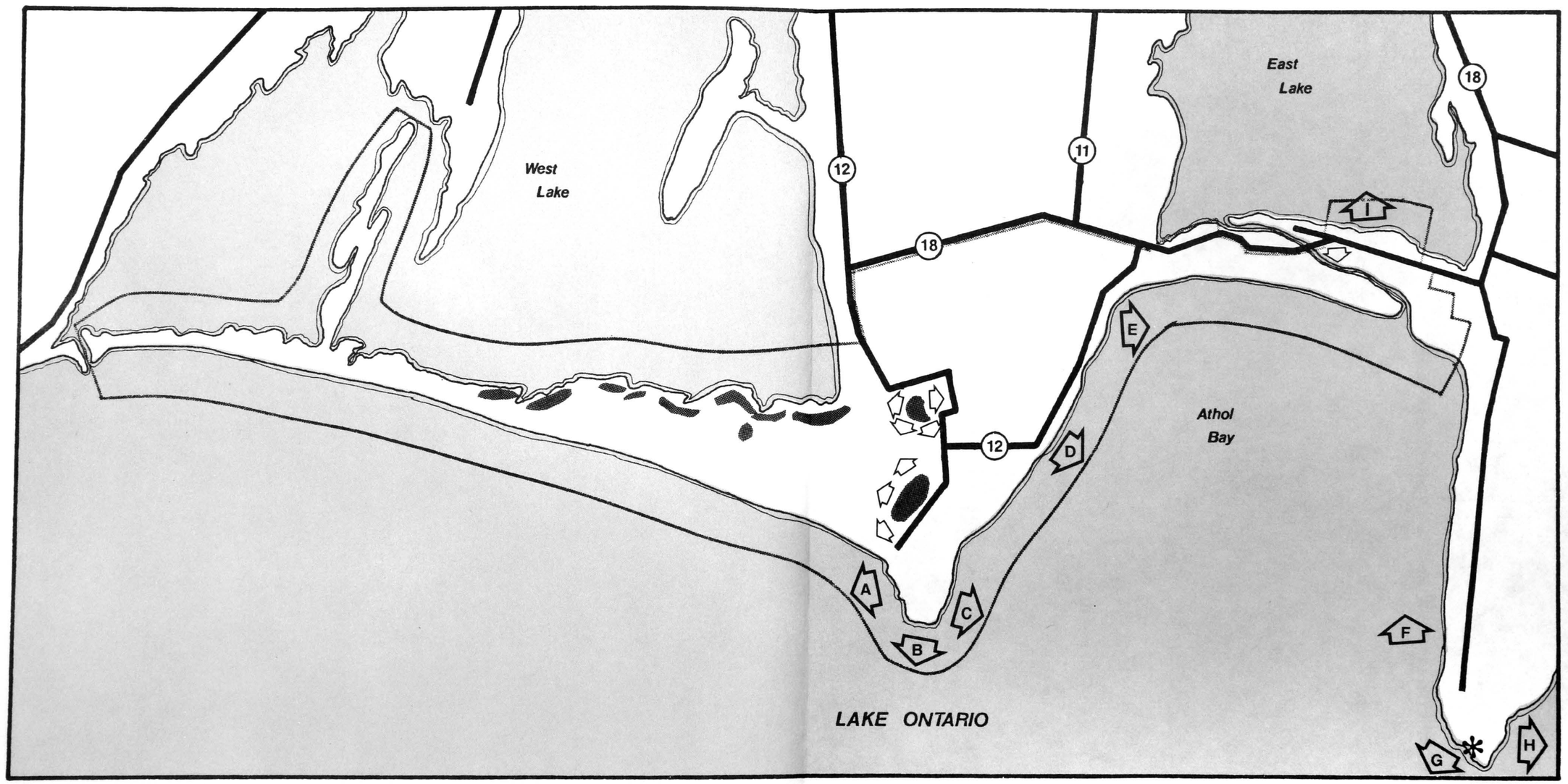
HIGH POINTS

LIGHTHOUSE (PRIVATE)

POTENTIAL VIEWING POINTS

VISTAS OF:

- **A** WELLINGTON
- **B** SHIPPING ON LAKE
- **C** SALMON POINT
- **D** SALMON POINT
- **E** BEACH
- **F** BEACH
- **G** SHIPPING ON LAKE
- **H** POINT PETRE
- **I** EAST LAKE



0 .25 .5 1 2 3 Kilometres

Figure 13

Vegetation Significance

PARK BOUNDARY

MARSH

ORCHARD

VEGETATION OF PROVINCIAL SIGNIFICANCE

a REMNANTS OF OUTLET'S PANNES: BLUETS RELICS OF PRAIRIE PERIOD, BLUESTEM, LITTLE BLUESTEM AND INDIAN GRASS

* VEGETATION OF REGIONAL SIGNIFICANCE

b WHITE BUTTERCUP

c WILD RICE ALONG SHORE

d ARROW ARRUM

e NORTHERN WHITE VIOLET

f DWARF MISTLE-TOE

● VEGETATION OF LOCAL SIGNIFICANCE

g RELATIVELY LARGE CATTAIL MARSH SUPPORTS YELLOW THROATS AND SWAMP SPARROWS

h MARSH VEGETATION SUPPORTING LONG BILLED MARSH WREN

i LOBELIA SIPHILITICA (GREAT LOBELIA MARSH FLOWER)

j PHRAGMITES COMMUNIS (MARSH GRASS)

k 25" IRONWOOD

l WOODLAND BIRD BREEDING HABITAT WITH EXCELLENT VIEWING POTENTIAL

m SUGAR BUSH

n CHERRY ORCHARD

o APPLE ORCHARD

p CLIMAX FOREST: SHAGBARK HICKORY, BASSWOOD, HEMLOCK, BALSAM FIR, BLUE BEECH, LARGE TOOTHED ASPEN, WHITE OAK. GOOD BIRD HABITAT

q RED OAK AND MAPLE RING FIELD

r CLIMAX FOREST WITH MATURE BLACK CHERRY (D.B.H. 23")

s BLACK MAPLE, SUGAR MAPLE. WHITE CEDAR AND AN EXTENSIVE ASSORTMENT OF COMMON AND RARE SPRING FLOWERS

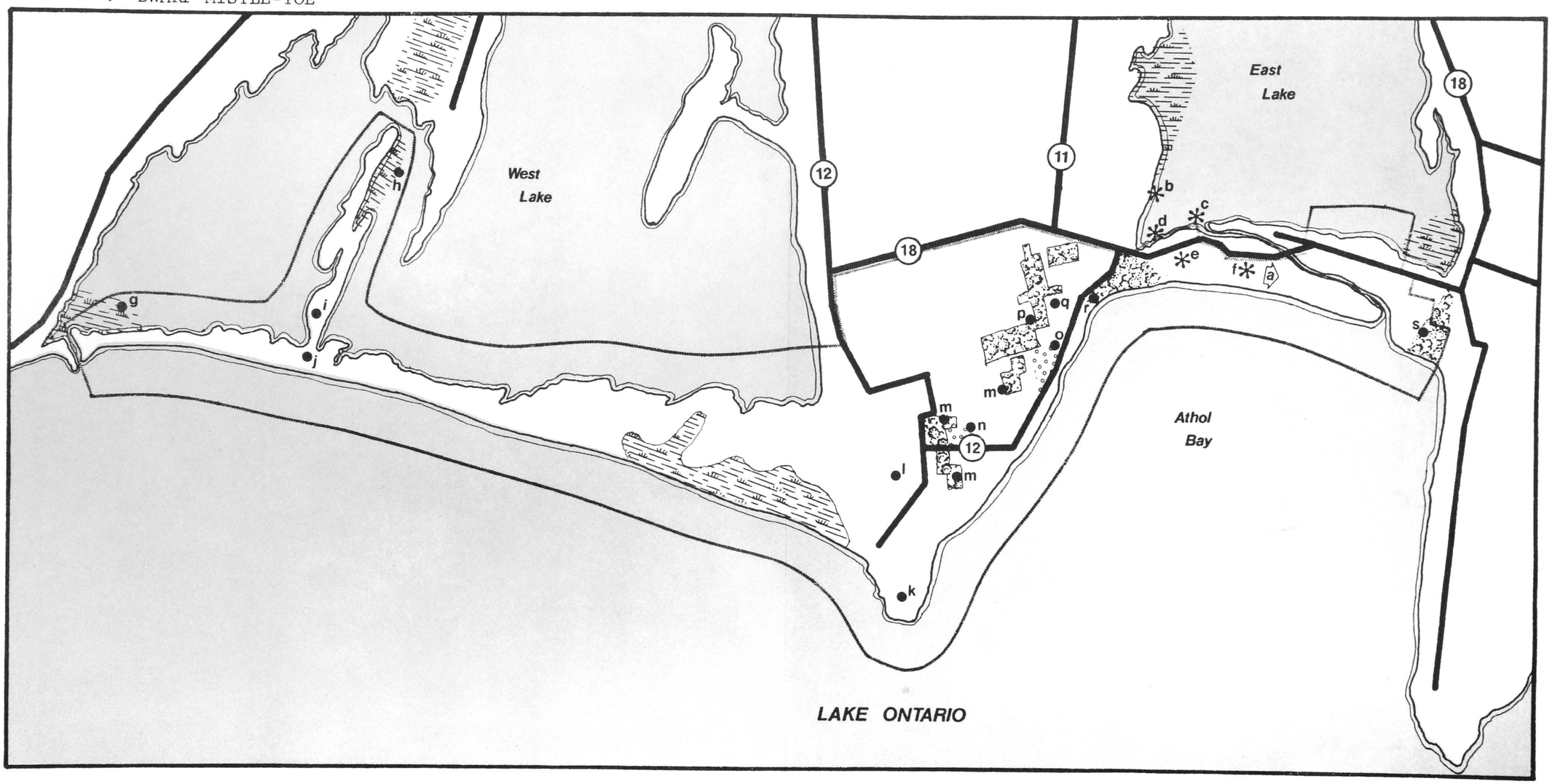


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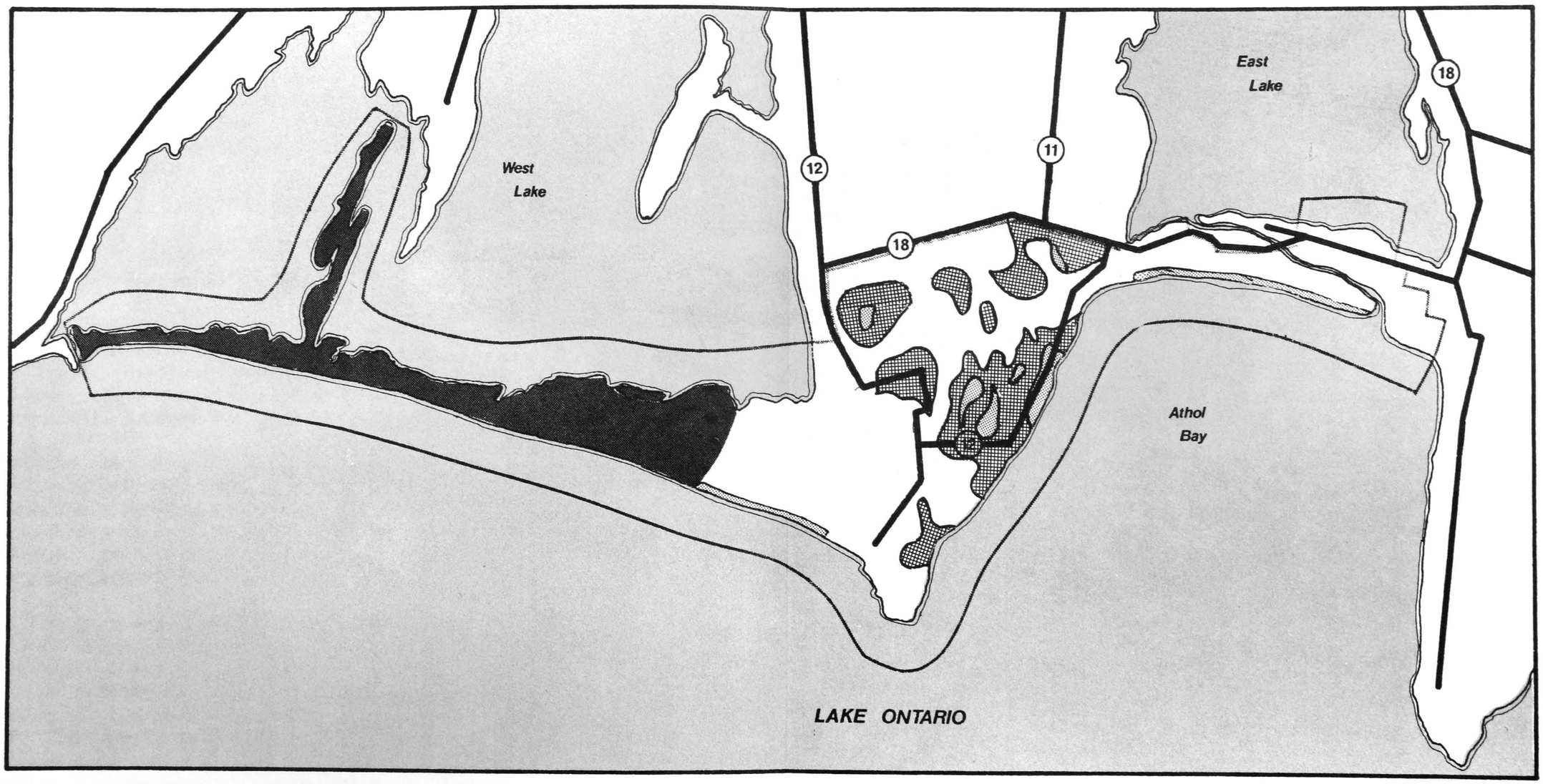
Figure 14

Development Potential

PARK BOUNDARY
HIGH DEVELOPMENT POTENTIAL
MODERATE DEVELOPMENT POTENTIAL
LOW DEVELOPMENT POTENTIAL
NO DEVELOPMENT POTENTIAL



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Park Policy

Goal

The goal for Sandbanks Provincial Park is to provide an environment which will offer visitors a wide variety of recreational programs and opportunities to learn about the values of the park and Prince Edward County while preserving and protecting the significant natural and cultural features.

The goal recognizes the significance of the internationally important geological resources and the provincially important biological resources. Preservation and protection imply restoration, redevelopment and management controls to limit use to a level which will not damage the resource.

Objectives

The objectives for Sandbanks Provincial Park are as follows:

- To provide the various forms of recreation associated with beach areas within the limits of the resources' values and capabilities. Opportunities will be provided for other forms of diverse, unstructured recreation not associated with beaches. Provision will be made for winter activities.

- To preserve the important natural features within the park. This will be achieved through zoning, management, educational policies and programs, the careful location of new facilities and activities as well as the effective redevelopment of existing facilities. Recreational use will be controlled in recognition of the fragility of the resource.

- To restore to a more natural state those areas of ecological importance which have been disturbed by past management and recreational activities. This would involve the complete removal of certain facilities or a reduction in the number of facilities together with some treatment to restore natural values. This would be phased over a twenty year period.

- To provide a three-phase visitor services program of information, interpretation and outdoor education which will encourage visitors to discover and appreciate the park's resources and facilities. The program will also try to enhance the visitors' perception of the park in the geographical setting of Prince Edward County and Ontario by encouraging participation in recreational and cultural opportunities outside the park.

- To contribute to the tourism economy of Prince Edward County by providing year-round natural environment recreational experiences which complement the private sector but remain compatible with local and regional land use.

Classification

Sandbanks contains probably the largest baymouth bar on fresh water in the world. Outlet supports floral communities which are of provincial significance. The panne areas are also provincially significant. The recreational values of the two beaches are important as is the historical use of these areas for recreation over the past century.

By classifying the proposed Sandbanks Provincial Park as a natural environment park, the values of geological and biological significance can be preserved while the area remains the recreational focal point for Prince Edward County and eastern Ontario.

It is therefore recommended that the park area be renamed Sandbanks Natural Environment Provincial Park in accordance with the Ontario Provincial Parks Policy.

Zoning

The recommended zoning for the park is shown on Figure 15. It includes a development zone, nature reserve zone and natural environment zone. The development zone consists of the present day-use beach areas in the Outlet sector and Sandbanks sector and the connecting area of the intervening sector which is currently part private and part public land. The remainder of the Outlet and Sandbanks areas will be designated nature reserve zone. The remainder of the park will be natural environment zone. This zone will serve as a buffer between recreational uses and features which require some form of protection from over-use.

Development Zone

The development zone will contain the present beach areas of the Sandbanks sector and the Outlet sector together with their supporting developments, plus the central portion of the intervening sector (Figure 16).

Management Guidelines

Management practices will be directed towards the provision of day-use and extended-use recreational opportunities which are in keeping with this park's classification as a natural environment park. A road system will be designed which will separate day-use traffic from the traffic for the camping areas and permit access to dispersed recreational opportunities. The system will also facilitate the closing of park units when the need to do so is indicated. Motorized vehicular traffic will be permited only on the road system where designated.

Figure 15

Zoning

PARK BOUNDARY
NATURE RESERVE ZONE
NATURAL ENVIRONMENT ZONE
DEVELOPMENT ZONE

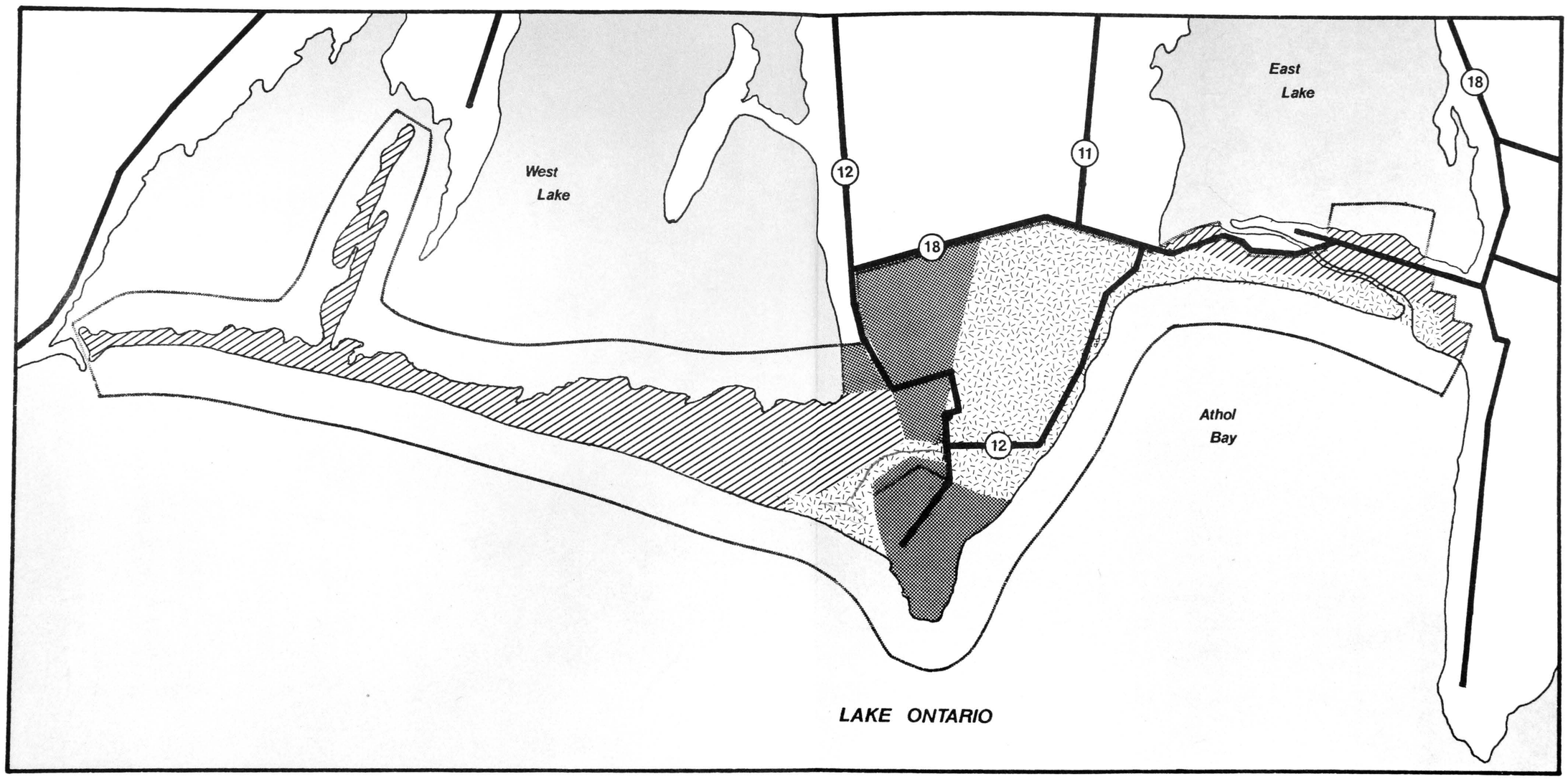

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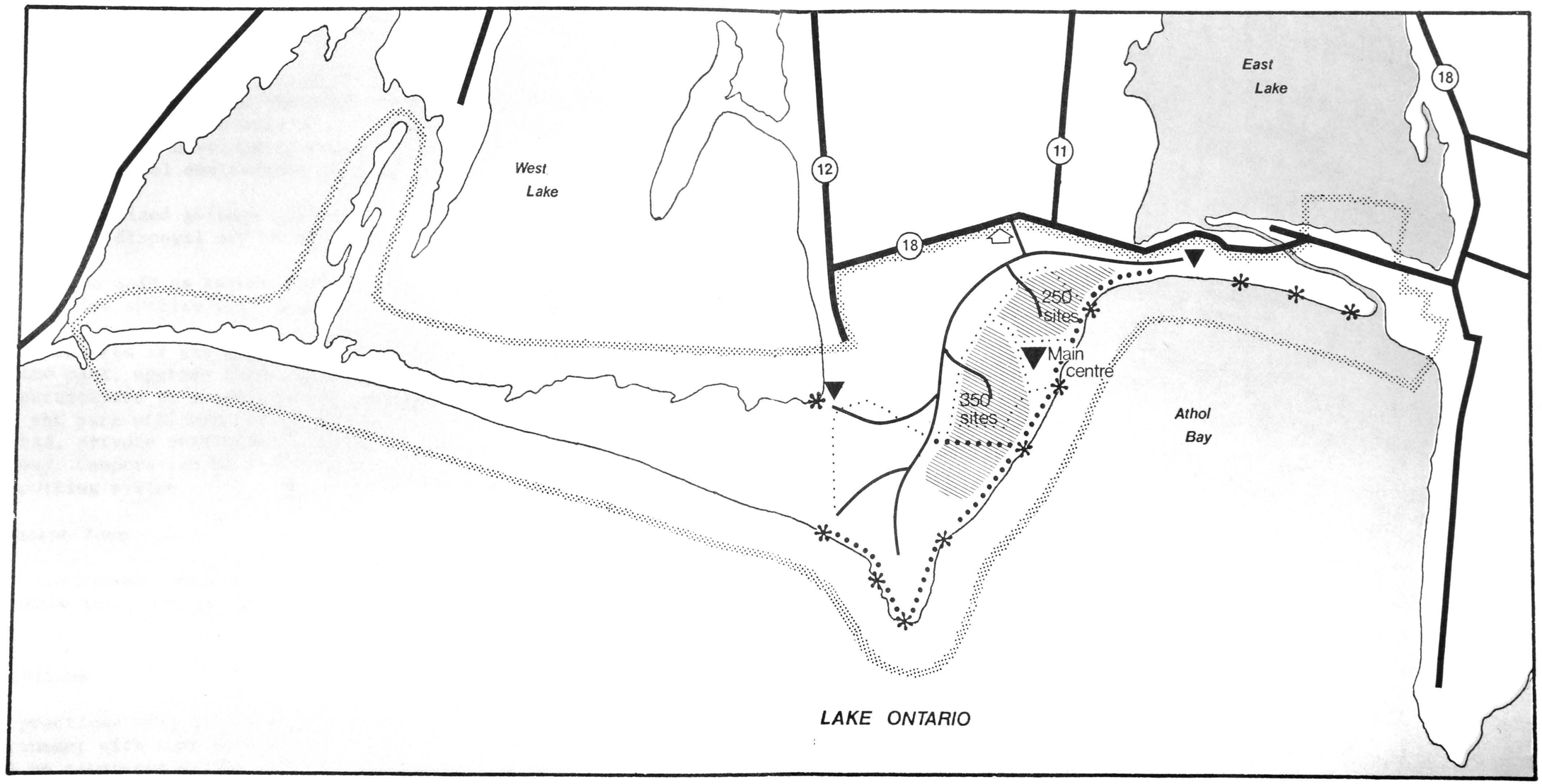
Figure 16

Preliminary Master Plan

PARK BOUNDARY
DAY-USE AREA
CAMPING AREA
MAJOR HIKE/BIKE ROUTE CONNECTING DAY-USE AREAS
MINOR HIKE/BIKE ROUTE SERVING CAMPGROUNDS
MAIN VEHICULAR ROUTE
18 COUNTY ROAD
PARK ENTRANCE
VISITOR SERVICES CENTRE



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Day-use parking will be oriented mainly to visitors using the beach. Approximately 1100 parking units will be provided to service Outlet Beach with 300 units at the Sandbanks Beach and 400 units for casual picnicking and trail use.

Six hundred sites will be developed for camping of which 500 will be in use at any given time. The sites will be grouped in campgrounds of not more than 125 units. One campground will be serviced for year-round use. A trailer sanitary station will be provided. Campsite density will not exceed 10 sites per ha. Multiple family sites will be provided. Each campground will have a central play area. Campground control will be designed so that the campgrounds may be operated and/or developed by a private agency or another public agency.

Boat access and launching facilities are available at nearby commercial establishments and will therefore not be available in the park. A visitor services centre will be constructed. Hiking and interpretive trails in the development zone will link up with the trail system in the natural environment zone and nature reserve zone.

A system of centralized garbage collection will be instituted. An agreement for garbage disposal may be made with the local townships.

Plantings will be made as required for screening and landscaping purposes. Only native species will be used.

Operators of resorts in the nearby area will be encouraged to register with the park, upgrade their facilities to meet provincial standards and participate in a county-wide campsite vancancy reporting system. Since the park will eventually have 30 fewer campsites than it originally had, private enterprise is being encouraged to provide for the overflow. Campers can be referred to other resorts listed through the reporting system.

Natural Environment Zone

The natural environment zone will provide some buffering between areas of moderately intensive use and areas which require more restrictions on use.

Management Guidelines

Management practices will be oriented towards the maintenance of a natural environment with some provision for dispersed recreation. No camping will be permitted in the zone and the campsites presently in the area will be phased out as new areas and sites are developed to take their place. Day-use activities will be of a dispersed nature with as little impact on the environment as design and need will allow. The trailer sanitary station will be dismantled when the replacement is available in the development zone.

Satellite visitor services centres may be built in the zone if the need for them can be justified. Hiking and interpretive trails through this area will link up with the rest of the park's trail system.

The disposal or extraction of materials will not be permitted. Plantings of native species may be made to assist in the restoration of areas to their natural state. Facilities may be provided as required to protect and/or interpret the resource.

Nature Reserve Zone

This zone designation covers two separate areas; nature reserve zone I occupies the majority of the Sandbanks sector and nature reserve zone II occupies the portion of the Outlet sector behind the present day-use areas. Nature reserve zone I is designated to protect the baymouth sandbank resource deemed to be of international geological significance and the associated life science resources of provincial and local significance. Nature reserve zone II is designated to protect life science resources of provincial and local significance.

Management Guidelines

Management practices will be directed towards the preservation of the significant biological and geological resources and to the restoration of the resources which have been damaged by past practices.

Day-use activities will be of an interpretive and educational nature, carefully controlled to prevent any damage to the resources as a result of over-use. Camping will not be permitted in this zone.

Interpretive trails will link up with the hiking and interpretive trails in the rest of the park. Dune and shoreline erosion may be controlled by the planting of native vegetative species. No planting will be permitted in the panne areas. No facilities other than control measures or facilities necessary for resource protection mentioned above will be permitted in the zone.

Phasing

It is recommended that development take place in four phases over a twenty-year period. Each phase has no time horizon suggested as development will be controlled by provincial and ministerial budgets as well as imponderable items such as land acquisition, the arrangement of agreements with private enterprise and the need to be flexible in a period of changing recreation needs and provincial government priorities.

Phase I

- Development of 200 campsites in the intervening sector.
- Construction of entrance control and office.
- Construction of internal road.
- Removal of 50 campsites in Sandbanks sector.

Phase II

- Development of 150 campsites in the intervening sector
- Removal of 113 campsites in Outlet sector

- Construction of visitor services centre.
- Development of bicycle and pedestrian trail system.

Phase III

- Development of 125 campsites in intervening sector.
- Removal of 125 campsites in Outlet sector.
- Development of day-use areas.
- Development of trails system continued.
- Development of one of the satellite visitor services facilities.

Phase IV

- Development of 125 campsites in intervening sector.
- Removal of 125 campsites in Outlet sector.
- Continue development of trails system.
- Development of the other satellite visitor services facility.

Staffing

The following are the staffing requirements necessary for the operation of Sandbanks:

	Permanent	Seasonal
Superintendent	1	
Assistant Superintendent		
Operations	1	
Management	1	
Clerical	1	2
Visitor Services	2	5
Enforcement	2	6
Gate	-	20
Maintenance	1	16
Beach Patrol	-	12
Total	9	61

Visitor Services

The visitor services program at Sandbanks Provincial Park will be of major regional and provincial impact. It has an important role to play as part of the provincial system. The visitor services program will take prime responsibility for interpreting natural and cultural themes associated with the Lake Ontario shoreline and Prince Edward County. It will complement dune stories being told at Wasaga Beach Provincial Park and Pinery Provincial Park. While those parks focus on the stories of stable parabolic dune systems and certain special formations, Sandbanks will focus on the processes by which dunes and beaches are formed.

Services delivered to the public by the park staff will focus on the four areas of communications, interpretation, recreation and outdoor education of which recreation will have a minor function.

Communications

The split emphasis in the park on both preservation and recreation demands that an extremely effective public communications program be developed. By means of publications, displays and personal services all park visitors will be made aware of the many values and opportunities inherent in the park. The means will be provided which will allow visitors to communicate their comments and suggestions about the park to management staff. The communications program will also encourage park visitors to use other parks and tourist attractions in the local area.

Interpretation

A high quality interpretive program will be established to aid visitors in exploring and understanding the highly significant dune systems preserved in the park. Emphasis will be placed on (a) intensive personal services for special interest groups e.g. naturalist clubs, (b) a medium level, seasonally staffed program aimed at campers, and (c) a sophisticated facility to attract and day-users.

Recreation

Recreation programs will not be operated by staff in this park. Visitors have not indicated a great need for this, and the significance of the resource seems to demand that the emphasis be on interpretation.

However, recreation needs can be met by (a) establishing a system of self-use recreational facilities e.g. playground, trails, fitness trails, field sport areas, horseshoe pitching areas etc., and (b) ensuring that the interpretive activities, where feasible, are conducted in a recreational manner.

Outdoor Education

The existing use of the park by organized educational groups is very high and this will continue to be encouraged. The emphasis will be placed on providing facilities for the use of these groups and providing information and assistance to teachers so they themselves can instruct the students. If permanent visitor services staff are provided then more intensive personal services to students should be provided. It may be possible for the various educational groups using the park on a regular basis to fund the salary of a year-round educational group leader.

Management Guidelines

Two year-round naturalist staff will be required to operate this program, as well as a seasonal staff of approximately 5 people. These requirements are not as extensive as other parks of similar importance, but much of the service to day-users and many campers will be provided through self-use facilities e.g. trails, displays publications etc.

The facility, essential to the adequate running of the program, is a major activity/display/research centre.

The program for Sandbanks will focus on the theme of the evolution of the Sandbanks' dune system and man's continuing interaction with the system.

In organizing the visitor services program, particular attention will be paid to several key user groups: researchers, organized education groups, day-users (who normally are not interested in traditional park interpretive programs) and campers.

To ensure that maximum value is gained from the investment involved in establishing the level of service described above, the program of the park will be designated to serve as the node or focus for all interpretive programming for parks in this area. Other provincial parks in the area such as Lake on the Mountian and North Beach will provide minimal personal interpretive services and will have no major capital facilities. Instead they will provide a low level of self-use facilities and concentrate on encouraging visitors to travel to see the extensive programs at Sandbanks.

As mentioned above, the major capital outlays will be for a system of self-use facilities e.g. trails, playgrounds, publications etc., and a major public building. This building will have several complementary functions as a public recreational centre, a display centre, a research centre, an indoor amphitheatre and will contain work space and storage space for all the staff.

The major operating costs will be for the two permanent staff, the seasonal staff and the costs for the maintenance and refurbishing of facilities.

Plan Implementation and Review

Provincial and Ministry funds and priorities necessitate an examination of all plans at frequent intervals. This master plan will be subject to review every five years. It is proposed to complete the implementation of this plan over a twenty-year period in order to achieve the maximum utilization of existing developments. Circumstances could necessitate a shortening or extension of the phasing time horizon.

Appendix

Concept Plan Alternatives

There were two basic alternatives that were considered in the planning of Sandbanks Provincial Park. One was to classify it as a natural environment park and the other was to classify it as a recreation park.

While the sector known as Outlet Beach Provincial Park contains many of the attributes of a recreation park, there are many biological features present which are rated of provincial significance. The dune and bay-mouth bar system of Sandbanks is rated to be of international significance. With natural features of such importance, it seems more appropriate to manage the combined area of the new park under the natural environment classification.

Having made the decision to adopt the natural environment designation, a number of sub-options became apparent within the chosen classification. In progressing with the planning, there was a wide range of numbers and possibilities which were considered in the provision of campsites, day-use parking spaces, visitor services programs and extensive recreational opportunities. The development of these facilities was considered in the context of the environment and its capacity and sensitivity to use. The numbers and locations of the facilities described in the plan represent the planning team's best estimates about the area's development potential.

A range of options for the management strategies were available and considered in the process of planning Sandbanks' development.

One consideration was that the entire park could be tendered out for operation by private enterprise. This option was not considered acceptable because the team felt that with natural features of such significance present in this park, a public body should assume responsibility for their management and protection.

A second option was that the plan's implementation and the park's operation would be carried out solely by the Parks Branch of the Ministry of Natural Resources as it has in the past.

However, the Ministry feels that this park presents an opportunity for the Ministry to prove that it can work hand in hand with private enterprise to the benefit of a) the park user b) private enterprise and c) the Ministry. Therefore, a third option was considered, and is recommended, which permits the Ministry to operate the park with tenders being offered to private enterprise to operate and/or develop the park campgrounds on a concession or contractual basis. This option will be put forward and developed upon acceptance and approval of this master plan.

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