The RIDEAU TRENT SEVERN

Canada's unique 425-mile waterway corridor

YESTERDAY TODAY TOMORROW

A report on optimum recreational development

Canada - Ontario
Rideau - Trent - Severn Study Committee
Left, Kingston City Hall originally built in the 1840s in a style suited to adorn what its citizens hoped would be the capital of Canada. Left, below, the Rideau leads to the Thousand Islands National Park with its outstanding boating waters. Right, entrance to one of the most popular historic sites in the waterway corridor, Fort Henry at Kingston.

Left, National Historic Sites and Monuments Board historic plaque at Ottawa to the Rideau Canal. Above, the canal system borders the new National Centre for the Performing Arts. Below, Bytown Museum is situated in one of two stone structures built to house supplies for the Ottawa locks.
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$3 per copy — 3M/71
PUBLIC HEARING
ON THE RECREATIONAL DEVELOPMENT OF THE
TRENT-SEVERN WATERWAY

WILL BE HELD AT COMMITTEE ROOM 1,
PARLIAMENT BUILDINGS, QUEEN'S PARK, TORONTO.
TUESDAY FEB. 10, 1970
AT 7:30 P.M.

The joint Canada-Ontario Rideau-Trent-Severn Study Committee will
at this time hear submissions by interested agencies and individuals
on the development of the optimum recreational capacity of the
Trent-Severn system between Georgian Bay and the Bay of Quinte.

While verbal elaborations and questions will be encouraged at the
hearing, written briefs should be submitted in advance, wherever
possible, to:

SECRETARY
CANADA-ONTARIO RIDEAU-TRENT-SEVERN
STUDY COMMITTEE
C/O ONTARIO ECONOMIC COUNCIL
950 YONGE ST., TORONTO 5, ONTARIO

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Toronto, Ontario.
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Geographical Names

The names of places and bodies of water in this report are not always consistent with local usage. Variations occur even in "official maps".

Photographic Credits

Acknowledgement is hereby made for the use of photographs and drawings in this report to federal and provincial government departments, the National Film Board, the federal and provincial archives, C. W. Kettlewell, Foto Blobm, W. H. Cranston, and the members of the research staff.
In 1967 the federal Minister of Transport and the provincial Minister of Tourism and Information announced that the governments of Canada and Ontario would jointly study and plan for the future development of the 425-mile land and water recreation corridor between Ottawa and the Georgian Bay.

Some fifteen federal and provincial departments and agencies named members to the CORTS (Canada-Ontario Rideau-Trent-Severn) Committee. These represented the senior legislative bodies most directly involved and they cooperated in making staff available for individual studies.

Also participating in the project were municipal agencies, conservation authorities, cottagers’ associations, tourist councils, regional economic development councils, universities and community colleges, historical societies, concerned citizen groups and individuals who saw in the Rideau-Trent-Severn environmental corridor one of central Canada’s most significant recreational resources.

As a result of the broad measure of participation by all levels of government, including elected members of the constituencies directly effected, by citizen groups through briefs presented to public meetings, and by the ability to draw freely on earlier but still applicable studies, the total cost of this research program and the preparation of its maps, reports and recommendations, has been below $90,000.

Three Man Study Group

The study and research work was under the supervision of E. Mark Cressman, Land Planner of the Ontario Department of Lands and Forests. Secretary of the CORTS Committee was Paul Wyatt, now with the Ontario Department of Tourism and Information. He and Leo McKenna of the federal Ministry of Transport were full-time participants in the planning.

Decision to undertake this planning study of the Rideau-Trent-Severn was the result of the following considerations:

1. The 425-mile waterway corridor is unique in North America in terms of its human and natural history, its historic sites and structures, its scenery, and its proximity to the major concentrations of population in central Canada and the southern shores of the Great Lakes basin.

2. Bordering as it does the northerly and easterly boundaries of the Ontario government plan for the “Toronto-Centred Region”, its development is complementary to that region’s growth pattern.

3. It lies within an hour’s drive of the major Toronto-Montreal transportation axis and provides a water link to the Ottawa River on the east, the St. Lawrence Islands National Park on the southeast and the Georgian Bay Islands National Park on the west.

4. The waterway corridor is already being subjected to such a high level of cottage development, day-use and waterborne traffic that environmental pollution poses a serious threat to the resource.

5. The importance of the corridor has already been recognized by all levels of government in terms of land acquisition programs, wildlife areas and the maintenance and reconstruction of its lock systems. What has not been recognized, however, is the extent to which its recreational resources stand in jeopardy by reason of the aforementioned pace of use and development.

Expanded to include Trent-Severn

Under the terms of reference given the CORTS Committee, it was specifically instructed to concern itself with an overall plan of development entirely apart from issues of jurisdiction. This instruction has been followed.

It was felt, however, that the original study, which was confined to the Rideau Waterway Corridor, should be expanded to include the entire system from Ottawa to Georgian Bay. Not only were the problems and potentials similar and often related, but the philosophy of development was in large measure identical. The Rideau-Trent-Severn Waterway Corridor, therefore, is viewed in this report as a single recreational resource.

At this stage no general cost-benefit analysis is attempted nor are precise estimates given on the various aspects of the long-range plan.

There are good reasons for these omissions. Firstly, cost will inevitably be related to jurisdiction. Certain aspects could be federal, others provincial, still others municipal or within the realm of private enterprise. And until it is determined which development should be undertaken by each, it is difficult, if not impossible, to determine the division or extent of fiscal responsibility.

Again, while some increases in tax input will be a prerequisite to the accomplishment of the plan’s total objectives, in a number of instances that accomplishment could well be a natural evolution of existing programs.

Economic Considerations

Finally, the phasing of implementation will inevitably be determined by overall economic considerations not only within the corridor but throughout Canada as a whole. What may appear to be accurate land acquisition costs today may be unrealistic ten years hence. Population pressures on the land and waterway corridor, moreover, as currently forecast, will be affected by birth rates, immigration trends, the total growth rate of the Great Lakes basin and new transportation routes, factors which are virtually impossible to forecast with any significant degree of accuracy in terms of the next three decades.

There are, however, certain conclusions which have evolved well in advance of implementation.

Firstly, if one is to optimize recreational use within the Rideau-Trent-Severn Waterway Corridor, there must be a
much more closely integrated system of planning between the approximately 140 governmental jurisdictions, the six Indian reserve band councils, and with the private sector, not only in the initial stages but, through a yet to be established mechanism, on a long-term basis.

Secondly, there is not only a need for, but every prospect of, public acceptance of a greater degree of uniformity in user charges than has hitherto prevailed among the various jurisdictions. Moreover such charges should bring the taxpayer investor a return not unrelated to the extent of public investment. Certain exceptions may be warranted but, where private development is desirable, the latter should not be made uneconomic by subsidization of public development.

Thirdly, while absolute priorities may be difficult to establish, early action to halt environmental pollution and the setting aside through land-use planning and acquisition of a significant acreage of recreational land and open space, would each appear essential.

Fourthly, if the unique historical and scenic character of the waterway corridor is to be protected and enhanced, a holding and developmental program, incorporating a large measure of regional interpretation, is required.

Finally, many of the projects recommended herein are highly labor intensive and particularly suited to the involvement of student work forces.

Public likely to support plan

It would appear, incidentally, from the co-operation and level of interest shown by governments, organizations and individuals that a high degree of public acceptance and support may be expected during implementation.

The report has been prepared in four* parts: The Rideau-Trent-Severn Waterway Corridor; The Rideau Sector; The Trent-Severn Sector; and Recommendations for Optimum Recreational Development and Use.

It is hoped that from this document will emerge guidelines for the further development of what is already one of Canada’s prime recreational resources.

*The 60-mile Quinte sector will be the subject of a subsequent more detailed report.

Fort Henry, built in the first half of the last century near the southerly entrance to the Rideau, is now a most popular historic site.
PART ONE: Chapter 1

The Waterway Corridor

The spine or core of the waterway corridor is the unique and internationally significant pleasure boat route from Ottawa to the Georgian Bay. But it is more than just a boat route. It is a complex system of recreational attractions and features, public and private, which extend along its entire 425-mile length.

In developing criteria for defining the limits of the corridor a number of alternatives were examined—the watershed or drainage basin, municipal boundaries, a stated distance from the shoreline and a line of sight from the shore to the highest point of land. It was ultimately decided that a corridor concept, based on resource concentration, was preferable as it incorporates the prime appeals to both the visitor and the long-term resident.

Public facilities now found in the waterway corridor include locks, parks, scenic roads, historic sites and water access points. Private developments include marinas, lodges, campgrounds, trailer sites and vacation and year-round homes. It is a combination of all of these features—public, commercial and private—which make up the complex recreational system and, in a very real sense, they are interrelated.

Significance of the Corridor

Six major points illustrate the significance of the corridor.

(a) In the form of a giant horseshoe cutting across the heart of Ontario's recreation land, it is adjacent to the major transportation routes linking Toronto and Montreal.

(b) The system contains a unique mixture of recreation features—lakes, beaches, swimming areas, fishing waters, scenic landscapes, natural sites such as waterfalls and caves, and historic and archaeological sites of national significance.

(c) The Rideau-Trent-Severn Waterway forms one of the continent's most beautiful and varied inland boat routes. The Rideau canal (125 miles), the Bay of Quinte (60 miles) and the Trent-Severn canal (240 miles) make up its constituent parts.

(d) Most of the waterway corridor lies within an area of high recreational capability. Owing to its location on the edge of the Precambrian Shield it can, if properly managed, withstand intensive use without environmental deterioration.

(e) It is readily accessible to the majority of Ontario's people and to western Quebec and northeastern United States. Over 50 million people live within a one-day drive.

(f) The Rideau-Trent-Severn Waterway is, moreover, connected to two other central Canadian boating routes. To the east, the Ottawa-St. Lawrence route offers a protected 240-mile trip. To the west and north, a small-craft route from Port Severn to Sault Ste. Marie covers a distance of 360 miles through the protected waters of the Thirty Thousand Islands of the Georgian Bay and the North Channel of Lake Huron. The significance of these inland waterways can readily be seen when the total boat route of approximately one thousand miles is related to the location of population centers, the needs of the users and the recreational attractions within the waterway corridor.

The Need for a Plan

Parts of the waterway, however, are now polluted to the point that recreational use is limited. If water pollution continues to increase, the viability of the whole waterway could be threatened.

Poorly planned private development endangers the future of the waterway corridor. If the construction of vacation homes continues to increase at the present pace, little open space or natural area will be left.

Co-ordination of the activities of all public agencies and departments is vital. The waterway corridor now comes under the jurisdiction of over 15 federal and provincial departments and some 123 local and regional governments and conservation authorities and six Indian band councils.

The lock gate at the new Severn Falls lock, upstream from the Big Chute.
Problems and Potentials

Historically the Rideau and Trent-Severn sectors of the waterway are quite different in nature.

The Rideau was built between 1826 and 1832 under the direction of the Royal Engineers, primarily as a defence route between Upper and Lower Canada.

The Trent-Severn sector evolved from 1833 as a commercial transportation route. It required approximately 100 years to complete.

The Rideau exhibits a consistent style of design and use of materials. In the construction of the Trent-Severn, on the other hand, many different styles and types of materials were used. Its marine railways and lift-locks were major engineering feats.

On the Rideau there have been no major changes in design over the history of the system whereas in the Trent-Severn the original marine railway at Swift Rapids has been replaced by a conventional lock and at Fenelon and Burleigh Falls the multiple locks have been replaced by single locks.

Construction of the Rideau preceded much settlement in the waterway corridor and influenced the pattern of population. Conversely, the Trent-Severn was built in response to the commercial demand of the watershed. New locks were built as burgeoning settlements sought access to waterborne transport.

Present Use

While no longer serving its original purpose, the Rideau-Trent-Severn corridor is today one of central Canada's highest potential recreational regions.

The unique canal system, with 92 locks linking 33 lakes and six major rivers, offers a protected waterway between the National Capital and southern Ontario's long established playgrounds, Muskoka and the Georgian Bay.

The year-round population in the Rideau-Trent-Severn Waterway Corridor totals well over 800,000, grouped in six cities, six towns, 19 villages and 73 townships — a total of some 104 local municipalities, two regional governments and nine counties. More than half are residents of the Ottawa-Carleton region.

The National Capital Region and the five tourist areas through which the Rideau-Trent-Severn Waterway flows attracted in 1969 in excess of ten million visits. In the various federal, provincial and municipal parks along the waterway and including the Bay of Quinte connecting link, there are over 2,900 developed campsites.

To meet the rapidly rising outdoor recreation demand, the provincial government has acquired or reserved, in or adjacent to the waterway corridor, some 20,000 additional acres for park development and campsites. The National Capital Commission has also set aside large acreages for recreation and the federal Ministry of Transport has substantially improved its locks and adjacent visitor areas.

The Ontario Department of Lands and Forests estimates that there are over three million fisherman visits to Lake Simcoe annually, 400,000 of which take place during the winter months. This three million visit total would be more than doubled if one calculated day visits throughout the entire waterway corridor. Another aspect of recreational use is the approximately 30,000 vacation homes located along the waterway and approximately the same number of boats used its locks in 1969.

Lying, in the main, just south of the Precambrian Shield, the corridor offers the logical tourist target for many of the industrial centres contemplated by Ontario's Design for Development, "Toronto-Centred Region", and provides significant recreational growth potentials for communities whose natural characteristics are not suited to major industrial expansion.

Cottage concentration along the Rideau-Trent-Severn is increasing at a rate of five to ten per cent per annum. Pressure on campsite and park facilities is accelerating at the upper limit of this range. With an annual increase of seven per cent in pleasure boat traffic, the capacity of the system may be over-taxed by the early 1980's. (This is particularly true of the Trent-Severn sector where cottage development and other major recreational uses have grown faster than in the Rideau sector.) These trends indicate the urgent necessity for a development plan for the Rideau-Trent-Severn Waterway Corridor and some form of co-ordinated implementation.

Problems in Corridor

1. Of the major problems, one of the most significant is the degree of pollution. For example out of 90 public and private garbage disposal sites examined in 1969 in the Rideau sector, only two met adequate sanitary land-fill standards. Provincial legislation has recently been enacted to meet this situation.

2. Water pollution was found by the Ontario Water Resources Commission and the provincial Department of Health to be jeopardizing several lakes in the Kawarthas. In two lakes in particular over 25 per cent of the cottagers were either actually polluting the water or were po-
Potential pollution sources. These are by no means the only culprits. Incidents of faulty or inadequate industrial and municipal treatment are also evident.

3. The encroachment on open space by poorly planned vacation and permanent home developments is another problem. In several areas in the Trent-Severn sector more than five tiers of cottage lots have been developed. In other areas major wetland wildlife areas have been dredged to provide back channels and increase the depth of backshore development. On several lakes undeveloped shoreline is fast disappearing. It is being replaced by rows of cottages, almost urban in character.

As a result of increased residential use, opportunities for public access to certain of the waterway lakes are decreasing. At the same time the demand for public use is increasing and governments have found it difficult to acquire sufficient additional shoreland to permit public access to all parts of the waterway.

4. Because of the number of public bodies concerned, it has been most difficult for the average citizen to penetrate the jurisdictional jungle and almost equally difficult for the various jurisdictions to initiate the required degree of co-ordinated planning.

5. Moreover, as was evident at the various public hearings, there is an inherent conflict between various user-groups. Water-skiing, for example, often militates against safe boating and still-water fishing particularly in the narrower channels of the waterway. Again the canoeist, looking for a quiet wildlands experience, is disturbed by the power boater with his engine and wake. The cottager, the camper and the day-user often compete for the same site.

The marine railway at the Big Chute forms a barrier against sea lamprey invading Lake Simcoe but causes boater delays sometimes in excess of four hours. “Push-button” operation of restored locks in the Rideau sector may conflict with historic authenticity.

The recreational environment of the Rideau-Trent-Severn Waterway Corridor is approaching a state of crisis. In the main, this is not so much a lack of public investment as the absence of a mechanism to co-ordinate planning between the various jurisdictions and agencies and a related failure on the part of the general public to appreciate the area’s unique significance and value.

If one simply takes the Rideau-Trent-Severn for granted, it could well become not a valuable resource but a costly liability.

Potentials for Development

1. In a report entitled “The Historical Assets of the Rideau Waterway”, prepared by the National Historic Sites Service, Department of Indian Affairs and Northern Development, there appears this evaluation:

“The nation has no other canal system which remotely approaches the Rideau in historic interest, resemblance to the original condition, or potential for interpretation. As a relic of a period in which the question of survival was very much alive in the Canadas, and as a monument to the transportation fever of the early 19th century, it is unrivalled for sheer size and visual impact. As an early means of communication by water between Ottawa and Kingston, it is important in its unbroken entirety and its individual historic features have relevance to Canadian history chiefly in their totality.”

It is for this reason that in August of 1967, acting on the recommendation of the Historic Sites and Monuments Board of Canada, the Rideau waterway was declared to be of national significance.

The multiplicity of historic and prehistoric archaeological sites and the potentials for the interpretation of natural history in the Trent-Severn sector complement the cultural and recreational assets of the Rideau.

2. The waterway provides protected passage for pleasure craft between two famous international cruising waters, the Thirty Thousand Islands of the Georgian Bay and the Thousand Islands of the St. Lawrence, and their respective national parks.

3. The Trent-Severn sector of the waterway corridor and the communities within it are already marked for recreational expansion under the provincial Design for Development. Such an expansion, moreover, offers the most economic and best ecological use of land and water resources and the best potential for the improvement of marginal and sub-marginal incomes. Indeed this sector offers the biggest concentration of high capability recreational land and water in Ontario.
Chapter 3

Targets for Tomorrow

The goal for the Rideau-Trent-Severn Waterway is to develop a distinctive environmental corridor wherein a wide variety of recreational opportunities are available to users in a safe, pleasant and interesting environment and where optimum recreation use is achieved.

"Optimum use" in this report is where the greatest number of people use an area and are satisfied with it yet where no significant environmental damage occurs.

The following broad objectives were selected after a series of public meetings and discussions with concerned individuals:

1. a pollution-free environment;
2. adequate undeveloped open space, including wildlife areas, natural features and general open space;
3. preservation and interpretation of the human and natural historical environment;
4. an adequate number of public use areas including water access points, picnic sites, campsites, boat routes, canoe routes, walking trails and scenic roads;
5. adequate commercial development; and
6. satisfactory private development.

In broad planning terms, among the "targets for tomorrow" for the Rideau-Trent-Severn Waterway Corridor would be the following.

The water should be pure enough to swim in; the air, clean. All municipal systems should operate to this level. Septic tank source pollution should be eliminated, boat waste should be controlled more thoroughly and the level of commercial and residential water treatment significantly improved.

Subdivision control and land use regulations should ensure that only lands capable of high lodging capacity under the Canada Land Inventory classification are used for residential development. Good subdivision design, a present example being cluster as opposed to strip development, should predominate in new subdivisions. A cottage set-back from the high water mark should be enforced in future with a complete prohibition on building on narrow channels. The set aside in new shoreline subdivisions should include a significant proportion of shore front.

Federal and provincial funds should be invested, where needed, to provide public access to, or public control over, major natural features and open space land areas bordering the waterway, generally of Class 5 or lower as classified under the Canada Land Inventory. Gifts of land holdings to the Crown should be encouraged and current Crown land, federal or provincial, should be used to ensure the continuance or improvement of current environmental quality.

Another co-ordinated federal-provincial responsibility should be to ensure the setting aside of a number of wildlands areas for recreational and conservation purposes.

It is further recommended that all existing leases on public lands be reviewed where such lands are a key to the accomplishment of the overall recreational development plan.

The latter encompasses, in addition to lease review and land acquisition, the establishment of land use regulations and detailed subdivision controls within the waterway corridor to ensure that eventually some 25 per cent of the shoreland is preserved as undeveloped open space for recreational purposes.

Historical Interpretation

To interpret the character of the waterway corridor, human and natural history centres should be established in and around preserved, reconstructed or restored structures or at known archaeological sites. All significant pre-1880 structures, both public and private, should be given special consideration. Through the National Historic Parks Service, the Ontario Heritage Foundation and the Ontario Department of Municipal Affairs, the development of historic zones should be encouraged with related scenic drives, located both within or immediately adjacent to the corridor. Federal and provincial departments and local historical societies should participate in a program to expand and improve site marking and publish promotional literature on the history of all facets of the total waterway corridor.

While some of the lands required for immediate targets are now Crown held or municipally owned, the development of public parks along the waterway, access points, boat launching ramps, improved dockage, picnic sites and a system of scenic drives, walking trails and canoe routes should be accelerated over the next three years. User-fees for federal, provincial and municipal facilities (including the use of land, waterlots and parks) should, wherever possible, reflect the value of service offered.
Chapter 4

Cash Flows and Costs

Federal and provincial studies conducted over the past three years indicate the following current cash flows.

Visits to five of the vacation regions through which runs the Rideau-Trent-Severn Waterway Corridor in 1968 totalled over nine million and led to expenditures within the area of over $150 million.

Five provincial parks in the corridor in 1969 reported 77,382 campers with 184,473 camper days. This approximates a revenue of $300,000 in the area.

The same year there were some 610,000 day-users at provincial parks along the waterway corridor, and 160,000 vehicles contributed $160,000 in entry fees.

At nine of the 42 canal stations in the Trent-Severn sector in 1970, there were 300,000 "users".

There are some 800 day-use sites in the total Rideau-Trent-Severn Waterway Corridor with over one million users, generating a not inconsiderable revenue through gasoline tax alone.

In the counties and regional municipalities through which the corridor passes, and generally in the latter itself, are some 30,000 cottages. A recent Department of Tourism and Information study establishes an annual expenditure of $800 to $1,200 per cottage, or a minimum total of $24 million.

While no exact data is available on the total number of boats currently using the Rideau-Trent-Severn Waterway and linked rivers and lakes, it is known that in 1969 some 26,000 boats went through one or more of the locks. Average owner expenditure per boat per annum, according to a 1969 economic evaluation study by Tourism and Information, is approximately $460; thus boat users on the waterway are likely to have spent well over $12 million that year alone. In this connection it might be noted that boat operators no longer receive gas tax rebates from the province thus increasing substantially the combined tax take of the provincial and federal treasuries.

A significant portion of the proposed plan can be implemented under the existing programs of the already involved governmental departments and agencies. For example the objectives concerned with clean air and water, and with public-use areas and residential and commercial developments, are now under the jurisdiction of various governments — federal, provincial, regional and local. However, a lack of co-ordination in program budgeting could pose problems.

Division of Authority

To accomplish the unpolluted water objective certain responsibilities would be handled by three provincial departments (Health, Energy & Resources Management and Municipal Affairs) and by the Ontario Water Resources Commission. The local or county Medical Officer of Health has something to say about water quality. Users of the waterway have repeatedly expressed their inability to understand the jurisdictional complexities.

A similar situation applies to other objectives. The federal Ministry of Transport operates the canals as navigational systems and for flood control but has no legislative responsibility for recreational activities, water quality, fish and wildlife nor the preservation or reconstruction of other than historic canal structures.

While, as indicated earlier, many of the tax dollars and planning and management involved in the development of the Rideau-Trent-Severn Waterway Corridor over the next decade may be found within existing programs and budgets of existing agencies and departments, and while significant savings may be made if an effective co-ordinating agency is established (if only in terms of interrelation of priorities), some additional outlays are inherent in these recommendations.

Division of Costs

However these capital costs would be shared by federal, provincial and municipal levels of government and could readily be phased over ten to fifteen years, divided approximately as follows:

a. Scenic easements to preserve open space, acquisition or other control of land for wildlife areas, restricted channels, natural features, historic sites, canoe routes, etc. .......................... 65%

b. Acquisition of park land, campsites and picnic sites .. 15%

c. Development of existing provincial park reserves and other Crown lands, federal and provincial ...................... 15%

d. Interpretive and information systems .................................. 5%

As indicated above, the programs required to implement the broad recommendations, and the more detailed ones which follow in this report, contemplate acceptance, operationally and jurisdictionally, by all governments concerned of both the waterway corridor concept and its developmental targets, and the need for a federal-provincial agency, functioning primarily at an advisory and review level, to ensure continuity of planning and co-ordination.
PART TWO:
Chapter 5

Introduction to the Rideau Sector

This part of the report deals with the Rideau sector from Kingston on Lake Ontario to Ottawa. It includes the canal and a corridor encompassing land and water on either side. The latter varies in width and is defined on the basis of two levels of interest, as follows:

(a) the environmental corridor, the primary concern;
(b) the watershed of the Rideau and Cataraqui Rivers, the secondary concern.

One additional corridor border was occasionally used, the closest municipal boundary that lies outside the watershed.

Map 1 shows the boundaries of the Rideau sector and smaller segments that have been used for planning purposes.

Regional Setting

The Rideau sector exhibits a wide variety of land uses and conditions, including farms, well-developed, run-down or abandoned; forested land; and various recreation developments. Its numerous small villages and towns are character-
istic of the nineteenth century. Examples of historically significant architecture are widespread with the Rideau canal serving as a central theme.

The Rideau waterway is within a 200-mile range of Montreal, Toronto, Rochester, New York, Syracuse and Albany. Pleasure craft can reach it through a number of marine systems including the Trent-Severn, the Great Lakes, the St. Lawrence and Ottawa Rivers, the Erie Barge Canal (entering Lake Ontario at Oswego) and the Hudson River-Lake Champlain-Richelieu boat routes entering the St. Lawrence River below Montreal.

Highways leading into the Rideau area include an intricate system of U.S. high-speed expressways north to the border, together with Ontario Highways 2, 401, 15, 16 and Trans-Canada routes 7 and 17, each of which intersects the Rideau waterway.

**Segments of the Rideau**

The Rideau sector has been divided into sub-units, or segments, for the purpose of facilitating the planning process. These are as follows:

1. Ottawa
2. Richmond-Jock
3. Kemptville
4. Merrickville
5. Smiths Falls
6. Perth-Tay
7. Portland
8. Westport
9. Chaffeys
10. Seeleys Bay
11. Kingston Mills
12. Kingston

Map 1 shows the location of the segment boundaries. The following table gives the approximate miles of shoreline, accessible to the boat route, in each segment.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Main-land Shoreline (in miles, approx.)</th>
<th>No. of Islands</th>
<th>Island Shoreline (in miles, approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ottawa</td>
<td>26</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Richmond-Jock</td>
<td>(No shoreline)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Kemptville</td>
<td>46</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Merrickville</td>
<td>57</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Smiths Falls</td>
<td>32</td>
<td>14</td>
<td>6</td>
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Above, Old Slys locks with rebuilt washrooms east of Smiths Falls. Below, Jones Falls lock shows 5½ foot sill which limits draft of boats using the Rideau sector of the canal system.
Chapter 6

Geology, Climate and Landforms

While the geology of the Rideau sector is complex and varied, it may basically be divided into three areas.

The first area, from Ottawa to Rideau Ferry, is a plain of limestone or sandstone, covered with various depths of soils composed of sand, silt or clay. The major portion of this plain is shallow-soiled with poor drainage.

The second stretches from Rideau Ferry to Kingston Mills and is the Frontenac Axis extension of the Precambrian Shield. The bedrock is a mixture of granites and metamorphic rocks, with broken relief and a shallow covering of loam, silt or clay soils.

The third, from Kingston Mills to Kingston, is one of shallow soils covering a limestone bedrock.

A significant geological factor is the relief variation from the hilly, broken appearance of the Precambrian Shield to the level or gently rolling plains, and the variety of bedrocks ranging from the Precambrian to the Paleozoic Era.

Climate Range

The present climate of the Rideau waterway involves a winter (January) mean average temperature in the range of 12 to 18 degrees Fahrenheit, and a summer (July) mean average temperature in the range of 68 to 70 degrees Fahrenheit.

Precipitation is in the range of 30 to 35 inches annually, with from 65 to 85 inches of snowfall. There are in excess of 200 days having no measurable precipitation.

Spring fishing starts with May and the Fall boasts multi-hued foliage, a major attraction for artist and photographer.

The summer climate is conducive to many forms of water sport — swimming, water skiing and all forms of pleasure boating.

The winter climate allows for participation in most of the popular seasonal sports. The Ottawa area, with more snow and cooler temperatures, has a better chance for a good ski season than the more moderate weather of the Kingston area.

One past effect of the changing climate in eastern Ontario was the eroding by glaciation of the bedrock and the deposit of different types of glacial till such as drumlins, eskers and other overburden on the bedrock plains.

Three Significant Landforms

The combination of bedrock geology, as affected by climate, weathering and glacial activities over thousands of years, has created the landforms and physiographic features of the Rideau sector of the waterway. The "Knobs and Flat" is an area in Leeds and Frontenac counties where the Frontenac Axis has been weathered and the space between the hills filled with clay deposited over 8,000 years ago by the Champlain Sea. Thus rock knobs, relatively bare of soil, intersect fertile valleys. Between the rocky ridges the small fields are suitable for dairy and mixed farming.

The second significant area is composed of plains formed on the limestone of the Ordovician period. The difference in the plains is found in the type and amount of glacial overburden. They are generally flat to gently undulating with significant areas of poor drainage creating extensive wetlands. The general landscape is one of rather ragged and unfinished rural farmland with large amounts of marginal land in rough pasture, woods and swamp.

The last landform of interest is the North Gower Drumlin Field, an area of about 150 square miles near Ottawa. The drumlins, although widely scattered and often incompletely formed, are most easily seen near the village of North Gower.

Adding to the complexity of this area are the various gravel ridges and eskers near the village of Kars and in Osgoode Township. Drainage through this latter area is poor. The lowlands have part bog soils. The drumlins have good drainage but are restricted agriculturally owing to the stoniness of the soil.

The pattern in which the bedrock was laid down and the weathering effect of climate, particularly glaciation, explain the wide variation in soils and physiographic features in the present Rideau landscape.
Chapter 7

Historical Background

Prior to the coming of Europeans and the colonization of the Rideau sector of the waterway, Indians of the Algonkian and Iroquoian cultures used the region for hunting and fishing and the then existing water routes as a means of travelling between Lake Ontario and the Ottawa River.

Even after the coming of the Europeans, the Indians continued to use this transportation route to the fur trading centres in Trois Rivières, Montreal and later in Kingston. There are, however, very few remains of Indian settlement in the Rideau watershed. One possible explanation is that early sites were flooded when the canal waterway was built and the shoreline inundated.

Archaeological Sites

The best known Indian archaeological sites remaining in eastern Ontario are the Roebuck site north of Prescott; the Crystal Rock site, close to the Roebuck site; and the Beckstead site on the South Nation River. There are a number of other reported sites in the waterway but further information will not be available until archaeological excavations are carried out. The Roebuck site is one of the best regional examples of prehistoric Iroquoian culture.

The first Europeans known to have visited this region were French explorers under Count de Frontenac who established a fortification and trading post in 1696 on the site of what is now Kingston. Part of the French network of fortifications built along the Great Lakes to protect New France from the British and their Indian allies, it was captured and destroyed by the British in 1758 and the site abandoned.

After the American War of Independence, a number of United Empire Loyalists took up homesteads along the Rideau sector of the waterway.

In 1789 the British Government in Upper Canada decided that the site of Kingston would be its major naval shipyard on the Great Lakes, and it was then that Kingston was founded. On what is now the site of the Royal Military College at the mouth of the Cataraqui River was built the naval yard.

Inland Settlement

In this same period settlers pushed further inland from Brockville and Prescott up the Rideau waterway, and Burritt's Rapids (1793) and the village of Merrickville (1799) were founded by the families of Steven Burritt and William Merrick respectively. The communities grew up initially around mill sites utilizing the natural waterfall power of the Rideau River.

The next major historical development that affected the Rideau sector of the waterway was the War of 1812-1814. With the shipyard serving as the major naval base on the Great Lakes and home of the British Great Lakes fleet, the prosperity of Kingston was established and by 1821 it became the largest town in Upper Canada.

From 1812 the colony lived in constant fear that U.S. guns and forts on the south shore would close off the St. Lawrence River. Communications and supply routes between Upper Canada and Lower Canada would thus be severed. Fortunately for the British, the Americans did not realize this opportunity until it was too late.

Alternate Supply Route

Following the war the Rideau waterway was constructed as an alternate route for transportation of troops and supplies between Montreal in Lower Canada and Kingston in Upper Canada.

The canal waterway was also expected to serve new settlements along the Ottawa River and the Rideau and to promote the general economic development of that section of Upper Canada.

Three military settlements were established between 1818 and 1820 at Perth, Lanark and Richmond. Pensioners and their families were granted Crown land as a result of their war service. Thus nuclei of militarily trained settlers were strategically located in areas where they might be needed.

It was between 1815 and 1825 that the British Government sent out survey parties to locate the best alternate route between Kingston and Montreal via the Ottawa River. The use of the Rideau and Cataraqui Rivers was the recommendation accepted by the British Government and Lieutenant Colonel John By of the Royal Engineers was sent out to construct a canal waterway. Work began in the spring of 1826 and was completed in 1832.

Colonel By's Problems

The problems were numerous. By faced problems of land acquisition, land expropriation, contractors' inability to estimate the forces of spring floods and constant upwards revisions in costs.

When the final cost, in excess of £800,000, was in, Lieutenant Colonel By was recalled to England to appear before a parliamentary committee for over-expenditure and, although exonerated, the damage was done. The honours that might have been his were never bestowed.

Sir Richard Bonycastle, who served in Upper Canada after By, stated in his book, "The Canadas":

"If ever man deserved to be immortalized in this utilitarian age, it was Lieutenant Colonel By. In an unexplored part of the country, where the mode of progress was the frail Indian canoe, with a department to be organized, workmen to be instructed, and many difficulties to be overcome, he constructed a truly remarkable work."

While the Rideau was never called upon to serve in war, until the 1850's British
troops and local militiamen maintained posts along the system. During and after the building of the waterway, settlements increased and, with access to an excellent system of transportation, villages flourished along the waterway. One of the many new settlements that sprang up during construction was at the northeast terminal, where the Rideau waterway joins the Ottawa River. This settlement was originally called Bytown in honour of Lieutenant Colonel By. In 1855, however, it was changed to Ottawa and, in 1857, Queen Victoria named the city on the Rideau the capital of the united Canadas.

**Heritage in Stone**

Another interesting by-product was the work of the many stone masons brought in to work on the canal. They left an architectural heritage in the form of many well designed limestone buildings. Indeed, much of the present historic environment of the waterway lies in this architectural affinity between the waterway and its many smaller communities.

Another significant historical feature is the number of fortifications along the waterway. At the Kingston end fortifications were built from 1832 to 1846 to protect the harbour, the naval yards and the entrance to the Rideau Canal. These consisted of Fort Henry (1832 to 1836), Cedar Island Martello Tower (1846), Shoal Tower (1846), Murney Martello Tower (1846) and Fort Frederick (1812 to 1846).

**Defensible Structures**

Fortifications also guarded the various locks and dams. Map 2 shows the location of all such historic canal structures. There were four stone and log block houses, ten stone lockmasters' houses with loopholes suitable for defence and three stone lockmasters' houses that were not loopholed, but were otherwise defensible. Six other stone lockmasters' houses, built in this same period, were not considered defensible.

On the completion of the Rideau waterway, agriculture, logging and manufacturing prospered. The waterway served as the main means of transportation with most roads and trails leading to it. However, with the advent of the railways and, later, new and improved roads, it became more economic to locate manufacturing in the larger centres of Ontario and to bring to them the needed raw materials. Thus the small local manufacturing plants of the Rideau region were no longer competitive and the commercial use of the waterway ended near the start of World War II.
Captain Thomas Burrowes' sketch of a paddlewheeler going through the Jones Falls locks in 1843. The wooden barracks on the hill, centre, stood until the 1940's.

**JONES FALLS, YESTERDAY and TODAY**

Above, 350 feet long and 60 feet high, the hand hewn stone diversion dam at Jones Falls was more than twice as high as any in North America when it was built, 1826-1832. It is still an engineering monument to Col. By. Below, steamer D.C. West out of Kingston, circa 1880, above the upper lock at Jones Falls.

Above, the stone forge still stands and could readily be made into a small interpretation museum. Below, entrance to lower lock.
EVOLUTION of BLOCKHOUSES at KINGSTON MILLS and NEWBORO

Above, in 1965 the Newboro blockhouse was used as a lock staff house. Later restored (below) it now stands vacant.

Above, Kingston Mills blockhouse, circa 1880, with its stone guard wall and road approach to the then wooden swing bridge over the lock. Below, left, the blockhouse in 1965, converted to a residence for lock staff. Below, centre, restoration begins in 1969.

Below, frame facing is stripped off in 1970 to expose square timbered second storey. A modern road and bridge cross the lock but township councillors press for straightening the road to speed traffic and restyling of blockhouse. The 15 m.p.h. speed limit on the lock swing bridge would, however, remain.
Above, turning basin at the top of the flight of three locks at Kingston Mills circa 1880. The main Montreal-Toronto line of the Canadian National Railways crosses the centre lock.

Upper lock at Kingston Mills with its steel swing bridge carrying a 15 m.p.h. speed limit.

Above, Kingston Mills about 1850 from a drawing by Captain Thomas Burrowes. Below, lower lock at Kingston Mills, circa 1880, looking toward Kingston.

Kingston Mills
1850
1880
1970

the southern entry point to the Rideau
Above, about 1890 the passenger steamer Rideau Queen of Kingston approaches the turning basin in Ottawa on which the National Centre for the Performing Arts now stands. Below, the Ottawa locks about the turn of the century.

Log booms pose periodic hazards to Ottawa River boaters seeking entry to the Rideau.

Above, the entry to the lower Ottawa lock about 1890 from the Ottawa River. Below, current view of the eight locks and the lock station contrasts with photograph on the left.
Chapter 8

Land Tenure and Development

Land tenure patterns within approximately one mile of either side of the Rideau waterway were examined as one of the CORTS research projects. It includes details on ownership, size of holdings, density of development, registered subdivisions, developer holdings, public lands, etc. An analysis was made to indicate the relative ease with which the various larger blocks of land could be controlled or purchased. Significant aspects of the findings are summarized as follows.

Non-local Ownership

The highest concentration of non-local land owners (i.e. persons not permanently resident within the corridor) occurs west of Smiths Falls around Big Rideau, Upper Rideau, Indian, Sand, Opinicon and Whitefish Lakes. These are the areas, from a resource capability, that are most suited to recreation and least suited to agriculture.

Density of Development

The heaviest shoreland development has occurred on both sides of the waterway from Ottawa to Kemptville, on the southeast shore of Lower Rideau Lake; around Bass Lake; near Houghton Bay in Big Rideau Lake; and on sections of Opinicon Lake and near Seeleys Bay.

The density shown in map 3 mainly relates to shoreline cottages. The areas of lightest shoreland development occur in Wolford and Montague townships, immediately west of Smiths Falls; the eastern and western extremes of Newboro Lake and several areas downstream from Seeleys Bay. Shorelands showing the lightest development are generally swampy and, therefore, less desirable.

Size of Holdings

Conspicuous large blocks of land (over 150 acres) were found in the relatively desirable areas of Upper Rideau, Lower Rideau, Newboro, Sand and Dog Lakes. Such holdings offer an opportunity for acquisition in areas where public lands are currently scarce.

Registered Plans of Subdivisions

Subdivisions are found in three major clusters: along the canal just south of Manotick, on Dog Lake and near Kingston Mills. One reason for a lack of registered plans was that subdivision control was only recently introduced throughout much of the Rideau sector of the waterway corridor.

Public Lands

Map 4 shows the location of the various public lands on the waterway. There is a lack of large public land areas in the proximity of Newboro, Opinicon, Sand and Whitefish Lakes.

Municipalities

The corridor passes through the counties of Frontenac, Leeds, Lanark, Grenville and the regional municipality of Ottawa-Carleton. It also includes two major urban centres, the city of Kingston at the southwestern end of the corridor and Ottawa at the northeastern terminal. In addition, there are the three towns of Perth, Smiths Falls and Kemptville.

Making up the further spatial pattern of urbanization are a number of small villages that are either self-sufficient or serve as dormitory communities for larger urban centres. These include Newboro, Westport, Portland, Merrickville, Kars, Richmond and Manotick. In addition, there are 23 townships in the corridor.

Population

The population in the Rideau sector of the waterway corridor was 519,040 in 1966, (the most recent census data) and the Dominion Bureau of Statistics forecasts a growth to 641,000 by 1976 and to 799,000 by 1986. (see appendix c).

Industry

Historically industry in the Rideau waterway corridor was based on regional natural resource utilization. It included grist mills, sawmills, cheese factories and woollen mills.

Only a few cheese factories and grist mills remain but new light industries have located in towns such as Perth, Smiths Falls and to a lesser degree, Kemptville. Major industrialization, however, has been concentrated in the terminal cities of Kingston and Ottawa.

Transportation

The Rideau region is interlaced with provincial and county highways, including the Trans-Canada route.

Rail transportation services the Rideau region at such points as Kingston, Perth, Smiths Falls and Ottawa.

There is a large commercial airport at Ottawa and minor commercial airports at Gananoque and Kingston. Small grass strips for private flyers are located at Perth and Smiths Falls.

Bus service is available throughout much of the Rideau sector.
Most of the Rideau is bounded by soils of "very low" or "low" agriculture capability. The best general area for agriculture is in the Kemptville to Ottawa segments.

The poorest agricultural soils are found in the Portland, Chaffeys and Seeleys Bay segments. However in the immediate vicinity of the village of Seeleys Bay there is a pocket of first class soil. The balance of the waterway offers low to moderate agricultural capability.

Agriculture flourished in the Rideau waterway corridor well before the opening of western Canada for settlement. Mixed farming and grain production satisfied local needs.

Of the total land area, approximately two-thirds has been cleared for agriculture but only one-third is classified as 'improved'.

Today fluid milk production is found near the urban centres of Ottawa, Kingston, Smiths Falls and Perth; other dairy product output is significant as is beef farming on the lower class agricultural lands. Areas of once farmed marginal agricultural lands are, however, now reverting to scrub forest. Map 5 shows the predominant current land use in the waterway corridor and the agricultural areas are related to this broad pattern.

Value of Forestry

The overall forest capability of the Rideau sector is moderate.

In the Kemptville and Ottawa segments the overall rating is moderately high and in the Kingston and Seeleys Bay segments there is an area of high capability soil. The balance of the corridor rates moderate to low.

The general area is managed extensively rather than intensively for forest cover and some forest production. This provides a measure of cover for wildlife, a scenic setting for recreation and an economic level of production of various forest products.

The main administrative district for the Ontario Department of Lands and Forests encompassing the Rideau sector of the waterway corridor is centred at Kemptville. The district includes some 3 million acres.

Only 22.8 per cent of the Kemptville Forest District, however, is actually forested. Some 15.9 per cent is productive and 6.9 per cent nonproductive forest.

Hardwoods dominate, occupying 60 per cent of the productive forest area, with mixed woods occupying 28 per cent and conifers only 12 per cent. The forested areas can be seen to correspond to the recreation areas on map 5.

The cut of timber on private land is approximately 37 million cubic feet per year. Of this annual cut, 81 per cent is for fuel wood, the remainder being used for logs, pulpwood, fence posts and poles.

Annual forest production is valued at approximately $1.5 million of which one-half million is cash income and the remainder the value of the crop utilized on the farm. There is also an additional cash income of $220,000 from maple sugar and maple syrup.

A growing branch of the forest industry in eastern Ontario is the cutting of eastern white cedar for fence posts and slab siding. There is also a minor harvesting of cedar boughs for the cedar oil and florist trades. No financial data is, however, available.

Wildlife Capability

The wildlife production capability of the Rideau sector of the waterway corridor, evaluated as part of the Canada Land Inventory and the Ontario Land Inventory, may be summarized as follows:

White-tailed deer. The highest ranking segments are Ottawa and Richmond-Jock where the capability is classed as high. The other segments generally have a moderate or a moderately low capability for deer production.

Ruffed grouse. In Kingston and the Kingston Mills segments the capability varies from high to moderately high. The balance of the waterway has a moderate capability for grouse, except for the Ottawa segment where the capability is again high.

Hungarian partridge. Significant capability to produce this species is limited to the Kingston, Kingston Mills, Ottawa and Kemptville segments. In these areas the capability ranges from moderate to high. The balance of the Rideau region has climatic limitations which preclude production.

Sharp-tailed grouse. The capability ranges from moderate to moderately high.

Ring-necked pheasants. The Rideau sector is generally beyond the ecologic climatic range of ring-necked pheasants.

European hare. Capability is moderate to high in the southern third of the waterway. The balance of the area has a low capability for this species.

Geese. While the Rideau sector has little or no natural capability for production, it can attract migrant geese. This capability was found to be generally moderate with slightly higher capabilities in the Kingston segment but very low in the central section.

Waterfowl Production. Certain parts of the Rideau sector of the waterway corridor have a high capability for waterfowl production. These are mostly in the Kingston, Merrickville, and Kemptville segments. The balance of the region appears to have only a moderate or lower capability.

The overall capability for wildlife production within the Rideau sector is only highly productive agricultural land borders the Upper Rideau between Westport and Newboro.
moderate. However two exceptions deserve mention. White-tailed deer capability is high towards Ottawa; and there are areas of high capability for waterfowl in the Kingston, Kemptville and Merrickville segments.

**Fishing and Hunting**

The production of fish and game represents a land use generally associated with, or compatible with, forestry, agriculture and recreational pursuits. The fish and wildlife resource, as well as having an economic value, is a base for popular forms of recreation.

White-tailed deer, ruffed grouse, cottontail rabbit, European hare, varying hare, fox, raccoon, squirrel and Hungarian partridge are found on farmlands and along the agricultural-forest ‘edge’.

The large number of hunting blinds visible along the waterway is a strong indication of the popularity of waterfowl hunting. The watershed is an important area in eastern Ontario both for breeding and as a wintering ground.

The majority of wetland hunting takes place from Rideau Ferry through to the outskirts of Ottawa. Most good hunting marshes in southern Ontario are under private ownership and this is also partly true of the Rideau sector of the waterway corridor. There are few, if any, public hunting areas along the Rideau, although boat access to many large marshes can be gained from Crown lands.

Largemouth bass are common to the area. Other sport fishing species such as northern pike, walleye, smallmouth bass, and lake trout are available to the serious fisherman. Numerous other species such as sunfish, rock bass and perch provide children with many hours of fishing pleasure.

A provincial fish hatchery at Westport is the largest source of largemouth bass fry and fingerlings in the province and is used to stock a large section of Ontario with this species.

The sale of bait fish is worth approximately $50,000 annually to the region with production increasing annually in line with sport fishing.

**Mining**

Mining or mineral potential does not play a significant role in the Rideau sector.

There is only one small operating mine.

There is one iron ore site of some potential near Newboro. However, even if developed fully, it would only be a small operation.

Most of the mineralization occurs in the Precambrian Shield in small pockets or dikes. Mining occurred in the 1800’s on these sites but they are now uneconomic owing to size or grade of deposit.

The numerous abandoned mines with the wide variety of mineralization are now popular with people who “rock-hound” for a hobby.

There are some small sand and gravel operations in the portion of the waterway from Smiths Falls to Ottawa.

There are a number of limestone quarries in the area around Kingston and Ottawa, one large one being on the edge of the Cataraqui River opposite the city of Kingston.
Chapter 10

Recreational Capability and Present Use

The Canada Land Inventory data for recreation has been plotted on the Rideau sector map 6. It shows the inherent ability of the various segments to attract and sustain intensive recreation use as well as the kinds of use that each seems most capable of supporting.

East of Smiths Falls there tends to be a monotony of moderate capability units whereas west of Smiths Falls the capability varies from very high to low. There are no “high class” recreation units east of Smiths Falls but there are quite a few to the west.

In rating the Rideau sector’s recreation capability there are:

(a) very few high-ranking beaches
(b) very few good skiing areas
(c) many significant historic sites
(d) an abundance of moderately high-ranking lodging or cottaging areas, particularly in the Westport-Portland sectors
(e) excellent boating and canoeing waters.

Taken piecemeal, the recreation capabilities of the waterway are not overly exciting, excepting perhaps some of the historic sites.

Cumulatively, however, the recreation features present another picture. The pattern and distribution of historic sites and villages along an excellent boating route make the waterway corridor a recreation resource of great significance. The very fact that much of the shoreland ranks low for recreation development actually adds to the attractiveness of the waterway sector. In many cases low-ranking shorelands with its rocks and swamps add to the scenic variety.

The recreational capability of any larger area depends more on the mixture and distribution of recreation features than on any averaging of the capability of its component units. In this sense, the recreational capability of the Rideau sector of the waterway corridor is very high.

Historic Sites

Historic sites and structures, as a resource, play an increasing role in the recreational experience of the Rideau sector. U.S. and Canadian tourists to the Rideau region rank the visiting of such historic sites high in their list of preferred activities.

Present historical interpretation in the Rideau sector generally falls into three categories: plaques put up by the provincial and federal governments, local museums and provincial or nationally significant historic structures. The majority are found in Kingston and Ottawa but others are scattered the length of the waterway.

During the summer of 1969 an extensive inventory of historic structures of the Rideau region was carried out by the National and Historic Parks Branch of the Department of Indian Affairs and Northern Development. It uncovered some 1,751 pre-1880 buildings in the Rideau sector of the waterway corridor. Excluding the town of Perth, there were 347 rated as 'poor', 568 'fair', 440 'good' and 96 'excellent'. Of the structures classified as 'excellent', approximately two-thirds were found along the Rideau River from Smiths Falls to Ottawa. Mainly they are privately owned and often excellently restored.

The Matheson House (1840) was restored by the Perth Historical Society aided by a federal grant.

Significant Natural Features

Map 7 shows a number of natural features that are of special importance to the recreational utilization and full understanding of the natural environment of the waterway.

These are geologic—such as caves, old mines and escarpments; physiographic—such as eskers, drumlins and karst topography; vegetative—such as unique plant associations, rare remnant vegetation, and wild flower sites; and wildlife—such as heronries, wildlife viewing areas and wildlife breeding preserves.

None of these natural features are outstanding of themselves. The significant mixture and number, however, have the combined effect of a major natural resource.

To optimize the public knowledge and appeal of such features they should be preserved, interpreted and promoted.

Scenic Roads

In the United States tourism research during the past decade has rated driving for pleasure the most common recreation activity.

There are many roads in the Rideau sector of the waterway corridor that pass through areas of natural beauty and/or historic interest. A preliminary inventory has been carried out to identify those that could be included in a network of scenic roads.

These roads have been rated for variety, historic sites and structures, cultural interpretive sites, scenic vistas, nature viewing areas and service facilities. They were then plotted on map 11 to show routes of high recreational capacity.

Recreational Facilities

Accommodation in the Rideau sector ranges from lodges and resorts to housekeeping cottages, motels, hotels and cabins.

There are also a number of private trailer or tent parks, one developed provincial park, every type of eating establishment from hotel buffet to 'hamburger
heavens', and marinas, retail stores and liquor outlets. For winter use six snowmobile parks have been opened in the past few years.

There are some 113 commercial cottage establishments, 135 hotels and motels and 27 private campgrounds. Many pose problems in terms of both age and quality. There are complaints that there are too few top-quality establishments.

Twenty-six marinas are scattered the length of the Rideau sector with seven providing boat pump-out facilities in 1969; fourteen with marine engine repair capabilities, and nine equipped to lift larger vessels. The general distribution of marinas with essential facilities ensures a satisfactory cruise through the Rideau sector.

A significant increase in snowmobiling, the closing of some smaller resorts, and the move to year-round marinas, servicing both boaters and snowmobilers, means that an increasing number of waterway enterprises are in a position to improve their service.

**Vacation Homes**

In 1951 there were some 800 seasonal Hydro contracts in the townships adjacent to the Rideau sector, mainly for cottages or summer homes. By 1968 the total had grown to 4,456 and the trend shows no sign of slacking.

The majority of the cottages are found in the lake portion of the waterway from Seeleys Bay to Smiths Falls and from Ottawa to Kemptville along the Rideau River. They are primarily located on easily developed land, and in a linear shoreline pattern. The density of total shoreline development is shown on map 3, and can be easily equated to cottage use. There is as yet little or no two or three tiered or cluster land use.

Most cottages have one or two boats and now many are used as winter bases for snowmobiles. The recent trend toward year-round use has led to the establishment of four private snowmobile parks at Smiths Falls, Kingston and Battersea and two at Rideau Ferry, with a total of 1,615 acres and over one hundred and fifty miles of trails.

The land from Smiths Falls to Ottawa is generally flatter and not as desirable for snowmobiling but the Ontario Department of Lands and Forests has opened trails at its Kemptville forestry station.

Rideau region cottagers tend to shop in such communities as Westport, Perth, Smiths Falls, Kemptville and Portland, adding economic zest to the local economies.

**The Rideau Canal**

The canal waterway from Kingston to Ottawa, with its 47 locks at 23 lock stations, has only 18 miles of artificial canal in its 123.5 mile overall length.

Each of the locks is 134 feet in length, 33 feet in width and with a draft of 5.5 feet. Stone, hand hewn from local quarries, was the basic original construction material with wooden lock gates. All lock valves and gates are still hand-operated except Newboro and Black Rapids which have electrically-activated hydraulic machinery.

At Kingston the waterway has an elevation of 242.8 feet above sea level. It rises 162 feet via fourteen locks on the Cataraqui River to Upper Rideau Lake which has an elevation of 405 feet above sea level, the high point of the system. It then flows down the Rideau River through 33 locks, descending 271 feet to Ottawa where it flows into the Ottawa River at an elevation of 134 feet.

A side route, the Tay Canal, was built 1830-1834 under the sponsorship of several Perth merchants who formed the Tay Navigation Company. It joins the town to the main channel by following the Tay River to Lower Rideau Lake. The route is 6.5 miles long and requires two locks near the entrance to the Lower Rideau Lake. However access to the town is now blocked to larger boats owing to a low level highway bridge just downstream from Perth.

**Boating**

A large number of vessels (some 7,600 in 1969) use the Rideau sector of the waterway, from large pleasure cruisers, outboards, houseboats and sailboats to canoes. All vessels must be registered to be passed through a lock.

Though many think of the waterway
primarily in terms of transient cruisers, the system is most extensively used by local cottagers and boaters who make no extensive use of the locks but rather cruise the reservoir lakes created by the locks and related dams. Close to one half of the boats using the locks of the waterway have overnight accommodations. They are, in effect, 'floating cottages.'

In the Rideau sector the heaviest use occurs throughout July and August with heavy weekend use in the Spring and Fall and little mid-week traffic.

Figure 1 details the total number of vessels locked in the system from 1948 to 1969. These data show a seven per cent average annual increase in lockages. Figure 2 indicates the number of lockages at each lock station in 1969 and those sections of the Rideau sector with the heaviest traffic flow. In this case the lake section is the area of prime attraction and use.

Waterborne traffic through the locks is 67 per cent Canadian and 33 per cent U.S. vessels. Over half are prior users making a return visit. Average duration within the Rideau part of the system ranges from three to seven days.

Prime attractions to boaters are reported as the natural open space along the waterway and the unique canal system and its associated historic structures.

Canoe Routes

In addition to transient cruisers and local cottagers, fishermen, swimmers, and water-skiers, there is a large group of canoeists on the Rideau. They generally stay away, however, from the main channels, seeking the more secluded backwaters, access to some of which require portaging.

The entire central area of the Rideau sector of the waterway is ideally suited to 'canoe camping'. The development of easy portages allowing access into adjoining lakes could readily expand this use still further. In the Westport-Newboro-Chaffey's segments alone there are over 50 lakes easily accessible by canoe from the main waterway.

The backwaters of the Rideau Lakes are still largely undeveloped. Some lakes have few, if any, cottages. Most are not marked with deep water channels and, owing to 'floating deadheads' and partially submerged stumps, power boats hesitate to enter. Heavy weed growth during the late summer also acts as a deterrent to power-driven craft.

Scattered through the Newboro, Opinicon, and Sand Lake areas are many campsites built by fishing guides for shore dinners. Sometimes it is possible for the canoeist to use these campsites. They are usually found near the main channel or in off-channel areas near deep water. But additional campsites on islands and near portage points are needed.

Canal regulations state that lockage for canoes is at the discretion of the lockmaster. Usually canoes are locked through in groups. Canoeists interviewed were understanding. They felt that the regulations are reasonable and did not object to portaging at the locks when necessary.

Access Points

An access point is an area of land which provides the public with access to the water for the purposes of boat launching, picnicking, parking or just rest and relaxation. Such a site may be free or it may involve a fee for its use.

There are many public access points located throughout the Rideau sector of the waterway, including 23 lock stations, one developed provincial park, and four undeveloped provincial park reserves.

There are municipal parks such as those at Smiths Falls, Perth, Westport, Merrickville and Ottawa. Some of these sites, however are undeveloped and do not provide boat launching facilities.

Water access at private sites can be found at a number of locations along the Rideau sector. Most marinas also have boat launching facilities which can be used for a nominal charge. Many resorts and private campgrounds allow picnicking and swimming.

Day Use

In a study in the summer of 1969 the area between Smiths Falls and Jones Falls was found to have 57 day-use sites composed of nine lock stations, 22 sites suitable for boat launching, three Department of Highways picnic sites, 19 parks and beaches, and four parks under development. The summer months accounted for nearly two-thirds of total use and the lock stations attracted one-fifth of the transient visitors.

This study analysed the use of seventeen publicly-owned sites, including lock stations, highway picnic sites, and parks and beaches.

The predominant use of the highway picnic site was for eating and relaxation; for the lock station it was sight-seeing; and at the park and beach it was for water sports and swimming.

The main characteristics of the beach and park area users were their local residence, a party size in excess of four, children in excess of adults, a short term use, frequent use and a prime interest in swimming and picnicking.

The lock stations had considerably more U.S. visitors; the party size was smaller; adults were in a much higher ratio to children; short-term use, normally of less than two hours; a larger number of first time users; and sight-seeing was the prime motivation.

The Ontario Department of Highways picnic sites were mainly used by visitors to the Rideau region from either other parts of Ontario or the U.S.A. Most were in small parties with adults predominant; they stayed a very short time; a large number were first time visitors; and the use was predominantly for picnicking, rest and relaxation.
Above, the largest single lock on the Trent-Severn sector of the canal system, the 47 foot high Swift on the Severn, downstream from Orillia.

Above, a secluded picnic site at Lovesick Lake and, below, winter snowmobiling is a popular pastime in Peterborough County.

PART THREE:
Chapter 11

Introduction
Trent-Severn Sector

This part of the report deals with the Trent-Severn sector of the waterway corridor from Trenton on the Bay of Quinte to Port Severn on Georgian Bay. It varies in width from place to place and is defined on the basis of two levels of interest as follows:

(a) the area of prime concern, the environmental corridor;

(b) the secondary concern, the numerous watersheds comprising the Trent-Severn waterway.

In addition to the environmental corridor and the watersheds, the closest municipal boundary adjacent to the watershed was occasionally used.

Map 1 shows the waterway corridor of the Trent-Severn sector and the smaller segments used for the planning process.

Regional Setting
The Trent-Severn sector consists of four principal river systems in south central Ontario — the Trent, Otonabee, Talbot and Severn and the Kawartha Lakes, Rice Lake, Lake Simcoe and Lake Couchiching.
It encompasses such urban communities as Trenton, Campbellford, Peterborough, Lindsay, Barrie and Orillia with many small villages and towns interspersed throughout the area.

A wide variety of land uses and conditions are found including well-developed farms and abandoned farmland, forested land and many types of recreation developments. There is a wealth of archaeologically significant areas, prime examples being the Serpent Mounds on Rice Lake and the Petroglyphs, perhaps unique in Canada, located north of Stony Lake. Uniting all the natural, recreational and historic resources, the Trent-Severn canal forms the central spine.

The Trent-Severn sector is within a day's drive of such major urban centres as Montreal, Toronto, Ottawa, Buffalo, Rochester, Cleveland, New York, Syracuse, Albany and Detroit.

Boat access is possible from Quebec, Ontario and all the Great Lakes' states. Pleasure craft can travel to the Trent-Severn through a number of marine systems including the Rideau, the St. Lawrence and Ottawa Rivers, the Erie Barge Canal entering Lake Ontario at Oswego, the Hudson River — Lake Champlain — Richelieu boat route entering the St. Lawrence River below Montreal, and from Georgian Bay and the Great Lakes.

Highways leading to the Trent-Severn sector include a system of U.S. expressways north through Buffalo and the Thousand Islands areas, together with Ontario Highways 2, 401, 35, 400, 11, Trans-Canada routes 7, 12 and 103, and many more, each giving ready access to the waterway.

Segments of the Trent-Severn

The Trent-Severn portion of the study has been divided into sub-units or segments for the purpose of facilitating the planning process. These are as follows:

1. Trenton
2. Campbellford
3. Warkworth
4. Rice Lake
5. Otonabee — Peterborough
6. Burleigh Falls
7. Bobcaygeon
8. Sturgeon
9. Rosedale
10. Scugog
11. Kirkfield
12. Lake Simcoe
13. Couchiching
14. Severn
15. Gloucester Pool

Map 1 shows the location of the segment boundaries. The following table gives the approximate miles of shoreline accessible to the boat route.

<table>
<thead>
<tr>
<th>SEGMENT</th>
<th>MAINLAND SHORELINE (IN MILES, APPROX.)</th>
<th>NO. OF ISLANDS</th>
<th>ISLAND SHORELINE (IN MILES, APPROX.)</th>
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<tbody>
<tr>
<td>Trenton</td>
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<td>6</td>
<td>3</td>
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<tr>
<td>Campbellford</td>
<td>100</td>
<td>12</td>
<td>36</td>
</tr>
<tr>
<td>Warkworth</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Rice Lake</td>
<td>67</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Otonabee-Peterborough</td>
<td>62</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Burleigh Falls</td>
<td>68</td>
<td>55</td>
<td>34</td>
</tr>
<tr>
<td>Bobcaygeon</td>
<td>141</td>
<td>28</td>
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</tr>
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<td>Sturgeon</td>
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<td>5</td>
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<tr>
<td>Scugog</td>
<td>64</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Rosedale</td>
<td>70</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Kirkfield</td>
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<td>25</td>
</tr>
<tr>
<td>Couchiching</td>
<td>26</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Severn</td>
<td>50</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Gloucester Pool</td>
<td>44</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>TOTALS (Miles)</td>
<td>964</td>
<td>160</td>
<td>205</td>
</tr>
</tbody>
</table>

Above, the double-lane causeway at Gannon's Narrows linking Peterborough to the north. Below, Campbellford twin flight of locks in the Trent sector.
Chapter 12

Geology, Climate and Landforms

The geology of the Trent-Severn is characterized by four bedrock formations representing two eras: the Precambrian Era with the granitic bedrock formation of the Canadian Shield and the Ordovician Era, represented by three bedrock formations — the Black River, Trenton and Cobourg. The latter formations are limestones laid down over a continuous period with different textured materials.

The Precambrian bedrock borders the northern and eastern shoreline of many of the Kawartha Lakes and the entire Severn River. The remainder of the system lies within the Ordovician Era bedrock, generally the Trenton formation, but with small portions of the Cobourg and Black River.

The Canadian Shield is hilly and broken, contrasting with the limestone which is flat with limited relief.

The entire Trent-Severn sector was glaciated and most of the bedrock is buried beneath a mantle of drift. On the Precambrian and Black River formations, the drift averages several feet in thickness.

In this area the physiography is essentially a reflection of the underlying bedrock. On the Trenton and Cobourg formations, the bedrock is deeply buried under drift. This is the critical element in the physiography of the region.

Climate Range

The Trent-Severn waterway has a winter (January) mean daily temperature of between 16 and 20 degrees Fahrenheit. In summer (July) the mean daily temperature ranges from 66 to 70 degrees Fahrenheit. The winters are moderately cool, the summers comfortable.

The temperate zone climate allows for an annual frost-free period of from 120 to 140 days which gives a mean annual length of growing season of from 190 to 200 days.

Precipitation is in the range of 30 inches to 38 inches, including a mean annual snowfall ranging from 64 inches in the Trenton area to 112 inches at the Georgian Bay end of the system. Snow is on the ground from 80 to 120 days. Even with this amount of precipitation, there are over 200 days that have no measurable precipitation.

The spring is short and the fall is characterized by an abundance and variety of foliage colour.

The summer climate is conducive to water sports — swimming, bathing, waterskiing and pleasure boating.

The winter climate allows for participation in most of the popular winter sports with the Georgian Bay end of the system having significantly more snow and a longer season for such winter activities as snowmobiling and skiing.

Six Major Landforms

Glaciation has eroded much of the bedrock of the Trent-Severn sector of the waterway and deposited glacial till in drumlins, eskers, terminal moraines, interlobate moraines, etc. The combination of the bedrock geology, as affected by climate, weathering and glacial activity over several thousands of years, has created the landforms of the sector in which there are six major physiographic regions.

The first, and one of the dominant landform features, is the Oak Ridge interlobate moraine. This ridge of coarse, deep glacial drift stretches from the Orangeville — Mono Mills area across southern Ontario to Trenton at the mouth of the Trent River. Drainage is very rapid through this type of soil creating semiarid conditions.

The area was originally heavily forested but, after logging, farming took over. Agriculture, however, has recently decreased as a result of the adverse growing conditions. Owing to its proximity to the Toronto urban area it is popular for retreats and country estates.

A further physiographic feature of major significance is the Peterborough drumlin field, a rolling till plain of approximately 1,700 square miles containing an estimated 3,000 well-formed drumlins aligned in a northeast to southwest direction. In addition, there are many other drumlinoidal hills and surface flutings of the drift cover.

This plain is also noted for its eskers which are gravel ridges deposited as stream beds in glaciers. Examples are found near Cannington, Omemee, Norwood, Frankford, Stirling and Tweed.

The side slopes of the drumlins and eskers are too steep for good farming. The valley lands between the drumlins and the eskers are of clay, till or sandy soils and support mixed or dairy farming.

The Lake Simcoe Basin is a region with some features of note. These include the Holland Marsh, a major vegetable growing area; the sandy plains to the south and east of Lake Simcoe; and a clay plain located to the north and west of the lake. The latter has a few drumlins which are good for farming but the clay plains suffer from poor drainage.

An area of special note as a physiographic feature is the landform centred on Carden Township. Called the Carden Plain, it is a limestone plain, approximately 225 square miles in area, with little soil overburden and is approximately 25 per cent wooded. Currently used for some beef grazing, it should no longer be regarded as agricultural land but returned to forest and recreation uses.

The Dummer Moraine covers an area of approximately 600 square miles of irregular stoney land bordering the Precambrian Shield from the Kawartha Lakes eastward. Crossing this morainic belt are several tributary streams of the Trent and Moira Rivers which follow deep pre-glacial valleys. The long, narrow lakes or swamps were created when the valleys were blocked by glacial deposits as, for example, several of the Kawartha Lakes.

This rough boulder area, interspersed with swamps and sections of bare limestone, presents a problem in land utilization. It is currently used for pasture and some reforestation.

The last physiographic feature of note is the Iroquois plain, the recessional shoreline of Lake Iroquois, a glacial lake located about 8,000 BC in the same area as Lake Ontario.

A very large bay in this lake pushed inland up the Trent River Valley as far as Rice Lake in which many of the islands were formed by the drumlinized uplands.

The clay lake plain in this area provides for good farming and dairy production.
Chapter 13

Historical Background

The Trent-Severn has long been a major travel artery between Georgian Bay and Lake Ontario. Indians used this route and lived in this area in prehistoric times.

To the south they found excellent land for cultivation of corn, beans and squash while, to the north, lay the exceptional hunting and fishing areas of the Precambrian Shield. Two major prehistoric sites have so far been excavated to show early Indian use of the system.

Prehistoric Sites

The Peterborough Petroglyphs, a series of rock carvings or glyphs on an outcropping of crystalline limestone, have been variously dated from 1500 B.C. to 1450 A.D. Depending on age, one of two cultures could be responsible: the ancient Laurentian culture, living near subsistence and hunting only smaller animals with spears; or the Ojibwa, a branch of the Algonkian linguistic family.

Another is the Serpent Mounds found on Rice Lake. The people who constructed these mounds are believed to have belonged to the Hopewell culture which flourished about 2000 years ago. This sophisticated culture was based on agriculture and considered very artistic.

Indian Nations

At the time of the first European arrival there were various nations of the Iroquoian linguistic family dwelling in the area of the Trent-Severn sector. The Huron homeland (Wendake) was located between Georgian Bay and Lakes Simcoe and Couchiching. The area between the Bruce Peninsula and Collingwood was occupied by the Petuns, or Tobacco Nation. To the south of Lake Ontario and stretching eastward to Lake Champlain lived the Five Nations of the Iroquois League. Algonkian nations roamed from the Trent north to James Bay.

Prior to the coming of Champlain there had been a relatively constant war between the Confederacy of the Wendat (Huron and Petun) and the Iroquois League. It consisted of light skirmishes, interspersed with periods of peace. While Indian warfare was brutal, it existed within the context of the total tribal life. And it never completely threatened to annihilate the participating nations.

The introduction of European techniques increased the tempo and ferocity of the Indian warfare. The French supplied the Hurons with flint-lock rifles in barter for furs and in 1615 Champlain travelled down the Trent-Severn system with Huron allies to attack an Iroquois village in what is now New York State.

Iroquois Attacks

White men also brought diseases, such as smallpox, that ravaged the Hurons. In 1648 the Iroquois, now well-armed by the English and Dutch, attacked the disease-weakened Hurons. After the initial attack, the Iroquois withdrew not to their own land south of Lake Ontario, but to remain for a winter in what is now southeastern Ontario. In the early spring they renewed their attack and the Hurons collapsed before the onslaught. In the following years the Iroquois decimated the Petuns and the Neutrals and gained control over the lower lakes region. So total was the Iroquois destruction that the dispirited remnants of the Hurons, Neutrals and Petuns were forced to flee. The Trent-Severn became Iroquois hunting territory.

North of what had been Huron territory lived the Mississaugas, a Shawnee branch of the Ojibwa tribe of the Algonkian Indians. After the Huron destruction this tribe drifted slowly into the vacant and comparatively rich land of the Trent-Severn region. The Iroquois, however, disputed their passage to Lake Ontario, fearing their possible trade contact with...
coast, and battles were fought throughout the European settlements on the Atlantic established control over the Trent-Severn valley. Ultimately the Mississaugas Ottawa. Its 45-stone basis is capped by a 12-foot high bronze statue of the pioneer Euro­ man explorer of the Trent-Severn waterway. March, sculptor of the national war memorial, Kingston (Fort Frontenac) and Detroit Ontario and had established forts at territorial ambitions, their most avid interest lay northwest, beyond the basin of the southern Great Lakes.

With the colonial war between the French in Quebec and the English in the Thirteen Colonies and the resultant English victory, the French dream of empire in North America largely ended. The British inherited not only the former French possessions, but also the economic pattern that France had established. British financiers now, rather than French, dominated trade and, like their predecessors, had no wish to see the forests of the interior give way to settlement. As a result in 1763 Britain closed the land west of Montreal to settlement. Eleven years later the Quebec Act of 1774 formalized the existing supremacy of the fur trade by extending the borders of the province of Quebec westward to the Ohio and Mississippi Rivers.

Coming of Loyalists
With the uprising in the Thirteen Colonies and the resultant defeat of the British, there was an immediate and irreversible effect upon Canada. Approximately 50,000 people fled north to Canada. Of this number approximately 5,000 found their way to what was later to become the province of Ontario. This wave of settlers forced the opening of the territory.

A series of land purchase treatises had to be negotiated with the Mississauga Indians to obtain Crown land for settlement. In 1783 land was purchased along the shore of Lake Ontario from the Gana­ noque to the Trent and inland for a consider­ able distance. A much larger pur­ chase, extending from the Trent to the Etoibocoke River and northward to Rice Lake, Lake Scugog and Lake Simcoe was later acquired. By 1818 all the territory from Georgian Bay to Lake Ontario had been purchased from the Ojibwa Indians. As early as 1784 Indians and white Loyalists were arriving at the Bay of Quinte end of the Trent-Severn sector of the waterway.

The Two Canadas
These early settlers were chiefly Loyal­ ists from the New York colony. Under the Quebec Act of 1774 the existing rule for feudal land tenure and the French civil code was granted in Quebec. This along with the lack of an Assembly, placed the Loyalists in a position totally alien to the one they had experienced in the Thirteen Colonies. The issue was finally settled in 1791 when the Constitutional Act divided the colony into two political entities, Upper and Lower Canada.

The first settlement in the Trent-Severn sector came in 1790 with the arrival of James Smith at the site of present day Trenton. It was here in 1794 that the first grist mill was built.

Many present day villages and towns were started around early mill sites. In.
1807 a grist mill was located at Stirling; in the 1820's mills were founded at Frankford, Marmora, Peterborough, Keene and, by the 1830's, mills were located at Campbellford, Hastings and Young's Point. Just slightly later than this the mill at Lang was established.

Grew Around Mills

The settlement of many of the townships through the Kawartha Lakes segment of the waterway was delayed until permission was given for establishment of grist mills.

After the first wave of United Empire Loyalists came a number of British and other European settlers. Even before the catastrophic series of Irish crop failures, between 1831 and 1842, masses of people were facing starvation in Ireland. To arrest the growing social and political unrest, the British government undertook to settle a number of these people in Canada.

In 1825 nearly two thousand emigrants from Ireland crossed the Atlantic under the patronage of the Hon. Peter Robinson to settle in Smith, Otonabee and adjacent townships.

They moved northward from Cobourg to Gores Landing, bringing with them three large flat-bottomed boats. There they crossed Rice Lake and went up the Otonabee River to Scott's Plains.

"Instant Settlement"

From this point settlers spread out to take up their lots in Douro, Smith, Otonabee and even Emily, Ennismore, Asphodel, Ops and Marmora Townships. This "instant settlement" was one of the most remarkable ventures of its kind undertaken in the history of the watershed. Scott's Plains became the focal point for the whole area. In 1825 Richard Birdshall surveyed it as the town plot for Peterborough, named after Peter Robinson.

Settlement in the Severn end of the system took place over a longer period of time. When Governor John Graves Simcoe visited Matchedash Bay, for example, he recognized the naval importance of the harbour at Penetanguishene. The Narrows at Atherley between Lakes Simcoe and Couchiching had long been used by the Hurons (Wendats) for Ashing and as early as 1802 Quetton St. George's trading post was located at these Narrows and "Constant" Cowan's trading post near the mouth of the Severn River.

In 1830 the Indians of the area received a land grant of 9,800 acres stretching from Coldwater to the Narrows. By 1833 a grist mill, store and school at Coldwater plus a number of houses at mile intervals along the Coldwater portage from Lake Couchiching had been erected for their use by the government. In 1838 the...
Indians were moved off the good agricultural land of the reserve to new, sandy-soiled reserves at Rama and Beausoleil Island. By 1837 Orillia had a dozen or more white settlers and a town plot was laid out by 1839. During this same period the original Indian portage became the portage road from Orillia to Coldwater on Matchedash Bay.

**Final Development**

It was not until 1859 that Muskoka was opened for settlement. A location office was situated at the present day Severn Bridge but there was no large movement of settlers to take up land until the enactment of the Free Grants and Homesteads Act of 1868. In the 1860's a number of lumbering firms located at Severn Bridge and, in 1877, a Division Court was established at this community. As early as 1860 the first "Colonization Road" in Muskoka was pushed northward into the District from Severn Bridge.

This was the last section of the Trent waterway to be opened and developed for settlement.

**Pioneer Transportation**

The waterway, itself, was the principal transportation route for the Indians, utilizing, as it did, the natural water courses between Georgian Bay and Lake Ontario. This route had several long portages which bypassed large areas of the system. Two prime examples were the portage from Lake Chemong to Little Lake, the site of Peterborough, and the portage from the present day Percy Reach across to the village of Hastings.

The development of trails and roads from Lake Ontario north to the waterway began in earnest with pressure for settlement. One of the earliest of such roads ran from Belleville to Stirling, probably developed as early as 1805.

To reach the land lying north of Rice Lake, which was opened for settlement after the land purchase of 1818, the trails northward from Port Hope to Bewdley, and from Cobourg to Gores Landing were used. The "Cavan Road", providing access to Otonabee Township, was opened by the Upper Canada government under the Act of 1819 and ran mainly up the line between Durham and Northumberland Counties. The Emily Road was opened in 1820-21 through Hope and Cavan Townships as an alternative route.

Another early portage trail ran from Little Lake, the site of present day Peterborough, to Chemong Lake. This was replaced in 1818 by a colonization road. Other early settlement roads went north from points near Pickering, Whitby and Oshawa, giving access to Lake Scugog and to the area between Lake Simcoe and Peterborough. The entry to this area was easier from the west or south than overland from Peterborough.

**Yonge Street Route**

The most notable example of a settlement road providing access to the Trent-Severn sector of the waterway is Yonge Street, begun in 1794 and opened to Holland Landing in 1796. It was primarily intended as a military road but served to settle much of the Lake Simcoe area. After the War of 1812-14, Colonel William "Tiger" Dunlop was given the job of extending Yonge Street via the Penetanguishene road from Kempenfelt Bay to Penetanguishene on Georgian Bay. It was at Penetanguishene in 1825 that Sir John Franklin assembled his second polar expedition.

In addition to the pioneer roads, as early as the 1830's steamboats travelled Rice Lake and the lower section of the Otonabee River from Gores Landing to Peterborough. There was steam navigation on Lake Simcoe and through the Narrows into Lake Couchiching. Settlers began to think of the desirability of connecting the various lakes to enable steam-driven boats and lumber rafts to traverse the entire Kawartha and Trent-Severn sector.

**Lock Construction**

As early as 1827 such a navigation system had been proposed. During the decade between 1833 and 1844, the construction of locks at Glen Ross, Hastings, Peterborough, Bobcaygeon and Lindsay was carried out by the Inland Water Commission, acting under appointment from Sir John Colbourne, then Lieutenant Governor of Upper Canada. These locks, together with those built by the Ontario government from 1869 to 1872 at Young's Point and Rosedale, made available to through navigation about 171 miles of lakes and rivers divided into six unconnected reaches: Healey to Peterborough; Lakefield to Burleigh Falls; Buckhorn to Fenelon; Fenelon to Cobocoon; Sturgeon Lake to Port Perry; and Lake Simcoe and Lake Couchiching.

From 1883 to 1887 short channels and locks were built by the federal government at Burleigh Falls, Lovesick, Buckhorn and Fenelon Falls, connecting the Kawartha Lakes. By the construction of the Peterborough to Lakefield and Balsam Lake to Lake Simcoe divisions, in 1895-1907, 176 miles of through navigation were available which, with the Scugog River and Lake, opened over 200 miles of inland navigation without outlet to the Great Lakes.

It was in this period that Ontario transferred its locks and reservoir system to the Government of Canada. An outlet to Lake Ontario came with the opening of the Lake Ontario to Rice Lake section in June, 1918. The Severn division extending from Lake Couchiching to Georgian Bay was only partially completed when work was suspended owing to World War I. Some further work was done in 1919 and 1920 and, with the opening of the Couchiching Lock near Washago on July 6, 1920, and the finishing of marine railways at Big Chute and Swift Rapids in August, 1919, navigation to Georgian Bay was provided for boats up to 9 feet in beam, 36 feet in length and weighing 5 tons. By subsequent improvements, through navigation was made available for boats up to 13 feet 6 inches in beam, 4 feet in depth, 50 feet in length and a weight of 40,000 pounds.

**First Vessel Through**

The first vessel to make the through trip was the motor launch, Irene, which left Trenton on July 3, 1920 and arrived at Port Severn on July 12, 1920.

The advent of the railway era in the early 1850's with rail lines being built from Cobourg across Rice Lake to Peterborough; the Midland Railway from Port Hope through Lindsay, Beaverton and Orillia and on to Midland on Georgian Bay by 1879, with a side branch to Peterborough; and the Ontario, Simcoe and Huron (later the "Northern") railway from Toronto to Barrie (1853) and Collingwood (1855) with a 1879 extension to Penetanguishene. Thus, not too long after Confederation, the waterway was fully opened to settlement with roads, rail and steam navigation transportation available throughout the Trent-Severn.
Chapter 14

Land Tenure and Development

A systematic classification and mapping of the rural land tenure pattern of the Trent-Severn sector has now been completed.

It encompasses all of the land, excluding urban areas, within approximately one and a half miles of the waterway and its tributaries, and including details on non-local ownership, size of holdings, density of development, registered plans of subdivision, developer holdings, public lands, etc.

Trenton: Most land in this segment was not included in the study as it is primarily urban. Of the land examined, only a very small percentage is held by non-residents. An official plan is being prepared for Brighton township.

Campbellford: The areas north of Frankford, northwest of the Trent River, and along the south shore of Percy Reach have a large proportion of non-local ownership. In the Murray Marsh area, and along the south shore of Percy Reach, the individual holdings are 150 acres or larger. Developers control land areas in the Murray Marsh, on Meyersburgh Island, as well as a large island east of Hastings.

Warkworth: The section of the Oak Ridge moraine to the south of Rice Lake is under increasing pressure from small acreage acquisition for country estates. Primarily this is still a scenic mixed farming area with several picturesque villages.

Rice Lake: The shoreline of Rice Lake is largely held by non-local cottage owners on small acreages while the backshore is held in larger tracts by resident farmers. A valuable feature is the group of drumlin islands in Rice Lake, seven of which are owned by non-local residents but are relatively undeveloped. For such a popular lake it is surprising that there is so little development along the north shore to the Otonabee River.

Otonabee - Peterborough: Most of this segment is owned by residents. There is very little development on the shoreline south of Peterborough and high development to the north.

Burleigh: The shoreline of this segment is heavily developed and dominated by small non-local holdings. Inland, large land areas are resident owned. There are several properties of 300 acres or greater. Three large areas are owned by land holding companies northeast of Stony Lake.

Bobcaygeon: Large properties, 300 acres or greater, dominate in Harvey Township. This segment has dense shoreline development with more than 50 per cent of the shoreline owned by non-local residents and developers controlling several additional large areas on the north shore of Stony Lake.

Sturgeon Lake Segment: Within this area small holding and high density shoreline development is predominant. The inland properties are larger. There are still significant areas of resident ownership.

Scugog Segment: A high number of non-local residents predominate and the area has many development holdings. A significant single land ownership is the Osler Marsh in the southeast portion of the lake.

Rosedale: Balsam Lake is the main feature of this area. Large sections of non-local resident ownership are found on Grand Island, the west shore of Balsam Lake and the northwest shore of Cameron.

Above, Lagoon City development plan on the eastern shore of Lake Simcoe incorporates a series of dredged canals. Below, the Trent-Severn canal passes through Fenelon Falls.
High density development.

Kirkfield Segment: Of significance are the four areas held by developers of land.
Resource Capability and Present Use

The agricultural use capability of the Trent-Severn sector of the waterway varies greatly from segment to segment and ranges from very high to very low. The overall capability can be described as "moderate" but the resource varies so greatly that a segment by segment summary may be the only satisfactory way to portray it. The table at right gives this summary.

Where a range of capabilities is given it can generally be assumed that the high ranking areas are to the south of the waterway and the low ranking areas are to the north.

Today agriculture is the dominant activity in the sector south of the waterway. On the north, agriculture, as a land use, constitutes both a smaller portion of the total land area and the proportion of non-commercial farms to total farms is far greater. This is caused by the poor growth potential of the shallower soils and the harsher climate.

The major agricultural activity within the corridor, especially on the poorer soils, is the raising of livestock, particularly of beef cattle. In terms of acreage, hay is the major field-crop, followed by mixed grains and oats. Cash cropping doesn't play an important role, but in the southern sections of Northumberland and Durham counties some tobacco is grown.

The trend is to farm consolidation. Attractive prices offered by land developers and urbanites looking for weekend retreats have also accelerated the withdrawal of land from agricultural uses.

Forestry

Generally forest capability is highest in the south and east. The northern extreme is lower. A summary of the segments is shown at right.

The Trent-Severn sector of the waterway is wholly contained within the Great Lakes - St. Lawrence Forest Region and mainly within the Ontario Department of Lands and Forests Lindsay Administrative District.

The forest cover can be divided into two broad categories: the large concentrated mixed forest tracts on shallow soils that are found in the townships adjacent to the Severn River and the Kawartha Lakes; and the predominantly hardwood area, comprising the farm woodlots of varying sizes. The latter is usually found on the deeper soils.

Silvicultural Revenue

Hardwoods dominate this sector of the corridor, with mixed and coniferous cover following in that order.

The extraction of forest resources on a commercial basis has been carried on since 1830, when the first sawmill in the region was built in Bobcaygeon. The industry expanded to a point where Peterborough County mills were sawing 50,650,000 board feet per annum in 1866. This annual mill output fell off from 1866 to a level of less than 5,000,000 board feet by 1912.

In light of past practices which left much of the region denuded of forest resources, the Ontario Department of Lands and Forests has had to undertake rehabilitation on many large areas.

Modern industries, such as Domtar at Trenton and Hind and Dauch at Lindsay, have become the major wood-users of the sector. Sawmills still exist today but in rapidly declining number and economic importance.

Wildlife Production Capability

The following is a brief outline of the Trent-Severn sector's ability to produce wildlife, based on the Canada Land Inventory classification.

White-tailed deer. The capability for this species is high in the Campbellford, Otonabee and Scugog segments. The balance of the waterway ranks either moderately high or moderate, with the Severn and Gloucester Pool segments classed as low and moderately low.

Ruffed Grouse. The capability to pro-

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<tr>
<th>SEGMENT</th>
<th>AGRICULTURAL CAPABILITY</th>
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<tr>
<td>Campbellford</td>
<td>Very high to moderately high</td>
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<tr>
<td>Warkworth</td>
<td>Very high to moderately high</td>
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<tr>
<td>Rice Lake</td>
<td>Very high to moderately high</td>
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<td>Otonabee-Peterborough</td>
<td>Very high to moderately high</td>
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<tr>
<td>Bobcaygeon</td>
<td>High to low</td>
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<td>Sturgeon</td>
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<tr>
<td>Rosedale</td>
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<td>Scugog</td>
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<tr>
<td>Kirkfield</td>
<td>Very high or high</td>
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<tr>
<td>Lake Simcoe</td>
<td>High to very low</td>
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<tr>
<td>Couchiching</td>
<td>Very low</td>
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<tr>
<td>Severn</td>
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<tr>
<td>Gloucester Pool</td>
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<table>
<thead>
<tr>
<th>SEGMENT</th>
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<tr>
<td>Rice Lake</td>
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<td>Burleigh Falls</td>
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<td>Severn</td>
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<td>Gloucester Pool</td>
<td>Low</td>
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</tbody>
</table>
duce this species is very similar to that for white-tailed deer.

Hungarian Partridge. Hungarian partridge capability is severely restricted owing to climatic limitations in the segments west of Bobcaygeon. The balance of the waterway is classed as moderately high.

European Hare. The capability to produce hare is moderately high. However the Otonabee and Scugog segments are classed as high and those north and west of Simcoe are classified as low.

Geese. The capability of the waterway to attract migrant geese is not outstanding. However a few reasonably high class areas exist in the Campbellford, Rice Lake, Otonabee and Sturgeon segments.

Waterfowl. The waterfowl production capability is very high in a few selected areas such as the Sturgeon segment (Emily Creek) and the Simcoe segment (Holland Marsh). Two other areas having high capability for waterfowl are the Scugog and Campbellford segments.

Hunting

A wide variety of upland game is available to the hunter in the Trent-Severn sector of the waterway corridor. The open fields and woodland edges provide good habitat.

One public hunting area near Brighton is already in heavy use and the Department of Lands and Forests is proposing a second similar area adjacent to Lake Scugog in Mariposa Township.

There is prime wetland hunting in Rice Lake and on the streams leading into this lake (e.g. Ouse River). Emily Creek also offers excellent waterfowl hunting as does the marshland of Lake Scugog.

Fishing

The capability of the waterway to produce fish is generally high but certain areas are particularly outstanding. The highest class areas for fish capability are Lakes Simcoe, Rice and Scugog.

The Kawartha Lakes and Lake Simcoe are well known for their excellent fishing opportunities. A significant portion of the economy of the sector relies on tourism which in turn relies, in part, on good fishing. Bass, pickerel and maskinonge can be found in most of the Kawartha waters, and bass, pickerel and lake trout are the favourite sought-after species of Lake Simcoe. In addition to excellent summer fishing, Lake Simcoe maintains a high popularity for ice-fishing in the winter season.

Speckled trout are found in the short, fast-running streams in the southeast end of the waterway. Cold Creek, Shelter Valley Creek, etc. offer the trout enthusiast a good fishing opportunity. Emily Lake offers excellent maskinonge. The pickerel spawning beds at Port Severn and on the Talbot River are popular attractions in the springtime.

Mining

Mining has had a long and varied history in the Trent-Severn sector of the waterway. In the past there have been a number of sites explored and developed for mica, molybdenum, magnetite, copper, corundum, uranium and marl. Several limestone quarries provide road material, construction stone and agricultural lime.

At present there are two economically viable mineral occurrences and three operating mines. These are the magnitite deposit at Marmora and the nepheline syenite deposit north of Stony Lake. The latter is mined by two companies: American Nepheline Limited and International Mineral and Chemical Corporation (Canada) Limited.

A substantial and steady market now exists in both North America and Europe for nepheline syenite. It is used as a raw material in the glass and ceramic industries.

From the Marmora iron deposit over six million tons of ore have been shipped in the period 1955 to 1967. This mine has now developed into an open pit, one half mile long and a quarter mile in width. In the future it may well pose a major problem in land reclamation.

The mineral resource as an economic factor appears to be limited to those already operating mines with little potential for new developments. An expanding new use of the mineral resources is, however, in the recreational field of "rockhounding" carried out by amateur mineral collectors.
Chapter 16

Recreational Capability and Present Use

Map 6 shows the Canada Land Inventory classification for recreation capability. It rates small parcels of land for recreation based on inherent features, but does not generalize or aggregate the capability of large areas like the segments of the Trent-Severn.

The landscape units of the Ontario Land Inventory, however, are very nearly identical to the segments of the Trent-Severn sector. Therefore the latter is used for the generalized evaluation of recreation capability.

The overall capability of the sector is high. The individual segments vary in capability from high to moderately high. The most significant features are the boating and angling waters, the cottage and lodge sites, the man-made features such as the lock stations and the historic sites. A brief analysis of each segment is at right.

None of the segments is considered to be a first class, i.e., a very high, recreation area. This classification is reserved for areas such as Wasaga Beach and Niagara Falls. However it should be noted that the Trent-Severn segments have a uniquely high average. Although no segment is first class, none are below “moderately high”. This consistent high rank presents an overall recreation potential unique in Ontario.

### Historic and Prehistoric Sites

In the Trent-Severn sector of the waterway there are several historic or prehistoric areas that are a significant resource and can play a major role in the recreation experience.

There are at present 29 historical plaques covering subjects ranging from the passage of Champlain’s war party in 1615 to the construction of certain mills or the residences of local people of historical importance. Several museums and historically significant structures are also located throughout the waterway.

There are also various buildings of historical and architectural significance, generally found in the smaller villages and towns but some in rural settings. The age of the structure usually coincides with the settlement patterns so that one finds occasional buildings of the early nineteenth century. A few examples are St. George’s Church in Trenton (1843), the Lang Mill (1840), Old Christ Church in Lakefield (1853) and the stone Stirling Church near Beaverton (1840). Some of the residential buildings are the Stone House (1838) in Peterborough, the White House (1840) in Gores Landing, “Westove” House (1840) in Lakefield, and the Drinkwater House (1835) in Orillia Township constructed of stacked planking. Prehistoric and historic Indian sites of significant recreation value were previously mentioned.

![Glacial boulder at Glen Miller, upstream from Trenton, is one of largest “erratics” in Ontario.](image)

All such sites, properly interpreted and developed, would add to the recreational experience of the Trent-Severn sector of the waterway.

### Significant Natural Features

Map 7 indicates the significant natural features of the Trent-Severn sector of the waterway.
the waterway corridor. They include those of geological, physiographic and ecological importance.

While not on a significant scale in comparison with the entire province or country, nevertheless, within the defined corridor, each feature on its own and in association with one another has a high value, particularly in respect to the potential for interpretation.

Features such as the Glen Miller boulder, the Cavan bog and the karst topography of the Warsaw area all have potential as natural history interpretive centres.

Scenic Roads

There are many roads in the Trent-Severn sector of the waterway corridor that pass through areas of natural beauty or historic interest.

Many natural features such as wetlands, wildlife areas and major physiographic sites such as drumlins and eskers, have been previously mentioned. Reference has also been made to the “Peterborough Petroglyphs” and “Serpent Mounds”. Scenic routes joining such points of interest could be very popular with the users of the system. Several existing roads permit an enjoyable trip joining major sites and overlook the panorama of lakes and valleys of the waterway.

Another type of road that offers scenic interest is that associated with pioneer settlement. These roads did not always follow the straight lines of the township or survey grid, but rambled through the countryside taking the easiest path down the valleys. Evidences of the first settlements and farms are scattered along these routes.

Selected scenic roads have been marked on map 11 to serve as alternative routes to travel between points throughout the sector. Several of these roads form loop routes that can provide an enjoyable day of scenic travel.

Marinas

Only seven of the 72 marinas between Rice Lake and Lake Simcoe had in 1969 the facilities and site characteristics considered necessary to serve cruisers and similar large craft. Such craft generally require the following:

(a) Water depth at the docks of at least five feet,
(b) Gas, oil and pump-out facilities,
(c) Boat repairs and maintenance facilities including a machine shop,
(d) Launching and loading facilities utilizing a marine railway, a monorail, crane or a large mobile travel lift.

Parks and Park Reserves

In the Trent-Severn sector of the waterway and the Bay of Quinte area there are 13 developed provincial parks and eight park reserves. Of the developed parks, camping is allowed at nine, providing 2,712 campsites and catering to 184,938 campers in 1969. The parks contain 6,494 acres of public land and served 1,575,396 visitors in 1969. The eight park reserves include an additional 11,195 acres of public land to be developed when demand and budget permit.

In addition to the provincial parks, there are 106 municipally or privately run campgrounds which provide 3,427 campsites on 2,254 acres in the sector. In general these campgrounds are small in size with a high number of developed campsites.

Types of Accommodation

Every kind of tourist accommodation is available in the Trent-Severn waterway. There are cabins, rental cottages, hotels, motels, boatels and resorts. There is a price to suit everyone’s pocket and the quality is just as varied. The region has some 570 tourist establishments with 7,000 units, capable of accommodating 23,000 persons at one time.

Although the summer is still the most important season for the accommodation industry, many units are now staying open for the entire year and supplying much needed accommodation to the burgeoning winter snowmobiling population. This is putting the industry on a much stronger economic basis.

Vacation Homes

Vacation homes are defined as those residences that are used for only a part of the year and are generally for recreational purposes.

The major vacation home concentrations in the Trent-Severn sector of the waterway centre around the Kawartha Lakes and Lake Simcoe, as is shown on map 3.

This map indicates the cottage concentrations within most of the townships in the corridor. Where exact location information was not available, as for Victoria County and the north portion of Peterborough County, cottage numbers per township are given. The total number of vacation homes, according to Ontario

<table>
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<tr>
<th>PROVINCIAL PARKS AND RESERVES 1969</th>
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<tbody>
<tr>
<td>PARK</td>
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<tr>
<td>Balsam Lake</td>
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<td>Emily</td>
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<tr>
<td>Mark S. Burnham</td>
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<td>Sand Banks</td>
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<td>SUB-TOTALS</td>
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<tr>
<td>MATCHEDASH</td>
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<tr>
<td>McRae Point</td>
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<td>Scugog Island</td>
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<td>Duclos Point</td>
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<tr>
<td>Kawartha Highlands</td>
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<tr>
<td>Wolfe Island</td>
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<td>Gull River</td>
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<tr>
<td>Lake Couchiching</td>
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<tr>
<td>SUB-TOTALS</td>
</tr>
</tbody>
</table>

This map indicates the cottage concentrations within most of the townships in the corridor. Where exact location information was not available, as for Victoria County and the north portion of Peterborough County, cottage numbers per township are given. The total number of vacation homes, according to Ontario
Hydro (1969) within those counties that lie in part within the sector is in excess of 58,000. It is estimated that there are about 25,000 cottages within the sector itself.

It should be noted that the trend in vacation homes is for more cluster development. An example of this type of community is seen at Lagoon City on Lake Simcoe.

**The Trent Canal**

The distance from Lake Ontario to Georgian Bay, following the Trent-Severn water route, is about 240 miles with one side route, the Scugog navigation from Lake Scugog to Sturgeon Lake. There are 43 locks and one marine railway. The total length of artificial canal is only some 33 miles, the remainder being made up of 17 improved lakes and rivers. The speed limit in artificial channels is 6 m.p.h.

The summit of the system is Balsam Lake with an elevation of 841.0 feet above sea level. The ends of the system are at Port Severn on Georgian Bay (576.8 feet) and Trenton on Lake Ontario (242.8 feet).

**Growth of Boating**

The growth of boating activity between 1960 and 1969 is seen in Figure 3. It should be noted that traffic was reduced in 1967 owing to abnormally high water which necessitated closing the system for part of the season. Otherwise the increase is linear, about 9% per annum.

It is important to note that the total craft accommodated can increase significantly yet the number of lockages can remain the same. This is a measure of the efficiency of operation of the lock system. The capacity of the system has not been reached and the total number of vessels might increase approximately 300 percent before the system will reach its full capacity. Certain locks, such as Bobcaygeon and Rosedale, however, are nearing or are already limiting traffic on mid-season weekends, as is the Big Chute marine railway.

Figure 4 shows the lockages or use of individual lock stations. The first three stations in order of most use are Rosedale, Bobcaygeon, Couchiching.

The fifth figure shows the total number of vessels accommodated at each lock station. This is readily comparable to the lockages as seen in Figure 4.

The greatest use is in the Kawartha Lakes area and the Severn River. The lower end of the system, Young's Point to Lake Ontario is used to a lesser extent.

**Two-Fifths from Metro**

A sample of 2,000 boats indicated that 40% of the owners were from the Metro Toronto area; 20% lived along the water-
FIGURE 3

BOAT TRAFFIC - TRENT SEVERN WATERWAY

1960 - 1970

LOCKAGES & CRAFT \times 1000

YEAR

TOTAL CRAFT
PLEASURE CRAFT
LOCKAGES
COMMERCIAL CRAFT
GOVERNMENT CRAFT
above, cruisers and houseboats line up to pass through the Bobcaygeon lock. Over 18,000 individual vessels used the Trent-Severn system in 1970. Below, paved boat launching site near Lindsay on the Scugog River is one of the few such along the entire Rideau-Trent-Severn.

The 30,000 Islands at the western end of the Rideau-Trent-Severn Waterway offer one of the four most challenging and beautiful protected cruising routes in the world.

way itself; and a further 34% hailed from other parts of the province.

The number of U.S.-owned boats was highest in the Trenton to Peterborough stretch of the waterway but did not account for more than 10%.

A further indication of the yet undeveloped cruising potential of the Trent-Severn is the fact that in 1969 one-quarter of those interviewed were using the facilities for the first time but one-half had boated on the system for five or more years.

Two-thirds of the boaters normally kept their boat somewhere on the Trent-Severn with 20% trailering their boat or entering the system from the ends at Trenton or Port Severn.

The majority of those interviewed spent less than five days per trip on the system, and averaged from three to six hours of running time per day. Many of the boaters expressed an interest in picnicking and camping along the route where facilities were available.

Approximately 60% of the users questioned had boats over nineteen feet in length; some 36% were 26 feet or more.

Of those checked, 50% were cruisers, 35% were runabouts and 7% were houseboats. Most were being piloted by their owners but the growing rental boat business now accounts for over 6%.

Most visitors on cruisers, launches, sailboats and houseboats used accommodation on board and tied-up overnight at either a lock or marina.

Canoe Routes

Canoeists are among the significant users of the waterway and tributary streams as well as of the adjacent lake systems of the Trent-Severn sector.

Some experienced canoeists enjoy this sport in the northern half of Peterborough County where the Ontario Department of Lands and Forests has designated 175 miles of wilderness canoe camping routes and launching sites. They are laid out for overnight or longer trips, generally on public waters and across Crown lands.

The Otonabee Region Conservation Authority has prepared a proposal for the "Indian River Canoe Trail", between Stony and Rice Lakes. This would re-
The eastern end of the Trent-Severn sector of the corridor experiences heavier day-user activity than the western end. In the former there is a wider variety of potential recreational activities and more areas of sight-seeing enjoyment. There is obviously a need for more intensely developed day-user sites with a variety of facilities in the Kawartha Lakes region and throughout the eastern end of the corridor. There is also a need, where possible, to improve the day-user sites on the western end even though there is less scope for variety in this region.

In an inventory of day-use outdoor recreation facilities, both formal and informal, it was found that there are 822 such sites in the Trent-Severn sector of the corridor. Of these, 85 per cent, or 695, were found to be summer day-use areas and 127 were winter day-use areas. Approximately 50 per cent of these 822 sites were oriented toward water, with 107 boat launching sites included in a total of 174 boating facility sites.

A majority of the sites were in the mid-eastern part of the corridor in the counties of Northumberland, Peterborough and Victoria. In the western segments of the sector, from Port Severn to Orillia, relatively few outdoor recreation facilities were found. The larger part of this area’s facilities were made up of marinas, boat launching sites, picnic grounds and campgrounds.

There is a need to expand the number and variety of outdoor recreation sites in this sector of the corridor.

Winter Use

A variety of winter activities is available but this sector of the corridor is not as well developed for winter use as it is for use in other seasons.

Owing to the lack of suitable topography, skiing is restricted. Immediately south of Omemee, just outside the corridor boundary, there are two ski developments, each with a vertical drop of 325 feet. One of these offers a cross-country trail. The ski club at Cambourne has a 170 foot vertical drop for downhill enthusiasts in addition to two cross-country ski trails. The Oshawa Ski Club, located two miles east of Kirby (outside of the corridor) also has facilities for the cross-country skier as well as a 300 foot drop and 2500 foot run for the downhill skier.

Opportunity for excellent cross-country skiing exists in the drumlin fields between Rice Lake and the lower end of the Trent River. Some of these sites have a capability for downhill skiing as well.

Developed trails are available for the snowmobile enthusiast. The Ontario Department of Lands and Forests has established trails in the Matchedash area and in the north half of Peterborough County. There are private snowmobile parks throughout the corridor which provide over 3000 acres and 100 miles of trails. Each rents snowmobiles by the hour or day. With the advent of the snowmobile, many of the cottages in the Kawartha Lakes area are being used as year-round vacation homes.

While ice fishing is a very popular activity on Lake Simcoe (400,000 angler visits in 1969) the sport is almost non-existent elsewhere along the Trent-Severn. Ice fishing in the Kawartha Lakes is currently prohibited but the natural biology of these lakes suggests that this activity does have some potential for the future.

Winter hunting is limited to hare and rabbit but is an extremely popular activity, particularly among new Canadians who followed the sport in their homeland.
Environmental Pollution

How does one recognize water pollution as a problem?

By beaches closed to swimming owing to public health hazards? By unsightly floating sewage? By massive algae growth and 'blooms' in late summer? Each of these has occurred, and may re-occur, in the Rideau-Trent-Severn Waterway.

At the entrance to the Rideau Canal from the Ottawa River water quality is so bad that swimming is unsafe, boating is unpleasant. The two provinces concerned have entered into an agreement with respect to pollution control on the Ottawa.

Water pollution affects recreation in two ways. It poses a health problem and destroys aesthetic values. The Ontario Water Resources Commission has set and is enforcing water quality standards in the waterway corridor.

Sewage Treatment

Water pollution is indicated by low dissolved oxygen levels, high coliform counts, turbidity and discoloration.

There are several villages, towns and cities in the Rideau-Trent-Severn corridor which are discharging inadequately treated sewage directly into the waterway. However, these now have sewage treatment facilities either under construction or design.

Malfunctioning septic tank systems and improper storm drain connections also cause local problems and steps are being taken to correct them.

Nutrients

While present sewage treatment plants effectively reduce bacterial and organic pollution, to date little has been accomplished with respect to nutrient removal.

Concentrations of inorganic nitrogen as nitrates and nitrites, as well as soluble phosphorus as phosphate, occur at levels which promote excessive algae growth at several points on the waterway and its tributaries. In the Rideau sector the worst nutrient problems appear to exist downstream from Smiths Falls in the Rideau River and at Kemptville on Kemptville Creek. In the Trent-Severn sector nitrogen and phosphorus are highest from Peterborough south to Trenton.

There is a need for a nutrient budget study in these waters. This will determine the present amount of nutrients in the watershed, their sources and whether they can be significantly reduced.

Industrial Discharge

There are few large industries in the corridor. The majority are located in Orillia, Barrie, Lindsay, Peterborough, Trenton, Belleville, Kingston, Perth, Smiths Falls and Ottawa.

The greatest portion of the waste resulting from industries operating in the corridor is treated in municipal sanitary sewage systems. Two companies in Peterborough are currently installing treatment facilities to segregate and treat plating wastes. A program for the removal of waste materials presently being discharged by a large paper company in Trenton has recently been established. Completion of the initial stage of this project is expected this year with the final stage being completed in 1973.

Boat Waste

Pollution from pleasure craft 'heads' or toilet facilities appears to have been dealt with adequately by the Ontario Water Resources Commission and recent new regulations requiring all commercial marinas to have pump-out equipment will further aid in limiting this form of pollution.

A further source of pollution from boats, however, is the pumping overboard of contaminated bilge and the direct discharge of galley sink wastes. Each adds to pollution.

Outboard motors of the two-cycle type also appear to be a source of water pollution. Oily fuel discharge from these machines was repeatedly observed. Recent
be taken in the very immediate future. This recommendation refers specifically to cottages, lodges, parks, lock stations, villages, etc.

**NO. 3 — PROPOSED NEW UNSEWERED DEVELOPMENTS**

Land use regulations and subdivision control should be used to ensure that developments designed for septic tank waste disposal systems take place only on suitable sites.

The land capability rating for lodging in the Ontario Land Inventory might well be used as one guide to determine the number of residences, using septic tanks and tile fields, permitted per mile of shoreline. This would allow, for example, the following densities.

<table>
<thead>
<tr>
<th>Shoreland Class (Ontario Land Inventory)</th>
<th>Maximum Number of Cottages per Mile of Shore</th>
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<tr>
<td>1</td>
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**NO. 4 — BOAT WASTE — GALLEY AND BILGE**

Boat waste regulations should be clarified or revised to ensure that neither unfiltered bilge waste nor unscreened galley waste is pumped or dumped into the water. (Oil traps on bilge lines and screens on galley discharge might be specifically required).

**NO. 5 — TWO-CYCLE OUTBOARD MOTORS**

Manufacturers of outboard motors should be urged to improve their products further to reduce the discharge of raw fuel into the water and air. Federal and provincial governments might well set standards in this regard and purchase the "cleanest" types of engines.

**Land**

Towns and other municipalities on the waterway, farmers, cottagers, boaters, picnickers, campers, day-users, all contribute to the problem of garbage or solid waste disposal in the waterway corridor and garbage disposal sites are becoming more difficult to find.

All the factors associated with pollution of the environment, including air, soil, water and visual effects, are involved in this problem. It is of concern not only in the corridor but nationally.

In a 1969 survey of the Rideau sector of the waterway 90 waste disposal sites were found between, but not including, Ottawa and Kingston. Only two appeared to meet current sanitary land-fill standards set by the provincial government.

In varying degrees the remainder contributed to potential pollution of this recreational area. Thirty-three were classified as "organized" and controlled by townships or towns and villages. Two were under private control. Some 57 sites were unorganized, that is, not looked after by any public or private agency.

A typical unorganized dump surveyed was described in one of the CORTS studies as follows: "The site is usually along a dirt road, away from the highway, close to human habitation, that is, to a farmhouse or a cottage, and located in a bog, a swamp, or at a culvert. Usually these dumps are open and no attempt is made to fill or maintain the area. Households predominate with tin cans, pop tins, beer bottles and plastic jugs often piled to heights of three or four feet."

The 33 organized sites were generally open dumps with the disposal of refuse taking place in the most unhygienic, unsanitary and inefficient manner. Sanitary land-fill (the application of at least six inches of soil daily) was practiced at only two sites within the entire area. Over half the organized sites were within a quarter of a mile from human settlement and within a half mile of water. The possibility of pollution is, of course, far greater when the dumps are adjacent to a river, stream or lake.

A detailed investigation of the Trent-Severn sector of the corridor was not carried out. However, based on inspection of representative garbage dumps, it appears that a similar situation exists.

The federal and provincial governments collect solid waste at locks and at parks but do not control where the garbage is dumped.

**NO. 6 — GARBAGE DUMPS**

The provincial government should ensure the establishment of at least two regional sites for garbage disposal per segment of the waterway, one on each side of the canal route. When suitable sites are located, local municipalities should be encouraged to establish pick-up systems and unsatisfactory garbage dumps should be closed. Since much of the waterway is shallow-soiled, the location of garbage dumps is critical.

**Air Pollution**

Although 'clean air' within the waterway corridor is considered to be an important objective, air quality is now reasonably satisfactory with the possible periodic exception of the Ottawa area. No complaints were received on air quality at the public hearings.

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Open Space

Open space land is needed for many purposes.

It can be used to preserve the present natural environment including specific natural features, to maintain aesthetic views, and to reserve adequate lands for future public developments.

In this report open space is considered to encompass all land or water areas within or around the waterway corridor which are retained in an essentially undeveloped state on a permanent or semi-permanent basis. This includes, of course, farmlands and woodlots.

In recent years there is an increasing citizen awareness of the need for, and value of, wilderness. "Wilderness" is usually described as a large unit of land where man's interference with nature is minimal, that is usually at least 100,000 acres.

In the light of this definition there could be no wilderness areas in the waterway corridor. However, there are many relatively undeveloped areas that resemble "wilderness" and which might be classified as "wildlands" or "undeveloped open space".

To a significant degree the present recreational attraction of the waterway corridor is the result of the extent and distribution of its undeveloped open space areas such as forests, swamps, fields and pastures. They provide relief and a buffer from congested urban areas, and also protect certain unique natural features. They are, moreover, valuable as wildlife and fish production areas.

As development of the waterway proceeds, unless land use is adequately controlled, open space along the waterway may virtually cease to exist.

The Trent-Severn sector is already highly developed. Over 800 cottage subdivisions are currently registered and over 40 new plans are now before government for approval. Until mid-1970 development was largely uncontrolled and uncoordinated and could have led to widespread damage to the recreation resource.

Shoreline marshes and wetland areas are being dredged for cottage subdivisions. At "Lagoon City" on Lake Simcoe, for example, several hundred cottage sites are proposed for a large wetland area. Developers have recently acquired a similar area on Percy Reach near Campbellford and similar proposals may well be forthcoming for that area.

Marshes, properly protected, conserve fish and wild fowl.

There is nothing necessarily wrong with such developments but it is necessary to define as specifically as possible what is meant by "open space" and then to set standards regarding the amount of open space which should be preserved.

Shoreland open space naturally is diminishing faster than other open space.

Here is one possible definition of degrees of development.

<table>
<thead>
<tr>
<th>Degree of Development</th>
<th>Number of built-on parcels of land per mile of shore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Dense</td>
<td>over 25</td>
</tr>
<tr>
<td>Dense</td>
<td>16 — 25</td>
</tr>
<tr>
<td>Moderate</td>
<td>10 — 15</td>
</tr>
<tr>
<td>Sparse</td>
<td>4 — 9</td>
</tr>
<tr>
<td>Very Sparse</td>
<td>0 — 3</td>
</tr>
</tbody>
</table>

If a reasonable amount of shoreland could be held in the categories of sparse, very sparse, or no development, adequate open space could be assured.

Open space is conceived as a range of development from zero to nine developed parcels of land per mile of shore. Open space areas could often be chosen from among the low capability shorelands that are now no more than sparsely developed. In this way the amount of open space that can be purchased with available public funds can also be increased.

A desirable standard is that 25 per cent of the waterway shorelands should be open space. Today about 35 per cent of the Rideau sector falls within this classification and about 20 per cent of the Trent-Severn sector. To meet the proposed objective most of the existing open space areas should remain as such. This is also desirable because most of them are shal-
low-soiled and unsuitable for development.

The following are the types of open space referred to in this report.

**Category A** (natural feature open space). This includes significant natural features and fish and wildlife habitats.

Many of the natural features of the Rideau-Trent-Severn Waterway are suffering in one of three ways. There is loss or destruction of the resource, a loss to public use and enjoyment through private action, or a lack of interpretation for full public enjoyment.

An example of loss and destruction include the dredging or filling of wetland wildlife areas. The Glen Miller erratic, a large glacial boulder, and the rock formation near Brewers Mills called the “Duke’s Profile” are examples of natural features that warrant protection.

In many segments natural features are cut off from public use and knowledge owing to private ownership of the land.

**Category B** (shoreland scenic open space). For the Rideau sector this category includes sparsely developed shorelands that have fourth class or lower recreation capability under the Canada Land Inventory. For the Trent-Severn sector this category includes sparsely developed shorelands that have fifth class recreation capability or lower.

The different standard between the Rideau and the Trent-Severn sectors results from the higher average degree of development in the latter. It is not considered feasible to limit development on fourth class lands in the Trent-Severn sector.

**Category C** (narrow channels). This includes shorelands, regardless of present degree of development, on which further building should be prohibited.

Speeding of boats in narrow channels is contrary to the posted regulations of the federal Ministry of Transport and the safety rules applicable to operation of pleasure-craft. Shore installations in such areas create hazardous conditions for water users. As a result, no further development should be permitted in these areas.

**Category D** (scenic zones). This category includes areas of the waterway corridor that are of particular scenic value but too extensive to justify acquisition or direct control. Such zones were outlined after field inspection and include areas that are indicated by the recreation land inventory to have significant scenic values.

**NO. 7 — NATURAL FEATURE OPEN SPACE**

It is recommended that all category “A” open space areas (natural features) be acquired, leased otherwise secured by government or local conservation authorities.

Several are recommended for purchase for their value as fish or wildlife production areas. Some could be used for hunting and others set aside as fish or wildlife refuges, ecological and interpretation areas where no hunting is allowed. The details of this suggestion will require further study.

**NO. 8 — SHORELAND SCENIC OPEN SPACE**

Category “B” open space areas should generally remain undeveloped.

A variety of control methods might be attempted before resorting to outright purchase and retention. The proposed priority of action in this regard is as follows:

(a) purchase of development rights or easements;
(b) purchase of land with lease back of developed areas to existing users;
(c) purchase of land with resale of developed sections with constraints on the title where necessary;
(d) outright purchase and retention.

It is suggested that highest priority be given to the Chaffeys and Seeleys Bay segments.

**NO. 9 — NARROW CHANNELS**

Category “C” areas should be held in their present state of development by means of purchase or land use control.

A list of lands to be considered for acquisition or control as set out in recommendations 7, 8 and 9 has gone to the federal and provincial departments concerned.

**NO. 10 — SCENIC ZONES**

The scenic zones of the waterway are shown as scenic zone open space areas on map 8. Federal, provincial and local governments should recognize these zones as areas in which scenic values should be protected as a matter of policy. This would apply particularly to the selection of right-of-way for roads and power line construction.

**NO. 11 — SUBDIVISION OPEN SPACE**

Normally private subdividers are required to designate and convey a minimum of five per cent of their land, or the financial equivalent, for public park use. For shoreland subdivisions, anywhere in the Rideau-Trent-Severn Waterway Corridor, it is recommended that the provincial government give consideration to a requirement that all such set-asides should include a significant portion of shorefront and that current legislation be amended, if required, to encourage the conveying by subdividers of a minimum of 10 per cent of the total area involved.
Chapter 19

Historical Preservation and Interpretation

The historical and cultural background of the Rideau-Trent-Severn Waterway offers a unique opportunity for interpreting and understanding man's use of the environment.

The interpretation and preservation of its historic sites poses both a fiscal and a jurisdictional problem.

The Rideau sector is an historic canal still in active use. Originally built as a military route to bypass the St. Lawrence River, it was used until World War II as a commercial waterway. Now, like the Trent-Severn sector, it is used exclusively for recreation.

The Rideau canal has been declared by the Minister of Indian Affairs and Northern Development to be of national historical significance. It is managed by the Canada Ministry of Transport whose terms of reference relate to the operation of a transportation and water control system. The restoration of historic blockhouses and locks has been carried out by its Canals Division with the assistance of federal government specialists from National Historic Parks.

The Trent-Severn canal has a much different history. Construction was started in 1835 but not completed until 1920. The historic character of the Trent canal is, therefore, less obvious than that of the Rideau. However the Trent-Severn sector is unique in another way owing to its pre-history.

Major archaeological sites are found in many parts of the Rideau-Trent-Severn Waterway Corridor but the heaviest concentration is in the Trent sector especially in the Rice Lake and Burleigh Falls segments.

Preservation of the historic environment was the theme of many briefs received at the public hearings. Indeed, the public protests resulting from the Newboro lock rehabilitation, with the addition of hydraulic lock machinery, was one of the factors leading to the start of the Rideau-Trent-Severn study. Several groups of local residents wanted the canal system preserved as it was prior to "modernization", although the latter term has never been specifically defined. Indeed "modernization" and improvements have been taking place constantly over the past century.

While decay of the historic structures is occurring for a variety of reasons, good
examples of historic preservation are also evident. Many private owners have preserved or restored such buildings and the federal government has made several excellent restorations. The forces of change still, however, seem stronger than those tending to preserve the historical environment.

Standards and criteria for historical preservation are, it is granted, difficult to establish and most recommendations are by nature subjective.

Where historically significant structures or sites occur in conspicuous abundance they have been grouped into two types of historic zones. H1 zones are areas of high priority and H2 of lower priority. Map 8 shows the location of each.

NO. 12 — PRESERVATION OF HISTORIC CANAL STRUCTURES

While the structures of the Rideau canal require rebuilding from time to time, such rebuilding should generally be in keeping with the traditional character of the area. For example, wood should be used for lock gates instead of steel, and local stone facing should be used rather than imported stone or concrete. Of importance in this regard is the lock mechanisms which have traditionally been operated by hand. Recent lock rebuilding by the federal Ministry of Transport has included power operation of the lock mechanisms at Newboro and Black Rapids.

There are three basic alternatives in future Rideau lock rebuilding:

(1) to rebuild in the traditional stone and wood with hand-operated lock control, but with some safety improvements and with modern washrooms in buildings compatible with the traditional character;

(2) as above, but with “push button” controlled lock mechanisms; or

(3) to reduce the number of locks (where possible) by replacing multiple locks with one deeper, power-operated lock.

The following assumptions were made regarding the foregoing rebuilding alternatives.

Capital costs of lock mechanisms are less for hand-operated locks than for electric operation.

Labour costs are about equal for alternatives (1) and (2).

Lock water turbulence is generally diminished by power operation, better water entry controls and water baffles.

Power operation tends to speed up lockages slightly because it is easier for lockmen to open both gates. Hand operation usually results in only one gate being opened with somewhat slower entry and egress.

A significant speed-up of overall canal use and increased canal capacity could only be achieved by alternative (3).

Compatibility with the historic environment is highest for alternative (1), lower for alternative (2) and very low for alternative (3).

It is felt that alternative (1) should be adopted as policy for lock rebuilding with the following possible exceptions.

The flight of locks and bridge at Smiths Falls and other like bottlenecks may require alternative (3).

The question of hand operation of locks versus powered locks may become the subject of future labour negotiations. However, it should be possible to apply power assists to the traditional mechanisms.

Some form of hand operation of the lock gates is considered to be a vital part of the historic character of the Rideau sector and a major tourist attraction.

It should be emphasized that the users of the locks consist of more than the...
boaters. Indeed the boats are a major scenic attraction for visitors coming to view the locks. Efforts and expenditures to speed passage might well, therefore, tend to reduce the attractiveness of the area for non-boaters.

Danger of the hand-operated lock mechanisms presents some problems. The open gears and lack of anti-back lash devices are two of the conspicuous hazards in the existing mechanisms. It is suggested that the Ministry of Transport cope with this problem by modifications to the lock mechanisms, perhaps by the installation of power assists.

Therefore it is recommended that policy favour hand-operated locks.

NO. 13 — SMITHS FALLS LOCKS

In the town of Smiths Falls the main street crosses the waterway by means of a two-lane swing bridge. This bridge is also the crossing for Highways 15 and 29 from Kingston and Brockville through to Carleton Place.

The three locks are a major bottleneck to boaters and, when the bridge is open for boats, road traffic backs up, clogging the main street of Smiths Falls.

A detailed study has been made by Smiths Falls in an attempt to find acceptable ways to overcome the traffic problem.

Three alternatives were considered:
1. divert the highway and build a high level bridge,
2. put the highway in a tunnel under the canal, or
3. replace the canal locks with a single lock upstream and construct a new low level bridge.

Since the canal structures are historically significant Smiths Falls might lose a certain attractiveness if the canal were changed to accommodate the highway problem. The town has stated that alternatives one and two are not acceptable and that a major revision of the lock system is required. It is recommended that the plans and specifications for new work be in accordance with the policy for the maintenance of the historic character of canal structures.

NO. 14 — KINGSTON MILLS BLOCKHOUSE

It is recommended that the Kingston Mills Blockhouse be restored in its present location as the southern orientation entry point to the Rideau.

This blockhouse, one of four on the Rideau, is of national historical significance. It was originally sited for defense purposes and commands a view of the...
approaches to the canal, both upstream and downstream.

However a sharp bend is required in Frontenac County road 11A which crosses the canal and passes within a few feet of the blockhouse. The Minister of Transport, supported by the Minister responsible for national historic sites, has refused the county's request to move the structure.

NO. 15 — HISTORIC ZONES
The historic zones (H1 and H2) should be protected by all governments and public agencies. For example, to preserve historic structures both highway and hydro-electric projects should be diverted around H1 zones, and treated as special problems in H2 zones. (see map 8)

NO. 16 — BUILDING FACADE BY-LAWS
Provincial legislation should be passed to enable municipalities to adopt building facade by-laws within the H1 zones and thus take an active role in preserving their historic environment.

NO. 17 — PRIVATE HISTORIC BUILDING RESTORATIONS
Measures should be taken to assist owners of significant historic buildings to maintain and to restore such structures. It is suggested that governments consider legislation to provide both technical and financial assistance.

An inventory of historic and architecturally significant structures along the Rideau sector has been prepared by the National Historic Sites Service for public perusal.

Peterborough would appear to offer a desirable site.

NO. 21 — ACQUISITION OF HISTORIC SITES
The following are examples of the type of sites that should be progressively acquired through purchase or gift:

Allan Mills, in the Rideau sector near Perth, is a fine example of a mid-19th century grist mill and, together with adjacent property, could be used both as an interpretive centre and a day-use area.

Bedford Mill—This beautiful mid-19th century grist mill in the Westport segment of the Rideau is accessible by water or road. The site could serve as a youth hostel as well as an historic interpretation centre.

Stockdale Mill and mill pond—This pioneer water-powered sawmill near Campbellford in the Trent sector is still in operation. It would make an interesting living museum.

Archaeological Sites—There are many significant archaeological sites within the waterway corridor. Certain of these should be made accessible for research and interpretation.

NO. 22 — DOCKS AT HISTORICAL AND CULTURAL SITES
Several of the more interesting historical sites and attractions within the waterway corridor are readily accessible only by land. Docks should be constructed to give boaters access to the following:

the museum at Merrickville
the Leacock Home at Orillia
the Petroglyph Site and
the Curve Lake Indian Reserve craft centre.
Public Use Areas

Many comments and criticisms were voiced by tourists, cottagers and boaters about a lack of various types of public facilities.

The complaints centred around the need for more launching ramps and picnic areas at points of interest, more overnight dockage at communities along the waterway and more and better public washrooms.

A fairly large and well distributed system of public lands already exists within or near the Rideau sector. For example, there are 22 lock stations and surrounding properties, one developed provincial park, six provincial park reserves, two conservation authority areas, one large federal land reserve and several small parcels of Crown land such as the islands in Newboro Lake and Big Rideau Lake.

The situation in the Trent-Severn sector is similar except that the park reserves are small in relation to the potential future recreation use.

The following are the kinds of public areas or facilities that should be provided within the waterway corridor:

1. Campgrounds, tent and trailer
2. Picnic sites, beaches and day-use areas including municipal parks or parkways
3. Access points to water, boat launching sites, etc.
4. Scenic roads
5. Scenic boat routes and docks
6. Canoe routes
7. Walking, cycling, riding, snowmobile and ski trails
8. Youth hostels

Certain of the above facilities, such as campgrounds and picnic sites, are found in large parks and day-use areas along the waterway. Other developments (such as canoe routes and walking trails) may occur both within parks and outside of them.

Precise standards for public facility development have not been established. Generally, however, for each segment of the waterway there should be at least one major campground, at least one large picnic site and at least one public boat launching facility. Indeed, a number of the parks in the corridor should be specifically water oriented.

In the following recommendations a day-use park is one which is developed for daytime use only. An extended-use park is one that also contains overnight facilities such as tent and trailer sites.

The development of extended-use parks should be investigated for the following public lands (see map 9):

- Kilmarnock provincial park reserve (82 acres).
- Mouth of Tay provincial park reserve (165 acres).
- Murphy Point provincial park reserve (1,161 acres) (under development).
Westport conservation area (400 acres).

Newboro lock federal land. The federal government now leases some property to the village of Newboro for use as a campground. This campground should be improved to federal and provincial standards and expanded to include other adjoining federal property.

Davis lock federal land (60 acres). The feasibility of a public campground on existing federal lands at the Davis Lock should be investigated. This campground would fill an obvious void in the Seeleys Bay and Chaffeys segments.

Frontenac provincial park reserve (8,509 acres).

Charleston Lake provincial park reserve (1,951 acres).

Casey Point provincial park reserve (81 acres).

Scugog Island provincial park reserve (277 acres).

Wolfe Island provincial park reserve (464 acres).

McRae Point provincial park reserve (162 acres) (under development)

West shore of Lake Couchiching provincial park reserve (108 acres).

Swift Rapids — Hydro Glen federal land (800 acres).

Matchedash provincial park reserve (6,200 acres).

NO. 24 — PROPOSED ACQUISITIONS FOR EXTENDED-USE PARKS

Based on high recreation capability with sparse development, seven possible sites have been recommended for acquisition to the government departments concerned. There are in addition several acres surrounding lock 38 of the Trent-Severn near Kirkfield which should be developed for camping.

NO. 25 — PROPOSED ACQUISITION AND DEVELOPMENT OF LARGE DAY-USE AREAS

Recent studies of the waterway corridor indicate that day-users significantly outnumber all other users.

In fact it could be said that the waterway consists of a string of day-use areas. Each lock station is a visitor attraction and there are a variety of other day-use areas such as conservation authority lands and provincial parks. The National Capital Commission is also in the process of planning a day-use area near the Black Rapids lock station in the Ottawa segment.

There is a need for more day-use areas for picnicking, walking, cross-country skiing, snowmobiling, fishing, swimming, etc.

The following are areas recommended for day-use parks:

Duclos Point provincial park reserve (160 acres).

Big Chute: This 189-acre Crown land site in the Severn segment includes the unique 58 foot high marine railway, power plant and falls.

Mill sites near Warkworth: One of these should be developed as a day-use park.

These are examples of the day-use areas which will be needed in the future. Other sites in the Campbellford and Lake Simcoe segments have been recommended for acquisition and development to the government departments concerned.

NO. 26 — PICNIC SITES

All the areas shown as proposed picnic sites on map 10 should have at least 10 tables. All are on existing public land or land proposed for acquisition for other reasons.

In addition, it is recommended that picnic facilities be established at all lock stations.

NO. 27 — ACCESS POINTS TO WATER

Boat launching ramps should be established at federal locks where there is reasonable capability for access and car parking, and in all federal, provincial, municipal and conservation authority parks in the waterway corridor. Special attention in this regard is needed at Westport, Perth and Smiths Falls.

NO. 28 — BOAT ROUTES

The full potential of the waterway for cruising has not been realized because certain side channels have been uncharted and, therefore, largely unused.

It is recommended that “cruising directions” be published to supplement the new charts for side tours such as the following:

The route to Bedford Mills
The route around Birch Island
The route to Omemee
The route to Eels Creek and the east end of Stony Lake
The small craft route between Trenton and the Murray Canal.

NO. 29 — OVERNIGHT DOCKAGE

There is a lack of overnight dockage in many parts of the waterway. A conspicuous example is in the Ottawa segment. There is practically no place to tie up a boat for the night in the Rideau canal in the city of Ottawa. Other tourist service centres lacking adequate docks include Merrickville, Orillia and Port Severn.

In many cases the federal government has attempted to meet the need by constructing public wharves but the end result has often been unsatisfactory for a variety of reasons. For example many wharves in Lake Simcoe are too exposed and lack mooring bollards. The docks at Orillia are unprotected from east and north winds and have no washroom facilities.

Tourist service centres and public parks along the waterway should have satisfactory dockage for overnight use and the location of such dockage should be well marked.

NO. 30 — PERTH BRIDGES

A low level bridge in Perth now prevents cruisers from using the turning basin.
in that town. The municipal government, with approval of the federal Ministry of Transport and the Ontario Department of Highways, built the bridge at Highway 43 with only ten foot clearance. The two federal swing bridges upstream which provide a greater clearance in a fixed position are, therefore, no longer operative.

Consideration should be given to the modification of the low level bridge on Highway 43 to allow cruisers to use the Tay canal into Perth and the two federal swing bridges to be consolidated into a single high level structure.

NO. 31 — AHERLEY NARROWS

Atherley Narrows, between Lake Simcoe and Lake Couchiching, has been a problem to boaters owing to the railway swing bridge, the wind and currents, the narrow channel and underwater obstructions.

The railway bridge problem is now largely solved because the bridge is left open rather than closed, except when needed for train passage. Since there appear to be no practical controls over wind and current, it is recommended only that the underwater obstructions, such as old pilings, be removed.

NO. 32 — BIG CHUTE MARINE RAILWAY

Big Chute Marine Railway is a problem because of delays to boat traffic. The railway cannot handle boats as efficiently as a lock. It is, moreover, limited to craft 50 feet long, four feet draft, 13.5 feet beam, and a maximum of 40,000 pounds.

One solution to the problem that has frequently been suggested is to replace the railway with a lock similar to that at Swift Rapids. This suggestion appears to be unacceptable as biologists of both the Canada Department of Fisheries and Forestry and the Ontario Department of Lands and Forests believe it could allow sea lamprey to enter Lake Simcoe from Georgian Bay. If the sea lamprey became established in Lake Simcoe, the sports fishery, they state, would be severely affected.

Hot ponds and poison treatments to kill lamprey in a lock were suggested but neither appears practical.

Twinning the Big Chute Railway has also been suggested as a possible solution. The topography of the site would make this a very expensive alternative.

A variation of the twin railway idea is to move the railway to Port Severn on Georgian Bay and install a lock at Big Chute. In Port Severn the topography and lower vertical drop (12 feet vs. 58 feet) makes this much more practical and
It is recommended that a study be made of the desirability of installing a double marine railway at Port Severn and a lock at Big Chute.

NO. 33 — SCENIC ROADS

It is recommended that a system of scenic roads be designated throughout the waterway corridor.

Map 11 shows their proposed location. Included is the Rideau-Trent-Severn Heritage Route (Ottawa to Port Severn) plus three scenic roads in the Rideau sector and six scenic roads in the Trent-Severn sector. All are on existing road networks.

These roads should be identified with signs. Features and points of interest along the routes should be described in a travel publication.

NO. 34 — CANOE ROUTES

A system of canoe routes should be established in the waterway corridor, portage rights-of-way secured, and publicised through maps and promotional literature. Map 12 indicates some possible routes.

Below, drumlin islands add to the attractiveness of Rice Lake from the scenic county road on the south shore.

Below, Indian River near Peterboro offers an excellent canoe route potential. It links Stony and Rice Lakes.

NO. 35 — WALKING, CYCLING, AND RIDING TRAILS

A system of walking trails and youth hostels should be established in the waterway corridor.

The canal system provides a unique opportunity for such trails owing to: the string of public properties (lock stations); the existing facilities (washrooms at lock stations); the historic and natural environment; and the location of parks and swimming areas.

Route of a proposed walking trail is shown on map 13 along with the suggested location of two youth hostels.

A system of separate cycling or riding trails might also be developed. The National Capital Commission is currently designing 50 miles of bicycle trails. The proposed youth hostels could be linked to all these trails which could also serve cross-country skiers.

NO. 36 — SNOWMOBILE TRAILS AND NON-SNOWMOBILE AREAS

The provincial government has established snowmobile areas in various parts of the corridor.

While additional trails may be required on public lands including parks along the system, at least half of the parks should be specifically set aside for quiet recreation.

NO. 37 — PUBLIC WASHROOMS

It is recommended that all public parks, picnic areas, etc. should have modern washrooms.

For example, the federal Ministry of Transport has installed excellent washrooms at many of its lock stations. This program should be continued.

NO. 38 — LOCK PROPERTY LANDSCAPING

Most of the lock stations in the Rideau sector are well landscaped.

In the Trent-Severn sector of the waterway the harsh look of certain locks may be the result of the larger size of the structures.

It is recommended that more emphasis be given to lock property landscaping throughout the waterway corridor.
Commercial Development

A detailed study of commercial developments was not made.

The private sector, however, through its commercial developments, can greatly enhance the attractiveness of the waterway corridor.

Most of the preceding recommendations will, if effected, contribute to the success of local private enterprises. For example, open space areas enhance the environment for resorts and hotels. Government wharves lead boaters to patronize local businesses.

Commercial recreation development is of sufficient importance that it should be the subject of a special study.

In the interval, however, it is felt that certain governmental activities should focus on specific areas to aid commercial development and to provide services to the public.

Tourist service centres are municipalities which have facilities to fill basic tourist needs. For the waterway corridor it is suggested that these should have at least the following:

1. a tourist information centre
2. public harbour (docks and washrooms)
3. commercial developments such as motels, marinas, stores, restaurants and liquor outlets
4. a public campground nearby.

NO. 39 — TOURIST SERVICE CENTRES

It is recommended that the following localities be publicised as tourist service centres for the waterway:

<table>
<thead>
<tr>
<th>Established</th>
<th>Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ottawa</td>
<td>Westport-Newboro</td>
</tr>
<tr>
<td>Smiths Falls</td>
<td>Merrickville</td>
</tr>
<tr>
<td>Kingston</td>
<td>Portland</td>
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<tr>
<td>Trenton</td>
<td>Chaffey's Lock</td>
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<tr>
<td>Peterborough</td>
<td>Hastings</td>
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<tr>
<td>Fenelon Falls</td>
<td>Burleigh Falls</td>
</tr>
<tr>
<td>Lindsay</td>
<td>Bobcaygeon</td>
</tr>
<tr>
<td>Orillia</td>
<td>Rosedale</td>
</tr>
<tr>
<td></td>
<td>Port Perry</td>
</tr>
<tr>
<td></td>
<td>Beaverton</td>
</tr>
<tr>
<td></td>
<td>Port Severn</td>
</tr>
</tbody>
</table>

Two of the developing centres require special note. They are Westport-Newboro in the Rideau sector, Rosedale in the Trent-Severn sector. Each occupies a central location in the sector and offers high potential for development.

NO. 40 — INDIAN RESERVES

There are at present six major Indian reserves located within the Trent-Severn sector, none in the Rideau. These reserves are as follows: the Alderville Indian Reserve near Roseneath; the Hiawatha Indian Reserve on Rice Lake; the Curve Lake Indian Reserve on Chemong Lake; the Scugog Island Indian Reserve on Scugog Lake; the Georgina Island Indian Reserve in Lake Simcoe; and the seven-part Rama Indian Reserve on Lake Couchiching.

All but two of these reserves have substantial shorelines, many over one mile in length, and lend themselves to the development of day-use and overnight camping areas. As they are now able to receive matching dollar grants under the Ontario Parks Assistance Act together with technical planning services from Ontario and Canada, the development of the Trent-Severn could well have a substantial economic payoff through visitor services provided by the waterway's Indian population. It is recommended that provincial and federal authorities explore these potentials with the Indian band councils concerned.

NO. 41 — CRUISE SHIPS

Daytime cruise ships now operate on the waterway. One is based at Ottawa, the others at Peterborough. Such ships offer opportunities for a large number of people who are not boat owners to enjoy the waterway. Additional cruise ships operate on the Ottawa River and through the Thousand Island and Thirty Thousand Island areas.

At present a U.S. cruise ship company, operating on the Richelieu, the St. Lawrence and Saguenay Rivers in Quebec, has expressed an interest in the possibility of initiating cruises on the Rideau-Trent-Severn Waterway.

A similar ship cruises the Gota Canal in Sweden, carrying 100 passengers with sleeping and dining accommodation and liquor lounge. A cruise ship, operating on the Red River and Lake Winnipeg, is used as a convention centre in winter.

Vessels of this type, operating out of Kingston, could offer a variety of cruises of two-day to two-week duration such as the following:

(a) Kingston to Smiths Falls and return
(b) Kingston to Ottawa and return
(c) St. Lawrence Islands cruise
(d) Golden Triangle cruise (Kingston —Montreal—Kingston)
(e) Bay of Quinte cruise
(f) Kingston to Orillia and return (travel on the Severn River is limited by the marine railway at the Big Chute and by the channel conditions).

It is recommended that the possibilities of an extended cruise ship operation be brought to the attention of private investors. Loans and subsidies for the purchase or construction of a vessel for this purpose may be available from government sources, including the Industrial Development Bank.
Typical "shield country" provides unique cruising channels from the westerly exit of the Severn River up the eastern shores of Georgian Bay.

Chapter 22

Private Development

The principal subject of this chapter is the form of development commonly called summer cottages, or more accurately 'vacation homes' because summer is not the only season of use.

Private development throughout the Rideau-Trent-Severn Waterway Corridor has, in the past, been largely uncoordinated. In June, 1970, however, all of Ontario was brought under subdivision control.

Many vacation homes have inadequate sewage disposal systems. They add to rural garbage collection problems. Boat houses, hydro lines and roads, indeed inadequately maintained or improperly designed cottages themselves, contribute to visual pollution. The environment of the waterway is, to a large extent, affected by the kind of vacation home development that exists. Some 30,000 cottages are now located in the waterway corridor.

Controls on land use are established by municipal by-laws. Adjacent municipalities may join together in common planning.

Once a plan is adopted by a municipal council or councils it goes to the Minister of Municipal Affairs for approval. It then, and then only, becomes an official plan.

In the past the Rideau sector has primarily experienced 'ribbon type' shoreline development with little or no provision for related inshore planning. In several areas of the Trent-Severn sector cottage developments are five and six tiers deep with little water access for the back lots.

These patterns of development have often led to an inefficient use of the recreation resource.

Two recommendations have already been made regarding vacation homes, one with respect to the clean water objective and the other with open space. Recommendation No. 3 suggested that vacation homes be limited to sites capable of development under criteria set out by the Ontario Land Inventory. Recommendation No. 11 suggested that all water-front plans of subdivision should include a significant percentage of undeveloped shoreline. The following are further recommendations.

NO. 42 — COTTAGE SET-BACK FROM SHORELINE

Land use regulations and subdivision controls should be used to assure that no vacation homes are built closer than 60 feet from the high water mark of water bodies within the waterway. There are two reasons for this proposal. First, it is suggested that the further a cottage is installed from the high water mark the lower is the chance of water pollution. Second, it is assumed that reasonable setbacks from the waters edge will enhance the visual environment of the area (i.e. cottages and boathouses will be less visible.)

NO. 43 — VACATION HOME SUBDIVISIONS

It is recommended that linear or ribbon developments along the shore be discouraged. Other types of development, such as clusters, generally better serve both the developers and users of the waterway corridor.

Cheese factories, like this near Lakefield, are themselves visitor attractions.
Chapter 23

Other Recommendations

Many more recommendations concerning the major planning issues could have been made. However such recommendations would basically have confirmed policies and programs already underway by many governments, federal, provincial, regional and local.

This report and recommendations may appear to be critical of certain government departments. In the interests of brevity it was judged inadvisable to list all of the beneficial procedures and practices now in effect. Only those areas and subjects requiring revision or action are explored.

A few miscellaneous subjects are now discussed which do not clearly fit into any one of the broad objectives.

NO. 44 — LOCK SAFETY

The locks on the waterway are now operated as safely as possible in the light of the manual equipment. The lock operators appear to be safety conscious. However, accidents have occurred and some complaints have been received.

The federal Ministry of Transport has developed safety procedures for deep locks, medium locks and shallow locks whereby they provide equipment for fire fighting purposes and ladders for easy exit. In the Trent-Severn sector, where locks are deep, there are permanent ladders and at some of the shallower locks temporary or portable ladders on each side of the lock. In addition, safety equipment, such as life rings, are readily available at lock stations. The smaller locks of the Rideau sector pose much less of a fire hazard than the large locks of the Trent-Severn.

Complaints were received concerning the lack of ladders at the new wharves at Chaffeys Locks and at Newboro. The smooth concrete side walls are considered a safety hazard as, unlike the wooden wharves, they offer no projections to aid persons wishing to climb in or out. It has been suggested that they are dangerous for non-swimmers, especially children.

It is recommended that adequate safety devices and equipment be provided or installed at all locks and docks in the waterway. Portable ladders could be on hand at lock stations and could be used to remove people from locks in case of fire.

It is also suggested that suitable ladders be installed on the wharves at Newboro and Chaffeys Locks and at all new docks.

Boating Safety

Enforcement of regulations regarding boat-speed and safety has been minimal. Nor has there been much effort directed towards education of recreationists using the waterway.

The federal Ministry of Transport publishes a pamphlet entitled "Boating Safety Guide". This, together with courses provided by such organizations as the Canadian Power Squadron, are among the programs promoting safe use of the waterways.

Regulation of the use of boats is difficult owing to the fact that no licence is necessary nor is any consideration given to the age or physical condition of the operator.

Speeding boats or unsafe boat-use was also the subject of several public complaints. While such complaints may be justified they are difficult to handle.

No satisfactory devices appear to be available for checking boat speed. Moreover some boats make less wake at high speed than at more moderate rates. The question of damage or human hazard from speeding boats is thus somewhat confused. It would appear that such problems can best be solved by a more adequate policing system.

At present enforcement of safety and speeding regulations is in the hands of the local police, the R.C.M.P. and the Ontario Provincial Police. In addition to a few federal Transport regulations the main recourse for improper operation is through the application of the Criminal Code.

It is suggested that policing of water use requires more attention.

NO. 45 — WATER LEVELS

A study of the implications of varying water levels in the Rideau sector of the waterway suggests that this is a comparatively minor problem.

Winter use of most of the lakes in or adjacent to the Rideau sector is increasing owing to the popularity of the snowmobile. Many cottagers appear concerned over fluctuating water levels after freeze-up. When the water is lowered in the winter to allow containment of the spring freshet, the resultant rough, broken ice presents a considerable hazard to the enjoyment of the lakes for winter recreation.

In general, however, the water fluctuation in the Rideau sector is insignificant when compared with the Trent-Severn.

In the latter sector the reservoir lakes of Haliburton County are used to supply water to the canal and some fluctuate 12 feet or more in the process. This presents a major problem for some recreation activities because the reservoir lakes of Haliburton are also heavily used for cottaging.

Some of this drop in water level is the result of the late summer drawdown to ensure protection of fish spawn throughout the winter. At such times some of the sand beaches are high and dry, docks and boat-houses may be a long distance from the water, boats may be stranded and exposed. In addition, tree stumps and rock outcrops create boating hazards. Water access between adjacent lakes is sometimes impossible since the channels are dry or dangerously low.

The Ontario Department of Lands and Forests has altered its water level recommendations in respect to spawn and now the drawdown can be made in late fall, before freeze-up but after the majority of the late summer and early fall cottage activity.

The provincial and federal governments are fully aware of the problem of the reservoir lakes in Haliburton County, and
are sponsoring a two-season study by an expert in the field of water levels and recreation use of reservoir lakes. Its objective is to derive a methodology for minimizing the damaging effects of water drawdown from the Haliburton area. Since the research is only half finished at this time, no findings can be given. It is recommended that funds be made available to complete the second part of this study in 1971-1972 and that a complete hydrologic study of the area be undertaken.

NO. 46 — CAUSEWAYS

It is recommended that construction of causeways be discouraged on the waterway, but, where approved over navigable water, they should generally be designed to include a bridge with a 22-foot vertical clearance. This matter is the responsibility of the federal Ministry of Transport.

NO. 47 — TRAVEL PUBLICATIONS

At present visitor information is available at the service centres along Highway 401, at certain municipal bureaus, and at provincial centres at Highway 400 near Barrie and the Ivy Lea Bridge in the Thousand Islands near Kingston and Gananoque.

These are the major public information centres in the area and do not, of course, solely serve the Rideau-Trent-Severn corridor. Additional information is available at the Peterborough lock through the cooperation of the federal Ministry of Transport.

It is not only necessary to preserve valuable historical and natural features and to interpret them but all visitors should have access to information as to where and what they are.

There appears to be a serious lack of information for tourists visiting the Rideau-Trent-Severn Waterway Corridor. It is suggested that a slight increase in public expenditures to disseminate such information could result in greatly increased recreation opportunities. Therefore it is recommended that there be published annually a travel publication for the Rideau-Trent-Severn Waterway Corridor showing the travel routes (by boat, canoe, bicycle, car and foot), points of interest and service centres.

NO. 48 — PUBLIC LANDS MAP

The federal and provincial governments now own many units of land within the waterway corridor but, in general, the public is not aware of their location. For example many small islands on the Rideau waterway are Crown land. Yet, most local residents and visitors think all land in the area is private property. It is recommended that there be published a map of the Rideau-Trent-Severn Waterway Corridor showing details of public land tenure.

NO. 49 — PUBLIC LANDS

Throughout the waterway corridor there are various bits and pieces of public land that have not been specifically mapped or mentioned in this report. Such lands provide valuable open space or may be developed in future for public use. This matter will require detailed treatment at a more intensive level of planning. In the interval it is recommended that (1) no further disposal of public lands take place in the waterway corridor with the possible exception of particular cases where such disposal would be in the public's best interest and (2) that all existing Crown leases be reviewed.

NO. 50 — GIFTS OF PROPERTY

Certain individuals or associations may be interested in donating property for public use.

It is recommended that a flexible policy be formulated regarding such gifts. Land owners wishing to donate land for open space, or any other use, should be accommodated in whatever way suits their particular circumstance. For example it might be reasonable to offer lifetime, tax-free tenancy to some such donors.

Such gifts of land might be made to the governments of Canada or Ontario or other levels of government including conservation authorities, private conservation-oriented organizations such as, the Nature Conservancy of Canada or alternatively, the Ontario Heritage Foundation.

NO. 51 — LAKE SIMCOE

Lake Simcoe has a high recreation capability and is adjacent to the urban centre of Ontario. It is felt that it is of sufficient importance to be the subject of a separate and detailed study and it is recommended that a separate recreation plan be made for Lake Simcoe.

NO. 52 — BAY OF QUINTE

The boat route connecting the Rideau sector to the Trent-Severn sector passes through the Bay of Quinte. The latter is an important recreation area and has a high potential for development and use. It is recommended that a Bay of Quinte sector recreation plan be prepared.

Marine Charts

Boaters often comment on the inadequacy of marine charts for the Rideau-Trent-Severn Waterway. Past charts were limited to spot depths along the main boat route.

Boaters would not risk excursions into side channels as they had no idea what to expect. They asked for navigation charts that showed the entire lake system.

For the Trent-Severn sector charts have been produced, based on new survey work covering the system from Port Severn to Peterborough including Lake Scugog.

New charts covering the rest of the Trent-Severn sector will be available in 1971.

Information is provided, on the chart folder, on water levels related to sea level, distance from Trenton to specific locks and bridges and general information on the canals. A small craft facility listing is also given. An insert advises the user that free booklets providing additional information for boaters is available from the Ontario Department of Tourism and Information.

The charts permit the boater to explore safely off main channels. Similar charts for the small boat route on the northern shore of Georgian Bay should provide for greater use of this excellent cruising area served by the Trent-Severn sector. Its use by boaters was limited by underwater obstructions and lack of detailed charts suitable for use by skippers of small boats.

During the summer of 1969 the Canadian Hydrographic Service of the Canada Department of Energy, Mines and Resources carried out surveys on the Rideau to allow for the preparation of new marine charts showing bottom contours of all lakes and all rocks and shoals. With such charts due for publication in 1971, boaters will be able to navigate readily the side routes of the system.
Chapter 24

Summary

The Rideau-Trent-Severn Waterway Corridor is a unique and complex recreation system that functions under the complex and somewhat cumbersome and uncoordinated jurisdiction of the federal, provincial, regional and local governments.

It contains a mix of private, commercial, and public recreation facilities. Because it is a system the development of one kind of facility will affect others. A broad systems planning approach is, therefore, desirable.

A goal for the waterway has been selected along with six broad objectives which are the major matters concerning recreation use of the waterway.

The goal for planning and developing the waterway is to achieve optimum recreation use. Optimum recreation use is the state of use where the maximum number of people use an area and are satisfied with it and where no significant environmental damage occurs.

The broad objectives for planning the waterway are as follows in order of priority:

1. a pollution-free environment,
2. adequate undeveloped open space,
3. preservation and interpretation of the historical and natural environment,
4. adequate developed public-use areas,
5. adequate commercial developments, and
6. satisfactory private developments of vacation homes.

The core of the report is a series of recommendations for each broad objective. The recommendations indicate the various things to be done in order to achieve the broad objectives. Recommendations are also made about certain problems and issues which did not specifically fit any particular broad objective.

The major emphasis for attaining a pollution-free environment is directed towards water. The standard for clean water is that it should be clean enough for swimming. Perhaps the most important recommendation in this regard is that shoreland developments (e.g. cottages) should be limited in number according to the capability of the shoreland to handle waste disposal systems. This would severely limit development in parts of the waterway that are shallow-soiled.

The open space objective is dealt with by recommending that large areas of shoreline remain in a relatively undeveloped state. Areas for open space are recommended on the basis that they (1) contain a natural feature of special interest, or (2) are of low development capability and are now relatively undeveloped, or (3) are on a narrow boat channel. The proposed open space for the waterway amounts to about 25 per cent of the total shoreline.

The historic and cultural objective is approached in a variety of ways. Historic zones are proposed as a means of protecting concentrations of historic buildings. Building facade by-laws, interpretation centres and a canal museum are recommended.

The Rideau is an historic canal and much of its attractiveness stems from the character of existing canal structures. A major recommendation, therefore, is that the historic character of structures in the Rideau sector be preserved.

Proposed areas of development for public parks were selected on the basis of high recreation capability and location. Several new, large, extended-use parks are recommended, together with a variety of day-use areas, water access points, picnic sites, etc.

A variety of travel routes are outlined in the report. These include side trips from the main boat route, canoe routes, riding and cycling trails and a system of scenic roads. A major problem concerning the Trent-Severn boat route is the marine railway at Big Chute which acts as a bottleneck to boat traffic but also acts as a barrier to sea lamprey which might ruin the Lake Simcoe fishery. The committee recommends that a marine railway be retained on the Severn River but that it be sited perhaps at Port Severn where it could be twinned. The railway now at Big Chute could be replaced by a lock provided this overall plan ensures that sea lamprey will not enter Lake Simcoe.

While a detailed study of commercial development was not undertaken, a few recommendations are made. The concept of established and developing tourist service centres is outlined and the proposed centres are listed. Two, Westport-Newboro and Rosedale, are now relatively undevel-
oped. It is suggested that these two areas be the subject of a study to produce a comprehensive plan that will embrace both private and public developments.

A major issue concerning private development and use of shoreland is the water drawdown problem in Haliburton County. A two-season (1970 and 1971) study was launched to examine possible solutions and it is recommended that this study be continued.

The report also contains a variety of miscellaneous recommendations of which one is of special importance. Neither Lake Simcoe nor the Bay of Quinte were studied intensively. It is urged that these high capability recreation areas deserve a special study and that a plan be prepared for each.

The major planning matters that are mappable are shown on map 14. It should be noted that this map and all the other maps in this report are on a relatively small scale and show few precise details. Larger, more detailed maps were prepared for use in formulating the report.

In conclusion it should be mentioned that, while implementation was specifically excluded from its terms of reference, the committee was concerned with identifying the problems and potentials of cooperative planning in a defined area as between the federal, provincial and municipal governments and the public and private sectors. Many specific targets have already been attained and more are in sight.

Sainte-Marie among the Hurons, reconstructed French mission station and outpost of empire, 1639-49, is reachable by boat from west end of the Severn.

Fishing is one of the major visitor attractions throughout the Rideau-Trent-Severn Waterway Corridor. More fish sanctuaries are needed.
APPENDIX A

Basic Data on Waterway Corridor

The Rideau Sector

The canal waterway is 123.5 miles in length, having 23 lock stations and 47 locks. The tributary Tay Canal, from Perth to Main Channel, has two locks.

The summit is Upper Rideau Lake at an elevation of 405 feet above sea level. The ends are at Kingston on Lake Ontario (elevation 242.8') and at Ottawa on the Ottawa River (elevation 134.0').

The system has 16 lakes along or directly accessible from the main channel. There are two rivers in the waterway — the Rideau and the Cataraqui.

One provincial park, the Rideau River Provincial Park, is developed at present with four park reserves on channel and two reserves bordering the corridor.

The St. Lawrence Islands National Park and the St. Lawrence Parks Commission facilities are found near the Kingston end of the system.

The National Capital Commission in conjunction with the canal authority has jurisdiction over federal property in the Ottawa region.

Some 7,600 pleasure boats used the locks on the system in 1969, requiring some 60,500 lockage operations.

Approximately 5,000 cottages are found in the corridor.

Two conservation authorities are established along the waterway — the Rideau Valley Conservation Authority and the Cataraqui Region Conservation Authority.

There are three cities, three towns, six villages, 24 townships, four counties and a regional municipality in or bordering on the Rideau sector of the waterway corridor.

Bay of Quinte Sector

This sector links the Rideau sector to the Trent-Severn sector and is some 60 miles in length.

There are four conservation authorities along this portion of the waterway, the Napanee, the Moira, the Salmon, and Prince Edward.

Five provincial parks and a portion of the St. Lawrence Parks Commission facilities are also located in the area.

The Trent-Severn Sector

The Trent-Severn waterway is 240.5 miles in length with 41 lock stations, 42 locks and one marine railway. The navigation tributary to Lake Scugog has one lock.

The summit is Balsam Lake with an elevation of 841.0 feet above sea level. The ends of the system are at Port Severn on Georgian Bay (elevation 576.8') and at Trenton on Lake Ontario (elevation 242.8'). The system has 17 lakes along the main channel.

Four principal rivers — the Trent, Otonabee, Talbot and Severn Rivers — join the various lakes.

There are eight developed provincial parks and eight park reserves along the waterway with the Georgian Bay Islands National Park at the western entrance.

Some 18,500 pleasure boats used the Trent-Severn in 1969. This required some 101,361 lockage operations. In excess of 25,000 cottages are situated on the lakes and rivers of the sector.

There are at present four conservation authorities on or bordering on the Trent-Severn sector — the Holland River, the Otonabee, the Lower Trent and the Crowe Conservation Authorities.

The municipalities on or bordering the sector corridor are: three cities, three towns, eleven villages, 45 townships, seven counties and one new regional municipality.

APPENDIX B

Public Hearings

Public hearings were held by CORTS as follows:

<table>
<thead>
<tr>
<th>Date &amp; Place</th>
<th>Written Briefs</th>
<th>Oral Presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 30, 1967</td>
<td>26</td>
<td>10</td>
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<tr>
<td>Smiths Falls</td>
<td></td>
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<tr>
<td>December 6, 1969</td>
<td>10</td>
<td>8</td>
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<tr>
<td>Peterborough</td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 2, 1969</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Orillia</td>
<td></td>
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</tr>
<tr>
<td>February 10, 1970</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Toronto</td>
<td></td>
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</tr>
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</table>

They were uniformly well attended by a wide spectrum of interested citizens and elected representatives of governments as well as members of the CORTS Committee.

At the hearings the committee members answered questions and wherever possible immediate action was taken to solve local or regional problems.

Both the Smiths Falls and the Toronto hearings were organized by the CORTS staff with individual notices being sent out to all news media, municipalities and organizations concerned. In addition public notices of the meeting were put in the local papers.

At the Peterborough and Orillia hearings the CORTS Committee was hosted by the Lake Ontario Regional Development Council and the Georgian Bay Regional Development Council respectively. These organizations sponsored the meetings and ably carried out all the arrangements.

The public hearing in Toronto was scheduled to provide an opportunity for participation by cottagers resident in the city and for national organizations which were not represented elsewhere.

Many valuable suggestions were received and accepted for inclusion in the detailed plan. Written and oral presentations emphasized the urgent need for a master plan which would provide guidelines for the future development of the waterway corridor. The necessity of an overall co-ordinating agency was stressed by both individual citizens and area organizations. It was clearly evident that citizens were concerned over a lack of land and water use controls and enforcement.

All briefs are on record and available for future reference.

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## Sector Populations

Population* of Municipalities on or Bordering the Rideau Sector

<table>
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<tr>
<th>Municipality</th>
<th>Type</th>
<th>1969 Population</th>
<th>Total Population</th>
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<tr>
<td>Marlborough Township</td>
<td>Township</td>
<td>897</td>
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<td>Nepean Township</td>
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<td>56,560</td>
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<td>Osgoode Township</td>
<td>Township</td>
<td>7,006</td>
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<tr>
<td>Coulbourn Township</td>
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<td>426,862</td>
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<td><strong>TOTAL POPULATION</strong></td>
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<td>542,540</td>
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### Population of Municipalities on or Bordering the Trent-Severn Sector

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Type</th>
<th>Population (1969)</th>
<th>Total</th>
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<tr>
<td><strong>County of Simcoe</strong></td>
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</tr>
<tr>
<td>Barrie</td>
<td>City</td>
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<td>63,646</td>
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<tr>
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<td>City</td>
<td>21,153</td>
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<tr>
<td>Orillia</td>
<td>Township</td>
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<td>Tay</td>
<td>Township</td>
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<tr>
<td>Oro</td>
<td>Township</td>
<td>4,459</td>
<td></td>
</tr>
<tr>
<td>Vespra</td>
<td>Township</td>
<td>3,515</td>
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<td><strong>County of Ontario</strong></td>
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<td>12,605</td>
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<tr>
<td>Port Perry</td>
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<tr>
<td>Beaverton</td>
<td>Village</td>
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<tr>
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<td>Township</td>
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<td>Rama</td>
<td>Township</td>
<td>944</td>
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<tr>
<td>Reach</td>
<td>Township</td>
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<tr>
<td>Thorah</td>
<td>Township</td>
<td>1,312</td>
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<td><strong>Counties of Northumberland and Durham</strong></td>
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<td>Haldimand</td>
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<td>Hope</td>
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<td>Hamilton</td>
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<td>Peterborough</td>
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<td>Township</td>
<td>916 (includes pop. of Anstruther twp.)</td>
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<td>Ennismore</td>
<td>Township</td>
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<td>Harvey</td>
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<tr>
<td>Monaghan, North</td>
<td>Township</td>
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<td>Otonabee</td>
<td>Township</td>
<td>4,027</td>
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<tr>
<td>Smith</td>
<td>Township</td>
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<td><strong>Total</strong></td>
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### Population of Municipalities on or Bordering the Trent-Severn Sector — (Continued)

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<th>Municipality</th>
<th>Type</th>
<th>Population (1969)</th>
<th>Total</th>
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<tbody>
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</tr>
<tr>
<td><strong>County of Hastings</strong></td>
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<td>Separated Town</td>
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<td>Frankford</td>
<td>Village</td>
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<td>Village</td>
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<td>Rawdon</td>
<td>Township</td>
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<td><strong>County of Victoria</strong></td>
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<tr>
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<td>Fenelon</td>
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<td>Township</td>
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<td>Ops</td>
<td>Township</td>
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<td>Somerville</td>
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<td></td>
<td>30,208</td>
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<tr>
<td><strong>District of Muskoka</strong></td>
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<td>Wood</td>
<td>Township</td>
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<td>Morrison</td>
<td>Township</td>
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<tr>
<td>Baxter</td>
<td>Township (no figures)</td>
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<td>2,039</td>
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<tr>
<td><strong>TOTAL POPULATION</strong></td>
<td></td>
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<td>251,932</td>
</tr>
</tbody>
</table>
Among the studies based on field research undertaken in association with the Canada-Ontario Rideau-Trent-Severn Committee were the following.

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Canada Department of Indian Affairs and Northern Development, National and Historic Parks Branch, "Recreation Facilities Inventory, Population and Industries in the Rideau Waterway", Fall, 1969.


Ontario Department of Health and the Department of Energy and Resources Management, Ontario Cottage Pollution Programme.

This includes the survey of Sparrow, Cameron, Stony and Clear Lakes in the Trent-Severn Waterway.

Preliminary data — Fall, 1970.

Ontario Department of Lands and Forests, Land Planning, Mr. J. E. Ambrose, "Evaluation and Recommendations of Natural Areas for Public Recreation — Trent-Severn Environmental Corridor".


Ontario Department of Public Records and Archives, Historical Branch, David Bull, "Historic Summary of the Trent-Severn Valley", Fall, 1970.


Queen's University, Faculty of Applied Science, Dr. J. H. Brown and Dr. R. H. Clark, "A Study of Recovery Values from Urban Waste", 1971.


University of Guelph, Centre for Resources Development, Miss B. Crane, "A Pilot Study of Selected Marinas within the Trent Canal System", September, 1970.


University of Guelph, Mr. Paul R. Wyatt, "A Systematic and Integrated Public Park Classification and its Application to the Rideau Waterway in Eastern Ontario", April, 1967.

University of Waterloo, Mr. R. Jaakson, "The Effect of Fluctuating Water Levels on Shoreline Use in the Haliburton Highlands", preliminary comments, Fall, 1970, Final report, March, 1972.

Fish and fun at Little Chute, near Port Severn.
Resort Subdivisions in Ontario

The private summer cottage is an accepted part of life for a great number of Canadians. With increasing population, more cars and more leisure time, the demand for summer cottage sites and resort properties of many sorts in Ontario is growing.

The pressure for sites has become so great, particularly in areas within 100 miles of the major urban centres, that many lakes have become completely ringed with cottage sites, and extensive stretches of other water frontages have become almost completely occupied.

The demand for sites in many instances is great enough to result in the subdivision of 2nd and 3rd tiers of lots paralleling those having direct access to the water.

Recently these pressures have led to the development of man-made canals in an attempt to produce additional water frontage for summer cottage sites.

Generally these resort subdivisions have taken the form of a narrow ribbon, one lot deep, stretched around or along the shore, broken infrequently by original road allowances, land secured under the 5% provisions of The Planning Act, or by unpatented Crown lands.

Like the "ribbons" along our highways these conventional ribbons of resort sites along our waterways produce problems - not the same problems, but problems just the same. Some of these are evident from past experience.
1. Ribbon development reduces most substantially the potential value of the lands lying behind the first tier of lots in that access to the principal attraction - the water area - has been removed. "But back lots won't sell - everyone wants a lot on water" says the promoter. But subdivision statistics don't bear this out. And furthermore, the available supply of suitable frontage within reasonable distance of the main centres of population falls far short of the expected demand over the next 20 years.

2. A continuous strip of unbroken waterfront lots may place sewage disposal systems, increasingly of the tank and disposal field type, close to the water's edge. This increases the possibility of pollution of lake or river shore with unfortunate implications for bathing, and the purity of water drawn from this source for domestic water supply purposes. Pollution also reduces the value of lakeshore properties.

3. This form of subdivision typically assumes all shore frontage to be equally desirable in terms of accessibility for boat landings, wading, beach characteristics, etc. The varied nature of most of Ontario's shores, particularly in the popular "Shield" area, does not support this assumption. We thus often find several lot owners occupying the area most suited to bathing and boat landing while the remainder of the lot owners do the best they can with what they got, enviously eyeing the more fortunate few who got there before they did. The fortunate owners then eventually have to struggle to keep all the "unfortunates" off their beach.

4. Ribbon development is uneconomical in terms of road construction, telephone, power services and maintenance costs per lot served.

5. Extensive lengths of ribbon resort give the impression, from both the road and water side approach, of an urban atmosphere in contrast to the wilderness environment advertised and normally sought. The closeness of the access road at the rear of the lot brings traffic noises often equal in volume to that of the urban streets "left behind", right to the back door.
6. This physical pattern of a strip of lots makes it extremely difficult to provide public services should these facilities subsequently be required due to failure of private water supply systems or to permanent, rather than temporary, use of the land.

Some of the problems involved in unplanned resort subdivisions are illustrated by this plan. It shows a proposed development in a second tier of lots around a lake which is already closed to public access by a continuous strip of private properties. No ready access to water is available to the proposed newcomers, access to all lots is from a single, continuous and potentially busy road, and the conflict of water supply versus water pollution is inevitable. There are no municipal services in this area and the lake as a source of clean water may be reaching its limit.

The question of how these difficulties can be overcome has been studied by the Community Planning Branch with the conclusion that while each site will require individual attention in detail, the following points should be considered before a plan is decided upon:

1. The capacity of a body of water to absorb development without becoming polluted or overcrowded should be carefully examined and not exceeded. An overall plan to this effect would be extremely useful.

2. An optimum length of unobstructed shoreline should be reserved for public use. In most cases, public open spaces should be consolidated and located adjacent to desirable shores, close to natural amenities and accessible to a public thoroughfare, taking into consideration the physical features of the area.
3. Private cottage lots should be planned to provide openness and variety among building sites, and where roads are required, to be accessible from a street which does not carry through traffic.

4. Commercial establishments and other accessory uses in a resort community should be grouped in locations where they serve residential areas readily without interfering with residential activities. Among other advantages this helps to reduce traffic.

With these principles in mind the Community Planning Branch, through a study of plans of subdivision in resort areas throughout the province, has developed a number of specific suggestions which we believe would improve the design of cottage lots in any municipality. These proposals involve changes of lot layout, road pattern and the location of open space to obtain the greatest advantage from an existing site.

The "next step" in a ribbon development of the type illustrated here is a second tier of lots, all without access to the water.

With the same length of shoreline it is possible to accommodate an increased number of lots by placing the proposed service road back from the shore and providing access to properties by means of a loop road or cul-de-sac.

With intensive "in-shore" development of the type shown it is essential that responsibility for the maintenance of the open areas between rows of lots be carefully defined by agreement or title and that access be assured from all abutting properties. It is desirable also that a shore strip be available for access by foot from one group of lots to another.
This plan in its original condition shows a very large number of lots for a relatively small area of land on a river shore. The basic desirability of such intense use of the land is open to serious question. Of the total of 186 lots indicated as many as 50 are relatively undesirable being cut off from direct access to the water. The "public park" as shown has no direct access to water and very little access to roads.

The revised plans while retaining the basic location of roads and the central park area eliminates marginal lots, a step which would increase the value of the remainder, and provides more open space in a manner permitting direct access to shore areas from all lots. The public park area is provided with good road frontage and access to the river.
In the case of areas where sufficient property is available in single ownership a long range plan for more extensive development presents several advantages: continued expansion as the demand for properties increase; better access to the lakeshore for additional lots; greater opportunity for traffic control; better grouping of public open space; better prospects for a sustained assessment rate, and conversely, better opportunity for adequate public services. As a subdivision approaches higher density and larger size consideration must also be given to stores and other commercial facilities which will require sites accessible to both transient and resident visitors.
The illustrations shown in this articles are based upon proposed plans of subdivision submitted to the Minister of Municipal Affairs for approval. The revisions suggested indicate possible ways to achieve a more advantageous layout of sites, parks and public rights of way. The basic element of any proposed revision is the road layout which is somewhat simplified in the accompanying drawings and plans but which must adjust to the contours of the land as well as to the principles of good planning.

In existing resort areas of the province a number of the difficulties encountered locally arise through an antiquated road system which funnels local traffic and through traffic into roads which also give direct access to private properties. To avoid this problem it is suggested that the main access road to a subdivision be drawn back from the water and that access to individual lots be gained by means of loops or cul-de-sacs which lead to the water but which do not attract through trips.

This type of road system also has the advantage of permitting the creation of a number of equally desirable lots for a considerable distance from the shore. By extending fingers of private or public land behind each row of lots, and by reserving areas of common use along the shore, it is possible to provide safe water access to a number of cottages which would otherwise be cut off from the shore entirely, or would have access to it only through a long stretch of busy road.

Following this plan it is also possible to create small but attractive public parks because of the depth between the "shore road" and the water. If these parks are located where traffic flows into the area and if the lands conveyed or dedicated from a number of subdivisions can be grouped, it should be possible to absorb the holiday traffic of tourists before it reaches the quiet reserves of private cottage lots.
In addition, if the necessary commercial properties such as commercial cabins, stores and service stations are grouped near the public park the traffic to these services from both the park and the community will meet there, but will not be obliged to cross. Many cottage owners who have suffered from an unexpected onslaught of traffic on what used to be a quiet country road will agree with that.

If all aspects of the development of a specific area of land are taken into consideration there is a good chance that financial advantage as well as convenience can be gained through careful planning. Cost analysis of the revised plans shown here indicates that a greater return can be realized from a given investment if the planning principles outlined above are followed. However it must be observed that initial costs may be somewhat greater and the principal advantage here lies in the possibility of gradually developing an increased number of desirable lots.

Up to the present, only a few resort subdivisions of the type described above have been planned. These have proved both saleable and successful. There is little doubt that the problems of resort development are becoming more severe in the Province of Ontario and it is hoped that the suggestions described and illustrated in this article will help both municipalities and individual developers to create better, and more attractive plans of subdivision.
Quill basket work at Curve Lake Indian Reserve on Chemong Lake.

Christian Island Indians raise pheasants for visiting hunters.

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Ontario Department of Energy & Resources Management, Conservation
Ontario Department of Lands and Forests, "Rideau Watershed Fisheries Management Unit Report — Kemptville District".
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Ontario Department of Tourism and Information, "An Inventorial Report of Recreation Resources in the Haliburton Highlands Tourist Region".
Ontario Department of Tourism and Information, "Lindsay Community Survey", April, 1964.
Sweetman, Paul W., "A Preliminary Report on the Peterborough Petroglyphs".
University of Arkansas, College of Business Administration, "Revised Economic Study of the Proposed Buffalo National River", 1968.
Williams Edward A., "Open Space — The Choices Before California", the urban metropolitan open space study, California, 1969.
Youth camp, Beausoleil, Georgian Bay Islands National Park, near the westerly end of the Severn.
Loading the marine railway at Big Chute on the Severn, picturesque but a barrier both to sea lamprey and larger cruisers.

Above, unorganized camp site for boaters on Buckhorn Lake. Below, snowmobiling near Peterborough, a rapidly expanding winter sport throughout the entire corridor.

Above, centennial fountain on Little Lake in the Otonabee River, Peterborough. Below, Haldimand Township church erected in 1824 between Trenton and Cobourg.
17th Century Canoe Routes: The Rideau-Trent-Severn Waterway was used by the Indians of central and eastern Ontario during the period of the French fur trade and exploration.

Blockhouse at Merrickville: This early community was founded by William Merrick, who came there in 1793 or 1794. One of the village’s most prominent structures is a large blockhouse, built in 1832 to protect the adjacent canal locks. It is now open to the public as a local museum.

The Long Island Mill: Situated at Manotick on the Rideau, this attractive stone structure was built by Moss Kent Dickinson and Joseph Merrill Currier and began operation in 1860.

County Court-House and Jail: Among structures of particular interest in Peterborough is the Court-House and Jail building which was completed 1840-42 after the community had been chosen as the administrative centre of the old Colborne District.