

RECREATION RIVER TRAVEL  
IN PERSPECTIVE

BY

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## ABSTRACT

The information presented in this practicum is intended to provide recreation planners and managers with a general perspective on the intricacies of providing recreation river opportunities to the people of Ontario.

In recent years, recreation river travel has attracted a growing number of participants who demand a very wide variety of travel experiences. The spectrum ranges from high intensity day use opportunities for white water enthusiasts to extended wilderness tripping.

One problem that is of increasing concern to recreation planners is the supply of this type of recreation opportunity in southern Ontario where the demand for water resources arises on several fronts - residential, industrial, power generation, water supply, irrigation and recreational uses. The problem is not so much one of limited quantity of water oriented resources available for these uses but one of supplying a quality resource capable of maximizing benefits to society.

Opportunities to supply river travel recreation where multiple uses can exist, without conflict or resulting

in complete elimination of one of the uses, are in short supply. The reality of this situation is illustrated on the Madawaska River in southern Ontario. Included in this paper as a case study, the Madawaska recreation resource requires protection to insure its availability to supply river travel opportunities. The quality of the resource potential there is the highest in southern Ontario for canoe tripping enthusiasts and is threatened by an Ontario Hydro proposal to flood the white water section on the river. In many resource use competitions multiple use is an acceptable option. On the Madawaska River power generation has been a major resource use.

However, the proposal to flood the best white water section is unacceptable if the people of Ontario want the opportunity to enjoy a variety of high quality river travel experiences within driving distance of home.

The onus is on the planners and managers to understand the activity and its users and to appreciate the political and legal framework within which they must work to successfully supply river travel opportunities. Society has a multiplicity of resource needs and the ultimate decision of supply is within the powers of the Ontario government (Cabinet) representing the wishes of all the people in the Province.

This practicum outlines the general character of the activity and the framework of political, legal, legislative,

administrative, technical, economic and environmental aspects within which the decision-making process operates.

The recommendations for management and further research suggest minor efforts. The major thrust is on presenting perspectives that will help planners and managers to accept the planning realities in Ontario today.

## ACKNOWLEDGMENTS

Interest in the subject of recreation river travel was first aroused from field experiences during the Wild River Survey 1971-1974. In 1972 the scope of study was restricted to wilderness travel experiences but over time expanded to more realistic avenues and redirected to natural environment river travel in areas where there are difficult resource competitions to overcome. As the words 'purist' and 'high quality' without qualification were purged from the original draft, the objectives of the paper shifted and resulted in a more practical dialogue on river recreation.

Over the years many individuals became involved to some extent with the paper and gave willingly of their time and experience. In particular the writer wishes to express a special note of appreciation to Bill Hiscock and Bill Maslen of the Ontario Ministry of Natural Resources for their hard fought efforts on two fronts - the reorientation of the paper into the realm of today's realities and the momentum to complete a paper which was six years in the making.

Priidu Juurand, who has been involved with the Wild River Study in Parks Canada since interest was first aroused in 1970-71, gave insight to the topic and has read several

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Sincere thanks are extended to Sandy Bailey and Carolyn Goodman who typed the drafts and endured a number of confusions and changes. Finally, I wish to thank my husband Rick, for considerable patience and understanding when our priorities inevitably came into conflict.

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S.P.H.

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## CHAPTER I

### THE PROBLEM AND ITS SETTING

#### The Problem Statement

The purpose of this practicum is to assist the water resource planner and administrator in providing river based recreation travel opportunities. It will present certain information that will help the resource manager to form a perspective on the activity and its possible future and will discuss the framework of decision-making that must be considered to provide a recreation river travel opportunity supply to the people of Ontario. A section of the Madawaska River in southern Ontario, where attempts are being made at the present time by the Ministry of Natural Resources to achieve designation for a Waterway Park, will be utilized to illustrate the latter discussion on planning for river-based recreation travel opportunities. As the most outstanding white water river resource in southern Ontario the Madawaska is experiencing increasing use from not only canoeists and kayakers but also fishermen, cottagers and day users. Other resource use of the river corridor includes forest production, a possible plan by Ontario Hydro to build two dams and flood the best white water section, and a cottage subdivision proposal.

This combination of resource demands provides an excellent illustration of the problems that may be encountered when planning for the supply of river travel recreation opportunities in southern Ontario.

Demand projections for this type of recreational activity opportunity in Ontario are not available but the Division of Parks, Ontario Ministry of Natural Resources, who are responsible for the planning and management of Provincial Waterways, have related demand figures to those calculated for interior camping within Provincial Wilderness Parks.<sup>1</sup> This activity in Ontario, with one-half million lakes and rivers within its boundaries,<sup>2</sup> is intimately related to waterway travel. The dominant recreation activity in most Wilderness Parks is recreational water travel.<sup>3</sup>

Predictions are that participation in interior camping will grow at a rate of 11 percent until 1981, remain constant until 1991 and continue to increase after that at a rate which matches the growth of the Ontario population.<sup>4</sup>

In the United States, researchers predict a doubling of demand for river travel opportunities within the next decade.

It may be said that the supply of river travel opportunities in both southern and northern Ontario is limited only by the number of navigable rivers and streams. However the supply of rivers capable of providing a quality travel experience is limited. It is limited by several factors:

accessibility, seasonal flows, crowding and conflicting resource uses to mention only a few.

The growth in demand and the limitations to the number of quality opportunities available can present a planning and management problem. Examination of the subject of river recreation travel today will provide information and a realistic perspective for waterway planners regarding the establishment, maintenance and improvement of the opportunity in the future.

One of the objectives of the Ontario Ministry of Natural Resources is to supply a wide variety of recreation opportunities to Ontario residents and others. River travel recreation is one opportunity type. The problem is how can river resource managers, planners and users establish, maintain and improve recreation river travel opportunities in Ontario given the constraints of the political structure, current legislation, economics and the environment and the multiple resource demands placed on many of our good recreational rivers.

#### Research Objectives

This paper has a twofold objective: 1. to familiarize the reader with the recreation river travel activity, and 2. to demonstrate by documentation that supplying river travel recreation opportunities in southern Ontario, as it is for any other resource use, requires a complete understanding of implementation constraints and an acceptance of the need for multiple resource use techniques.

### The Assumptions

Several assumptions, as presented below, were made by the writer in the development of the problem statement:

- 1) There may be a continuing and possible growing demand in Ontario and in Canada for the provision of a recreation river travel opportunity.
- 2) River travel opportunities should be included as one of a variety of recreational opportunities provided by the Ontario Ministry of Natural Resources in meeting its outdoor recreation objective.
- 3) If the supply of river recreation travel opportunities is not considered in relation to both future demand and future resource development pressures a misallocation of river resources may result.
- 4) If found economically, socially and politically feasible some rivers or sections of rivers capable of providing the river travel opportunity should be protected through legal designation.
- 5) Many rivers extending from natural to urban environments are capable of providing a travel opportunity. It is reasonable for recreation users to expect that on some rivers their rights as users will be paramount to those of other users wishing to use the river or its immediate environs.
- 6) Low intensity use of rivers, selected primarily to contribute to a natural preservation objective, is acceptable. Management techniques are available to ensure that use will not harm the natural values.
- 7) The supply of river travel opportunities need not be entirely the responsibility of Provincial agencies, such as the Ontario Ministry of Natural Resources, but can be supplemented and supported by programs on both the Federal and Municipal government levels.



### The Delimitations

Recreation travel on rivers is a subject having a very wide scope. In its widest scope it may deal with travel on rivers from urban to completely natural environments, using for transportation everything from motor driven cruisers, houseboats, sailboats, small motor propelled boats to non-motorized canoes, boats, rafts and kayaks. In the United States the use of car and truck inner tubes is even offered as one mode of river travel.

In order to reduce the subject matter of this paper for practical purposes the writer will confine the subject of recreation river travel in two ways: 1) by limiting the discussion to the use of small motor driven boats (under 10 h.p.) and canoes, kayaks and rafts, and 2) by limiting the demand discussion to users wishing a river travel experience within a predominantly natural environment. This will include, for example, wilderness rivers in remote northern environments to rivers in natural environments interspersed with zones of residential, cottage, agricultural, and resource development. An example of this latter river type would be the Madawaska River south of Algonquin Park in Ontario. Precluded in the subject discussion will be rivers or sections of rivers travelling completely within an urban environment.

Note: The term canoeist includes kayakers, rafters and under 10h.p. boaters.

## Organization of the Remainder of the Study

Chapter II provides certain information on the activity as relates to:

- 1) the history of rivers and their use
- 2) the new role of rivers for recreation
- 3) the recent recreation river travel activity
- 4) the recreational user of rivers
- 5) the demand for recreation river travel opportunities
- 6) the supply of recreation river travel opportunities.

Chapter III discusses the establishment, maintenance and improvement of opportunity supply for recreation river travel in terms of presenting the essential ingredients and framework which water resource managers must understand to successfully plan and implement any opportunity supply. A discussion will be centred around these important aspects:

- 1) political
- 2) legal
- 3) legislative
- 4) administrative
- 5) technical
- 6) environmental
- 7) economic.

In Chapter IV the Madawaska River case study is presented to illustrate the complexities and possibilities in providing the river recreation opportunity. Designation of this one section of the Madawaska as a Waterway Park is currently in the proposal stage and serves as a very timely example.

Chapter V presents a brief summary, recommendations

on river recreation administration and points out areas that require further research.

## REFERENCES

<sup>1</sup>Ontario, Ministry of Natural Resources, Division of Parks, Ontario Provincial Parks - Planning and Management Policies, Waterway Parks, Part I, 3rd Revised Draft, March 1977, p.6.

<sup>2</sup>Ontario, Ministry of Industry and Tourism, Ontario/Canada Camping - where to go and how to get there, Queen's Park, Toronto, Canada, 1976.

<sup>3</sup>Ministry of Natural Resources, Ontario Provincial Parks, Waterway Parks, p.6.

<sup>4</sup>Ministry of Natural Resources, Ontario Provincial Parks, Wilderness Parks, p.10.

<sup>5</sup>Perry J. Brown, "Information Needs for River Recreation Planning and Management," in Proceedings: River Recreation Management and Research Symposium, U.S. Department of Agriculture, Forest Service, General Technical Report NC-28, January 1977, p.193.

## CHAPTER II

### RECREATION RIVER TRAVEL IN PERSPECTIVE

#### Rivers for Development

Before the coming of the white European settler the rivers of Canada remained virtually unchanged except for natural bio-physical alterations to their beds and drainage basins caused by erosion, deposition and sedimentation. The native Canadian utilized the rivers and they were an integral part of his survival but his lifestyle and technological level did not result in substantial change to the riverscape.

The role the rivers played during the early settlement years was an important one. The rivers served as travel routes for initial exploration, then to facilitate resource extraction of primarily furs and timber and finally for human settlement. Throughout the country the importance of rivers as prime factors in settlement location is apparent. Winnipeg was developed at the junction of the Red and Assiniboine Rivers, Ottawa grew at the junction of the Rideau and Ottawa, the cities of Quebec, Montreal, Toronto and Thunder Bay located on the extensive Great Lakes - St. Lawrence River system, and the western cities of Saskatoon and Edmonton both situated on major rivers.

The river and its valley provided convenient and prosperous sites for residential, industrial and agricultural development. They were suppliers of water, transportation routes and sources of power; they could be used for waste disposal, irrigation and flood control. Perhaps, only in the last decade or so have we ever thought seriously beyond the impression that a river is to be utilized and harnessed. Water resources always seemed plentiful and inexhaustable. It was an easy conclusion to reach, especially for those who had travelled within the country's borders from sea to sea. Canada has been blessed with more freshwater than any other country in the world!<sup>1</sup>

Rivers have been considered oftentimes only in terms of uncontrolled use and in some cases, substantial biological and physical imbalances have occurred that may now be irreversible. Large rivers have been reduced to mere trickles by damming, storage and diversion projects such as resulted on the Churchill River diversion project where the Naskaupi River in Labrador, after the construction of the Smallwood Reservoir, had its downstream flow reduced by ninety percent. This river was once a major exploration and supply route into the interior of New Quebec. The well-publicized James Bay project is another good example of massive manipulation of a natural system. Certainly, in conjunction with these developments, rivers have provided many positive values to

Canadian lifestyles. Canadians enjoy one of the highest standards of living in the world. The rivers have provided many essentials to our lives and undeniably one of them was the provision of its own character - as a supplier of beauty, solitude, resiliency and enjoyment.

To state that only in the last few years have we come to appreciate our rivers as places of recreation cannot be true. We have always appreciated the opportunity of our rivers. Art, literature and poetic works substantiate this.<sup>2</sup> Our problem has been a lack of time to appreciate the river as a place of enjoyment. For many, all energies were directed to supplying the essentials to survive and always to progress to better conditions. However, as technological advances were made some individuals were gradually freed from the all-consuming chore of providing for their every need. There was time and, for some, more money, and our capability to travel distances increased with the advent of railways, roadways and the automobile. Some people could now and did start to consider and use our rivers as places to enjoy. Cottages and resorts grew as did the numbers of wealthy who came to fish the northern waters. A new demand was emerging for the rivers - as a place for outdoor recreation.

#### Rivers for Recreation

This paper is concerned with one of the fastest growing and most recent uses of rivers for recreation -

the use of the river for recreational travel. In its widest scope this subject may entail travel on rivers using everything from motor-driven cruisers, houseboats, sailboats, small motor-propelled boats to non-motorized canoes, boats, kayaks and rafts. All are used for and have the capability for recreational travel on rivers. All types of rivers are being used for recreational travel: the urban and the rural river, the placid and the fast-flowing, and the polluted and clean.<sup>3</sup> This paper is concerned with rivers flowing within predominately natural environments and users utilizing for travel canoes, kayaks, rafts and small motor-driven boats.

#### River Recreation - Brief History

Until recently running rivers for fun was unheard of in North America. Swift rivers and white water stretches were obstacles impeding navigation. They were often called 'wild' rivers; conjuring up impressions of boiling water; an out-of-control and disordered condition. The setting for these 'wild' rivers was 'wilderness', a place thought of as hostile and where only wild persons or supermen could survive.

The word 'wild' was derived from early Teutonic and Norse languages from words that presented pictures of lost, ungoverned, unruly and confused situations.<sup>4</sup> From this beginning it is not difficult to understand the initial general dislike for the New World surrounded by wilderness. Settlers felt they must conquer this hostile environment and bring it



under 'control'. Canals and water impoundments around river obstacles provided this control and progress with the job was supported.

The rise of today's urban industrial civilization in North America is perhaps the most important factor in creating an almost new found appreciation and seeming need for wilderness and natural environments generally.<sup>5</sup> Between the years 1951-1976 the percentage of Canadians living in Census Metropolitan areas having 100,000 or more residents increased from 38.7 percent to 55.7 percent.<sup>6</sup> Why this new found appreciation of natural areas occurred is very difficult to say. The psychological research on this topic, as it is generally on the topic of human behaviour and needs, is in its infancy. Psychologists have presented the thought that the values of physical and psychological stimuli, as offered by a natural setting, are probably required by all people.<sup>7</sup> Man needs the wilderness for more than the simple physical requirement of fresh air and exercise.

"Wilderness is more than camping or hiking; it is a symbol of a way of life that can nourish the spirit."<sup>8</sup> Man did live in the wilderness for some 2 million years and it is felt now that his physiological and psychic needs come from this exposure. We usually use terms such as inspiration, exhilaration and opportunity for communion with nature when we speak of the value of the natural environment. Researchers have found that people seek out these environments

to find physical, emotional, aesthetic, educational and social experiences.<sup>9</sup> Of these five qualities emotional values were found to be the most important attribute of the natural environment experiences.

#### The Course of Change - United States

In the United States where once huge control dams such as Hoover Dam, built in 1935 on the Colorado, were eagerly constructed with little opposition, a new found appreciation for unharnessed, natural rivers was demonstrated in the late 1960's by Congressional rejection of another large dam project on the Colorado. This 40 year span of time demonstrated a total reversal of public attitude towards harnessing of the Colorado River.<sup>10</sup>

The number of users of the Colorado has grown astonishingly over the last twenty-five years. In 1953, 31 people travelled the river while by 1974 that figure had increased to 14,253.<sup>11</sup> Use figures for other rivers in the United States show similar large increases. On a section of the Rogue River in Oregon total use increased from 2,800 visitors to 7,200 from 1971 to 1974. In New Mexico, the Rio Grande River supported 17,000 visitor days up to 1968. This increased to 108,000 by 1974.<sup>12</sup>

As the number of river users grew and public opinion reflected the changing attitude towards the need for natural rivers those in power responded in the United States by

recommending that:

Certain streams be preserved in their free-flowing condition because their natural scenic, scientific, aesthetic, and recreational values outweigh their values for water development and control purposes now and in the future. (1961)<sup>13</sup>

In 1962, the Outdoor Recreation Resources Review Commission endorsed this statement and a joint research effort was begun in that year by the Secretaries of the Interior and Agriculture to set up a national system of free-flowing rivers. Twenty-two rivers were selected for study by a wild rivers committee representing both State and Federal interests to make up the initial submission for legislative support from Congress. The response came in October 1968 as Public Law 90-542 was passed and called The Wild and Scenic Rivers Act. This law states:

Certain rivers of the nation which ... possess outstandingly remarkable scenic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations.<sup>14</sup>

The act recognized the requirement for diversity in types of rivers and the variety of needs and desires of the people who will seek to enjoy the recreational value of the protected rivers, by specifying three classes of river:<sup>15</sup>

A wild river - generally accessible only by trail, with primitive shorelines and unpolluted water.

A scenic river - may be accessible in some parts by roads and may have some development along its shorelines but the essential primitive character must be retained.

A recreational river - may be readily accessible by road or railroad, may have development along its banks and may have impoundments or diversions already constructed.

Continued State and Federal cooperation and involvement has resulted in many states (24) having their own river preservation programs with enabling legislation creating Wild and Scenic River systems. States may recommend proposals to include their rivers within the National System.<sup>15</sup>

In November 1976 the total number of rivers protected under the National system was 19, totalling 1,655 miles.<sup>16</sup> Administrative responsibility varies among several Federal and State agencies as illustrated in Table 1.

Further efforts are being made by the Bureau of Outdoor Recreation<sup>17</sup> to place more explicit guidelines on the development of the National system. Up to now there has been no program objective statements to define:

- 1) what should comprise the minimum system, or
- 2) the extent, geographic distribution and balance of types of rivers to be included.

A major research effort is continuing to identify all rivers or segments of rivers 25 miles or longer that are free from development, have good water quality and sufficient stream flow to provide for a quality recreational experience. Presumably, a quality experience has to be defined - a major problem in itself, in addition to defining 'development' and 'good' water quality.

TABLE 1

River mileage classifications for components of the National  
Wild and Scenic Rivers System, October 1976

River and State	Administering agency	Classification			
		Wild	Scenic	Recrea- tional	Total
				Miles	
Middle Form Clearwater, Idaho	USFS <sup>1</sup>	54	--	131	185
Eleven Point, Missouri	USFS	--	44.4	--	44.4
Feather, California	USFS	32.9	9.7	65.4	108
Rio Grande, New Mexico	BLM	43.90	--	0.25	44.15
(Rio Grande management by Agency)	USFS	7.85	--	0.75	8.60
Rogue, Oregon	BLM	20	--	27	47
(Rogue management by Agency)	USFS	13	7.5	17	37.5
St. Croix, Minnesota & Wisconsin	NPS	--	181	19	200
Middle Fork Salmon, Idaho	USFS	103	--	1	104
Wolf, Wisconsin	NPS	--	25	--	25
Allagash Wilderness Waterway, Maine	State of Maine	95	--	--	95
Lower St. Croix, Minnesota and Wisconsin	NPS	--	12	15	27
	States of Minnesota and Wisconsin	--	--	25	25
Chattooga, North Carolina, South Carolina, and Georgia	USFS	39.8	2.5	14.6	56.9
Little Miami, Ohio	State of Ohio	--	18	48	66
Little Beaver, Ohio	State of Ohio	--	33	--	33
Snake, Idaho and Oregon	USFS	32.5	34.4	--	66.9
Rapid, Idaho	USFS	31	--	--	31
New, North Carolina	State of North Carolina	--	26.5	--	26.5
Missouri, Montana	BLM/FWS	72	28	59	159
Flathead, Montana	USFS/NPS	97.9	40.7	80.4	219
Obed, Tennessee	NPS/State of Tennessee	46.2	--	--	46.2
Total		689.05	462.7	503.4	1655.15

<sup>1</sup>USFS = USDA Forest Service; BLM = Bureau of Land Management; NPS = National Park Service; FWS = Fish and Wildlife Service

Source: Robert L. Eastman, "River Preservation and Recreation Program", Proceedings: River Recreation Management & Research Symposium, United States, Department of Agriculture, Forest Service, General Technical Report NC-28, January, 1977, p. 181.

### The Course of Change - Canada

In Canada, the course of change has been slower but in concert with similar changing attitudes as in the States towards protecting the natural environment but reflecting here the lower demand pressures on our wide supply of rivers. Outdoor recreational needs in Canada were first seriously recognized and provided a legal framework quite early in our short span of development. In 1885 the Banff Springs area was declared a National park and marked the beginning of a National Park System that is recognized worldwide. Today, over 28 parks offer a wide range of natural environment opportunities and have felt the increasing demand of users dramatically over the last decade. In 1966-67 over 13,000,000 visitors came to visit the National and Historic Parks. This figure had grown to 20,000,000 by 1975-76.<sup>19</sup>

Unlike the research available to substantiate use demand in the United States, Canadian agencies, as yet, have done little actual field study specifically on the recreational use of Canadian rivers. This fact, in itself, may reflect the stability of the demand and supply situation. Often cited as an indirect measure of demand is the use of our recreational areas for interior travel and camping. Here the dominant activity is recreational water travel.

Both our Federal and Provincial agencies charged with the administration of outdoor recreation opportunity supply have recognized rivers as worthy of specific study

to supply some of these opportunities. As in the United States, initial Canadian recognition of rivers as being valuable for their physical and cultural values was more easily substantiated than to say they needed protection to supply recreational opportunities. The use pressure and detrimental effects of urbanization and industry were far more impressive and easily documented than any that could be found for the demand pressures of recreationalists.

A program within the Federal government was developed to preserve our heritage values and also to provide a wider range of recreational opportunities. In 1972 Parks Canada conceived the Agreements for Recreation and Conservation program, commonly referred to as ARC.<sup>20</sup> Both routes and areas having nationally significant heritage resources, both natural and human, could then be preserved. These were intended to also provide recreational opportunities. Agreements can be made with the Provinces or other agencies for the identification, planning, preservation, development and management of historic waterways and wild rivers as well as historic land routes and heritage areas.

To date two Agreements have been signed within the Historic Waterway jurisdiction of the program. The Federal government and the Province of Ontario are jointly developing the 684 kilometre Rideau-Trent Waterway system linking the city of Ottawa and Georgian Bay. Another Federal-Provincial agreement with Saskatchewan is intended to preserve the

historical and natural resources of the Qu'Appelle Valley.<sup>21</sup>

Both agreements have built in the premise that recreational opportunities will be provided in conjunction with a preservationist theme.

The wild river theme was first construed within the National Parks Branch of Parks Canada in 1971. The Agreements for Recreation and Conservation are administered within a separate Branch in Parks Canada. The wild river theme was later included within the ARC Branch.

Between the years 1971 to 1974 sixty-seven wild rivers were inventoried by field survey crews and evaluated for both their uniqueness and representative attributes. The aim was to identify rivers or sections of rivers which would be representative of each of the physiographic regions in Canada. Each river was evaluated on the basis of its values for geological, geographical, historical, biological or scenic reasons. Preserving some of Canada's wild river heritage was felt to be part of the obligation the National and Historic Parks Branch had to future generations of Canadians to protect outstanding and representative examples of the country's natural and cultural heritage.<sup>22</sup>

No rivers, as yet, have been given legal designation as wild river parks but ten rivers have been selected to make up the initial system and thoughts are to increase this number to twenty-one possibly by the turn of the century.



This would create a system protecting 3,500 river miles, representing nearly every natural region in the country.<sup>23</sup>

In terms of a valuable research exercise the Wild River Survey program in Canada did provide an initial impetus to Provincial programs. The shift of the program into the ARC Branch will mean a total involvement of the Provinces and Territories in designation procedures. A further value of the program is the production of several brochures that provide river travel descriptions to potential travellers. The provision of information to river recreationalists across the country, if the technique is used to its fullest, can have great value to future planning and management efforts. The brochures, covering ten physiographic regions, will be available through bookstores and government information centres.

Rather than waiting to designate rivers for the National System under the Agreements procedure, some Provinces in Canada have drafted their own legislation to protect the natural and cultural values of their waterways, for example, Ontario has included waterways in their Provincial Parks Act.

#### The Course of Change - Ontario

In Ontario, the recreational history of the waterways began early in the 20th century. The Rideau-Trent Waterway has been used almost exclusively for recreational purposes since the 1930's. Many of the most remote northern rivers are incapable because of their geographic location to offer any other resource opportunity. Some of these rivers were visited by wealthy outdoorsmen beginning early in the century.

Much development in this Province has been related to rivers, but in 1967, effort to preserve some of the rivers in their natural free-flowing state resulted in legislation<sup>24</sup> of a new Wild River Provincial Park classification. Five rivers have been designated as Wild River parks to date. The first, the Mattawa River is an historical waterway, of importance during the fur trade era. The others are the Lady Evelyn, Winisk, Chapleau-Nemegosenda and Mississagi. These offer an opportunity to experience a more truly "wild river experience". Unlike the Federal criteria for river designation which emphasizes the natural and cultural values, the Ontario system readily includes the provision of a recreational travelling experience as a necessary value of the waterway.

#### The River Travel Recreation Activity and Experience

In the preceding pages the history of rivers in its new recreational role has been traced through to the point of legal recognition of their natural and recreational values. This section will help the reader become more familiar with the activity of river recreation travel.

As an activity, river travel offers a very wide variety of recreational experiences. Like many activities we engage in it also involves a division of experiences gained from the point of anticipation of the trip, the travel to the site, the river trip itself, the travel home, and the recollection of the experience.<sup>25</sup>

### The Variety of Experiences & Activity

T.A. More, R.O. Brush and J.A. Wagar have identified recreation travel: 1. psycho-social variation, 2. landscape variation, 3. river variation, and 4. the variation inherent in the activity itself.<sup>26</sup>

1. Psycho-Social Variation - The experience any individual has during a river travel trip is largely dependent on his personal physical abilities, experience levels and individual perceptions, satisfactions, expectations and motives. Outside influences that create variation to the experience include those social in nature such as indirect or direct contact with other river users and management personnel.

2. Landscape Variation - The landscape along a river can be unchanging or have a high degree of diversity. Studies have shown that diversity in landscape is an important element to the enjoyment of travel whether it be by foot, canoe or automobile. People dislike simple, monotonous, unchanging environments and they also dislike excessively complex or chaotic environments. The mid-range of landscape variation that is most conducive to most people for an enjoyable river trip has to consider the speed of travel and the demands placed on the traveller by the river environment itself. This is true for river travel experiences in any environmental setting.

3. River Variation - Rivers come in all sizes and shapes. Rivers and river sections can vary according to width, depth, sinuosity, height and slope of banks, water colour and purity, number of islands, velocity and the number of hazards or obstacles present. As with the landscape surrounding the river the change of river conditions is important to the quality of the river travel experience. A canoeist can become just as tired of continuous rapid sections as he can of straight, calm sections.

A balance has to be attained between the variety of scenes provided by a combination of both the landscape and the river.

4. The Activity Itself - Over the course of any river trip whether it be for a day or an extended period there are situations or conditions that arise that not only add variety to the experience but can actually change the experience. Direct change can occur to the user himself as he gains more confidence and strength or becomes more relaxed or possibly tense. Indirect change can be perpetrated by sunburns, insects, rain or accident. With every paddle stroke the river traveller can come under the influence of an entirely different set of conditions that can change the experience.

The combination of all sources of variation make up the total river travelling experience.

It is important for those who desire to understand the river travel experience as recreational activity to also be aware of certain peculiar characteristics:<sup>27</sup>

1. Canoeists see the landscape primarily within a 180 degree range with the view centered straight downstream.
2. A large proportion of users will travel the linear corridor for the most part downstream but where conditions permit, travel may be both upstream and across the river.
3. At the beginning of an extended river travel trip managers should be aware that users are generally heavily loaded with provisions which can slow their progress and cause portages and rapids to become more significant than to a lightly-loaded crew.
4. Also, in some cases especially early in the canoeing season, users may not have honed the skills and strength that they would have later in the season or further down the river. This condition commonly coincides with number 3 above as canoeists weak on skill and strength have to handle the heaviest loads on portages and while manoeuvring the canoe in heavy water. A heavily loaded canoe is more difficult to manoeuver both in calm and rapids.

The total river trip itself can be influenced by variation resulting from several sources. But the total trip experience, as stated above, begins with the preparation and planning stage providing the element of anticipation. From personal experience, it usually takes several trips to become fully adept at planning routes and timing, what supplies to take, how to pack them and how much extra food and supplies to allow for handling unforeseen difficulties that may delay egress. For some river jaunts, a trip to the library

to research the history of the route can provide additional enjoyment to both the planning stage and during the trip.

Travel to the point of access to the river is another facet of the experience. Again, planning the route and timing is important and can be made an enjoyable experience if well thought out.

The river trip itself no matter how much time was spent on preparation and study, is invariably full of surprises. Maps and brochures can never tell the whole story as the river has a constantly changing character varying day to day, seasonally and yearly. No river trip can possibly duplicate itself. The physical and psycho-social variations provide a limitless variety. There is no such reaction, such as visiting an historical monument, where once you have seen it that completes an experience. One can travel the same river each year and almost not realize it was the same river. The name of the river would be your only clue.

#### The Recreation River User

Those who may use the river as a place for recreation include the river and river corridor users such as canoeists, fishermen, hikers and hunters as well as cottage owners. This paper is concerned only with the river traveler although a river trip itinerary may often include secondary activities such as fishing and hiking while on route.

Like the rivers themselves, users of rivers for recreational purposes come in a wide variety of physical and emotional shapes and sizes. The needs, preferences, perceptions, satisfactions, motivations and physical and social capabilities are different for every individual. Some river travel recreationists wish only to enjoy a day of quiet relaxation, alone or in a group, on a quiet stretch of water. Others are content to spend all their time and energies in one section of the river enjoying fishing or tackling the same white water stretches over and over again. At the other end of the spectrum are those who seek out the wilderness river with the objective of being alone with friends in a natural setting.

Canadian research on river travel users is sparse and information is commonly taken from studies of wilderness users. More research is available from American studies and some of the following information has been taken from U.S. research findings. Most findings must be considered tentative and more defined research is a definite requirement in both Canada and the United States.

In 1973, the Bureau of Outdoor Recreation, United States Department of the Interior conducted a National Recreation Survey.<sup>28</sup> It indicated that canoeists are generally from somewhat higher income groups than participants in other outdoor recreation activities. (Table 2)

TABLE 2

## INCOME AND EDUCATION OF RECREATIONISTS

ACTIVITY	FAMILY INCOMES OVER \$15,000./YEAR	AT LEAST FOUR YRS. COLLEGE
	(Proportion of Participants)	
Canoeing	28	25
Wilderness Camping	23	17
Camping in Developed Campgrounds	24	23
Fishing	18	14
Hiking	24	26
Outdoor Swimming	26	20
Hunting	18	9
Total Population	21	12

Source: Richard D. Hecock "Recreational Usage and Users of Rivers", Proceedings, p.282.

Also as Table 2 indicates, canoeists along with hikers seem to be fairly well educated.

Wilderness users should relate closely to those taking part in canoe camping activities in such areas of Ontario as Algonquin Park, Quetico Park, Killarney Park and the northern river areas. Studies by Cicchetti,<sup>29</sup> Stankey,<sup>30</sup> Stone and Taves,<sup>31</sup> and Catton and Hendee<sup>32</sup> show that wilderness users are generally male, better educated, married, professional people with high incomes who live in urban areas and probably have had some exposure to the wilderness before the age of fifteen. Many reported having friends who were also wilderness users. A large percentage had children. These studies have been based on generally small user samples



within wilderness areas in the United States. They do not represent a study of user characteristics taken from a random sampling of the total population. However, these results are supported by an Ontario statistical study of wilderness canoe trippers done for the Ontario Recreation Survey in 1976.<sup>33</sup> Results simply indicate that there is a tendency for a disproportionately high number of wilderness users that have these characteristics. Wilderness river travel user motivations, preferences and perceptions again can be taken from studies of wilderness users. Why do people go into the wilderness for recreation? In a study by Gregory Stone and Marvin Taves<sup>34</sup> the following were cited as user motivations for wilderness:

1. as a locale for sport and play,
2. as a fascination,
3. a call of the wild response,
4. as a sanctuary away from everyday life,
5. as a heritage,
6. as a personal gratification

One study, done specifically on river users in Dinosaur National Monument in 1975,<sup>35</sup> found trip motives, in descending order of importance, to be:

1. action/excitement,
2. learning about nature,
3. stress release/solitude,
4. affiliation,
5. autonomy/achievement,
6. self-awareness, and

7. status.

Another study conducted by M.J. Solomon and E.A. Hansen<sup>36</sup> investigated the high points of a canoe trip for users in the Manistee National Forest streams. The following were cited by users:

1. rapids,
2. scenery,
3. camping,
4. tipping over,
5. companionship,
6. nature,
7. solitude, and
8. swimming.

Preferences for campsites have been studied by Sidney Frissell Jr. and Donald P. Duncan in Quetico-Superior Canoe Country.<sup>37</sup> Preferences in order of importance were:

1. located on an island,
2. flat tent spots available,
3. firewood easily available,
4. good landing area and,
5. protected from wind.

There was a preference for sites located in pine tree stands but other than a strong preference for islands the choice of campsite is largely dependent upon what is available by the time the user is ready to stop for the day.

Robert Lucas' study of wilderness canoeists in the Boundary Waters Canoe Area in northeastern Minnesota found that the paddling canoeists sought and preferred more pure wilderness than did other users.<sup>38</sup> They were the most demanding group in terms of the naturalness of the environment and remoteness from other users.

The paddling canoeists, although more demanding of wilderness, conceived their wilderness to be actually smaller than the officially defined Canoe Area. This has important consequences for planners and managers in defining the 'zone' of contact of the river user. Because the river user is confined in a linear corridor, except on expansions of the river, what happens beyond his line of sight may be of little consequence to him as long as nothing is heard either. There is a possibility that a large number of users do not explore very far inland when in camp.

For the wild river user many perceive the presence of garbage, developed campsites, other parties, overused or marked portages, development on the shoreline as elements that take away from his river experience. Lucas' study concluded that wilderness river users:

1. perceived a greater degree of wilderness where other boats were absent,
2. sixty-one percent of paddling canoeists disliked meeting motorboats and,
3. one out of sixty-four paddling canoeists disliked meeting other paddlers.

Lucas feels that further research on wilderness user

perceptions could identify breakpoints in perceptions which could be useful in identifying classes of users.

Although no research is refined for other river travellers' perceptions there may be a possibility that differences in perceptions could be useful in developing types of river travel experiences. A system of recreation rivers could use this as a basis of categorizing rivers and matching preferences, together with demand numbers to the supply of river opportunities.

### The Supply of Recreation River Travel

#### Canada

The major Canadian river drainage basins involve over 6,138,000 square kilometers. (See Table 3.)<sup>39</sup> Canada has more freshwater than any other country in the world. The actual length of water routes in Canada is uncertain, however the Federal Wild River Survey has studied and presented information on over 13,600 kilometers of predominately wilderness rivers across the country<sup>40</sup> and the Ontario Ministry of Natural Resources has provided the same for 22,555 kilometers of river in both the north and south of the Province.<sup>41</sup> A recreation river travelling experience can be had within a short travel distance for a very large portion of the Canadian population. There is no large requirement for facilities, except campsites in some cases, to be built as in other forms of recreation such as hockey, tennis or bowling. The facilities, the rivers, are in place as one of the natural attributes of the country.

TABLE 3

## MAJOR CANADIAN DRAINAGE BASINS

Ocean	Primary River Basin	Secondary River Basin
Pacific Basin 400,730 sq. miles	Yukon *	Yukon *
		Porcupine *
		Stewart *
		White *
		Pelly *
		Lewes *
	Alsek	
	Taku	
	Stikine *	
	Nass	
	Skeena	
	Fraser	Nechako
		Blackwater (West Road) *
		Chilcotin *
		North Thompson *
		Fraser *
	Columbia	Columbia
		Kootenay
Arctic Basin 1,380,895 sq. miles	Mackenzie	Mackenzie *
		Athabasca
		Peace
		Hay
		Liard *
	Anderson	
	Coppermine *	
	Back	
Gulf of Mexico Basin 10,121 sq. miles	Missouri (entirely in US)	Milk *

TABLE 3  
(cont'd)

Ocean	Primary River Basin	Secondary River Basin
Hudson Bay Basin	Thelon	Thelon *
		Dubawnt
	Kazan	
	Thlewiaza	
	Seal	
	Churchill *	
	Nelson	Nelson
		N. Saskatchewan *
		Saskatchewan
		Red Deer *
		Bow
		Oldman
		S. Saskatchewan
		Assiniboine
		Red
		Winnipeg
		English
	Hayes	
	Severn *	
	Winisk	
	Attawapiskat *	
	Albany	Albany *
		Kenogami
		Moose *
		Missinaibi *
		Mattagami
		Abitibi
	Harricanaw	
	Nottaway	
	Broadback	
	Rupert *	
	Eastmain	
	Fort George	

TABLE 3  
(cont'd)

Ocean	Primary River Basin	Secondary River Basin
	Great Whale	
	Kóksoak	
	Leaf	
	Payne	
	George	
Atlantic Basin 580,097 sq. miles	St. Lawrence	Nipigon
		French *
		Saugeen
		Thames
		Grand
		Severn
		Trent
		Ottawa
		Gatineau
		Lievre
		St. Maurice
		Saguenay
		Betsiamites
		Outardes
	Romaine *	Manicougan
	Hamilton	
	St. John	
	Miramichi	
	Humber *	
	Exploits *	
	Grand	
	Little Grey	

\* - Rivers surveyed by the Wild Rivers Survey.

Source: Canada, Department of Indians and Northern Development, National Parks Branch, Systems Planning, National Wild River System Proposal, 1975.

The waters are in public ownership and all citizens have a right to travel them.

The problem for recreation river resource planners is not the quantity of river travel miles available to users but the quantity of river miles available that can supply a high quality river travelling experience to a broad range of people. As discussed in this Chapter users come in a wide variety of types and each has his own preferences and ideas on what constitutes a quality river travel experience.

### Ontario

In Ontario, supply of river travel opportunities is the responsibility of the Ontario Ministry of Natural Resources. At the present time supply of natural environment wild river parks totals an area of 1,888,000 hectares and all are located in northern Ontario, an area usually considered as north of the French and Mattawa River systems.<sup>42</sup> On-going studies are in progress to include such Southern rivers as the Madawaska.

The Ontario policy for Waterway Parks includes a range of routes which are of recreational and historical as well as natural interest. Thus, the total system will someday supply opportunities for river travel that include not only wild river sections but rivers that will contribute to all the waterway parks objectives.<sup>44</sup>



1. Preservation Objective: preserving a system of provincially significant waterways incorporating natural, cultural and recreational features.
2. Recreation Objective: providing day use opportunities in areas of outstanding recreational potential associated with Waterways
  - providing facility-based camping opportunities on waterways and in associated areas of outstanding recreational potential
  - providing waterway back country travel and camping opportunities.

Parks will range from those providing back country travel and camping opportunities for those users desiring the challenge and solitude of a wild river to those desiring opportunities to enjoy natural or cultural features without 'substantial' physical challenge.

Other objectives of the Waterway Park system are:<sup>45</sup>

3. Heritage Appreciation Objective:
  - providing opportunities for unstructured individual exploration and appreciation of the waterway heritage of Ontario
  - providing opportunities for exploration and appreciation of natural and cultural environments through interpretation and education based on the character and significance of Waterway Parks.

4. Tourism Objective: facilitating travel by residents of and visitors to Ontario who are discovering and experiencing the distinctive regions of the Province.

#### Selection of Ontario Waterway Parks

Diversity of natural, cultural and recreational waterway environments is the objective of the Ontario system. The system will attempt to preserve river sections that represent each of the sixty-five site districts in Ontario.<sup>46</sup> These districts each have a distinctive combination of physiographic and biotic conditions.

The length of river sections protected will vary with the intended use capacity. Low intensity parks will offer no less than one and one-half days of canoe trip. High intensity parks are shortened to a one-half day trip minimum length.

Evaluation of prospective areas includes specifically the potential for low intensity and high intensity back country water travel recreation.

The variables used in the evaluation are as follows:<sup>47</sup>

#### Potential for Low Intensity Recreation

Length

Navigability

Diversity of Conditions for Watercraft

Accessibility

Campsite and Landing Availability

Carrying Capacity

Water Quality

Impoundments

Conflicting Activities: Road, Rail, Utility  
Settlement, Urban-Industrial-  
Extractive.

#### Potential for High Intensity Recreation

Navigability

Diversity of Conditions for Watercraft

Accessibility

Campsite and Landing Availability

Carrying Capacity

Water Quality

Water travel opportunities in short supply within weekend range of major Ontario population centres will also be considered above and beyond those required for the basic Waterway Park system.

The supply of water travel opportunities are not only provided through inclusion in a Waterway Park system. The Ontario Parks and Recreation Areas system has a six part classification scheme that includes Wilderness Parks, Nature Reserves, Historical Parks, Natural Environment Parks, Recreation Parks and National Parks.<sup>48</sup> Waterway parks will help meet some of the objectives of these areas just as many of the above Parks types contain significant waterways. Algonquin and Quetico Parks contain numerous water travel routes although classed as a Natural Environment Park and Wilderness Park respectively.

Extensive public land areas in Northern Ontario contribute to the supply of water travel opportunities as do the many navigable and public-owned southern lowland rivers. The majority of the latter flow through private lands which constrains the opportunity to make use of the surrounding lands.

The Conservation Authorities in southern Ontario have an operational mandate that includes recreation land management.<sup>49</sup> Most Authorities are located on main waterways or tributaries and many have supported canoe travel opportunities by providing access points and waterway travel reports for users.

#### Selection of National Wild Rivers

A Federal study began in 1971 to form a wild river system which would embody both recreation and preservation values. Within the Department of Indians and Northern Affairs, Parks Canada has the responsibility to develop a National Parks System. The purpose of this system is to preserve areas containing: "significant geographical, geological, biological, historical or scenic features as a natural heritage for the benefit, education, and enjoyment of the people of Canada."<sup>50</sup> The Parks System Planning Section was instructed to point out areas, which included rivers, that could meet the above criteria for a Park and also fulfill a systems planning objective of representing the natural regions of Canada.<sup>51</sup>

Initial study for wild rivers began in the summer of 1971 in the Yukon Territory and 3,300 river miles were canoed and studied on fifteen rivers.

Since that beginning the National Park System has been re-evaluated and a new initiative in heritage preservation and in supply of a broader range of recreational opportunities was begun. Mention has already been made of the agreements for Recreation and Conservation program within Parks Canada. It has been made a Branch on an administrative level equal to that of the National Parks Branch.

It is the aim of the ARC Program to ensure the preservation and presentation of routes and areas that contain nationally significant natural and human heritage resources. Implementation of the mandate is accomplished through cooperation with federal, provincial and other agencies in the identification of land and water routes and heritage areas, and through agreements on the planning, development, preservation, and management of the agreement areas' resources.<sup>52</sup>

Wild rivers not only represent the human heritage of Canada but also the natural heritage. Each of the physiographic regions of Canada can be represented by rivers in the barren lands, mountains, plateaux, Precambrian shield and prairies. To date sixty-five rivers have been canoed, inventoried and evaluated across Canada.

The evaluation of wild rivers required a technique that could relate the significant geographical, geological, biological, historical or scenic features over a broad range and number of river types, sections and sites. The Leopold uniqueness ranking technique<sup>53</sup> was chosen to quantify the

value of the natural and cultural features of a river or section of a river. This quantitative evaluation and ranking system was complimented by a subjective evaluation of the river landscape. Those inventorying each river were asked to provide a report on their individual impressions of the quality and interest of the rivers to describe the geography, points of interest and difficulties in travel encountered.

The Leopold system objectively describes the landscape by surveying 46 variables within three factor classes: physical features, biological features and human interest features. Each factor on a site is given a numerical score relating its quality or characteristics on a scale from 1 to 5. This quality rating relates to the presence or absence of the factor.

Sites are compared factor by factor to determine the relative uniqueness of each factor at each site. A uniqueness ratio is calculated for each of the 46 factors for each site. This ratio reflects the number of other sites that had the same evaluation characteristics. A simple addition of the uniqueness ratios for all 46 factors for a site indicates the total uniqueness ratio. The higher the ratio the more unique the site.

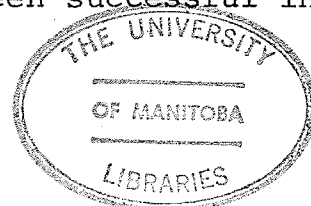
After using and modifying the system for two field seasons the Parks people had a system that utilized a formal sampling format based on location of observable changes in the rivers character or environs and an estimation of the

desirability of the river for a recreational experience produced by weighing seventeen of Leopold's factors. Those factors chosen that could be evaluated in terms of desirability were:<sup>54</sup>

1. velocity
2. river pattern
3. valley height/width
4. bed slope
5. width of valley flat
6. water colour
7. turbidity
8. river fauna
9. pollution evidence
10. condition (water quality)
11. artificial controls
12. mass use (accessibility)
13. local scene (diversity of interest)
14. utilities
15. degree of change by human influence
16. historic features (quantity)

In the 1972 field season a preference score from crew members was added to the inventory. Since the modifications to the Leopold system were made this evaluation technique would seem to be adequate in indicating river sections that satisfy the objectives of the Federal Parks system.

To date no rivers have been designated as part of the Wild Rivers system although information booklets are available upon request providing route descriptions of the 65 rivers studied. It is hoped that possibly twenty-one rivers will be protected within the system by the turn of the century. The ARC program has already been successful in



creating a Federal-Provincial agreement with Ontario to develop the Rideau Trent-Severn canal-waterway running from Georgian Bay to Ottawa.<sup>55</sup> River travel opportunities will be studied and provided on this system for those user types not wishing an exclusively wilderness river experience.

### The Demand for Recreation River Travel Opportunities

In Canada, one of the most difficult objectives of river travel research is an accurate estimation of the demand for river travel opportunities. There have been no direct count methods for river canoeists on any of our more popular systems that are documented.

The research progress in the States seems quite substantially ahead of Canada at this time. However, this is understandable considering the publicized growth in popularity of some of their major rivers and the size of the United States population. Canadians may be forced, in time, to monitor more closely the use of some of the rivers but, in the meantime, demand can be estimated using indirect research on such topics as the response of industry, number of canoe rentals, number of canoe outfitters, canoe sales, outdoor equipment sales, outdoor magazine circulation numbers, the response of the media, the availability of books and brochures and the growth of canoe clubs.

### Growth of Demand - United States

In the United States, the growth of demand for river



travel on some rivers has been substantial. In three years, use on the Rogue River in Oregon almost tripled.<sup>56</sup> Use on the Middle Fork of the Salmon River has increased over four times in 10 years<sup>57</sup> and between 1967 and 1972, river-running in the Grand Canyon grew from 2,099 users to 16,432, an increase of 682 percent.<sup>58</sup>

Statistics on outfitters carrying passengers on rivers for recreation provide a fairly good indication of the demand. One outfitter in Ohio experienced passenger numbers grow from 100 to 5,000 in three years and he increased service from a single boat to thirty boats.<sup>59</sup> In Dinosaur National Monument, commercial passenger numbers grew from 6,344 in 1970 to 21,612 in 1975.<sup>60</sup> In some areas, growth has begun to level off not because of smaller user demand but because of administrative limitations such as ceiling numbers and allocations which ration the opportunity and control use.

The well publicized 'energy crisis' was another factor that had an effect on user numbers. The cost of travel and the increase in price of equipment seemed to cause a levelling off of canoe sales in the States after 1974. In the previous six years, canoe sales had increased consistently at 20 to 25 percent per year.<sup>61</sup> In the last two years, sales have again picked up but not to the level of 1968-74 and are remaining static. One canoe manufacturer reasons that as prices of canoes rose in response to the

"energy crisis" which affected the price of many consumer goods (gas, oil, raw materials, food, electricity) people delayed buying recreational equipment. After awhile, as conditions became a fact of life, they may have taken a 'now or never' attitude and been able to rationalize purchases.<sup>62</sup>

Liveries renting canoes in the United States and Canada have increased from 500 to 900 in three years.<sup>63</sup>

Canoe sales cannot be accurately assessed as there is no way of estimating the number of small companies building canoes and kayaks. It is estimated by Grumman Boats that there may be anywhere from 85,000 to 115,000 canoes sold in a year.<sup>64</sup> In 1976, 'Canoe' magazine, published by the American Canoe Association, reviewed eighty canoe manufacturers. There are also many small companies producing canoes in backyards. More canoe companies are entering the manufacturing field every year. Three large producers, York River Boats, Scott Canoes, and Springbok Canoes were not included in this listing. Kayak manufacturing listed 41 companies and raft manufacturers 4 companies in the same issue.

The 'Canoe' magazine subscription sales have grown from approximately 20,000 to 35,000 plus in the last three years and another magazine 'Wilderness Camping', which reports on canoeing activities, has grown from 30,000 to 100,000 plus subscriptions.<sup>65</sup> These figures substantiate interest in the activity fairly well.

The equipment supply industries have also responded to the demands of canoeists. New materials used in canoe and kayak manufacture have been developed. In strong competition to the standard aluminum, wood or fiberglass canoe shell materials are products such as Kevlar-49 aramid and ABS (acrylonitrile - butadiene - styrene). Both materials have a proven durability that far surpasses that of aluminum and fiberglass and are able to keep the ever important weight factor down - a plus for the portaging canoeists or racer.

Life jacket designs have begun to cater to the river traveller, getting away from the bulking slabs to personal flotation devices (PFD's) that provide the comfort and manoeuvrability required by the sport.

Outdoor equipment stores are growing in number where one can purchase good quality gear such as paddles, boats, raingear, stoves, packs, compasses and freeze-dried foods. Where once it was usual to go to the local army surplus store for these supplies, most major cities now have several competing equipment stores. In Canada and the United States companies such as Black's, Eddie Bauer, Happy Outdoorsman, Outdoor Stores, Fresh Air Experience, Eastern Mountain Sports, Frostline, Recreational Equipment Inc., North Face and Sports Equipment Inc. are expanding.

In any bookstore there is usually a plethora of books providing information on how to canoe or where to go. Magazine articles on river canoeing are not hard to find nor are advertisements offering canoe trips. Television has begun

to use this sport as a backdrop for product advertising.

Brochures describing river trips are obtainable usually through government agencies, information centres and bookstores. A good example is "Northern Ontario Canoe Routes" published by the Ontario Ministry of Natural Resources<sup>66</sup> or "Ontario/Canada Camping: Where to Go and How to Get There"<sup>67</sup> published by the Ontario Ministry of Industry and Tourism.

#### Growth in Demand - Canada and Ontario

The exact numbers of river runners in Canada or Ontario is unknown. Canada has been under similar influences as the United States regarding an awakening to the values of a natural environment and a general trend to improve physical fitness by participating in outdoor activities such as jogging, cross-country skiing, bicycling and canoeing. Results from the Ontario Recreation Survey,<sup>68</sup> an interministerial project conducted under the Provincial Secretary for Resources Development in 1973-74, showed that participation in the canoeing activity (at least once in the year) involved 16.2 percent of the 10,300 selected residents interviewed. Associated activities to the canoeing experience rates as follows:

	<u>Percent</u>
Swimming	64.9
Picnicking	58.1
Fishing	37.6
Camping	27.6
Hiking	21.9
Viewing	13.6

From the ORS findings<sup>69</sup> estimates have been made that 1,005,000 people in Ontario participated in canoeing in the year 1972. Wilderness camping, an activity usually related to back country canoe travel in Ontario, had approximately 66,000 participants in 1972. Total demand for wilderness days is estimated at 2,339,000.<sup>70</sup>

As a general rule, economic activities in Canada usually are approximately 10 percent of levels reached in the United States. Using this estimation it is possible to suggest that approximately 8,500 to 11,500 canoes are sold in Canada yearly. An interesting observation forwarded by Grumman Boats is that in Canada, sales of canoes did not drop off after the 1968-74 boom years but continued to increase, seemingly unaffected by the continually rising costs that have become commonplace in both nations.<sup>72</sup>

Interest in river running activity seems to be undergoing a fair growth period as well. Club memberships, which reflect only a small proportion of canoeing activity, are growing. The Ottawa River Runners, a canoe/kayak club in Ontario, report a membership increase from 10 to 100, a 900 percent increase, from 1971 to 1978. The Wilderness Canoe Association started as a club three years ago and now has 265 members. The Ontario Voyageur Kayak Club, based in Toronto, Ontario, grew from 10 to 130 members in fifteen years. The Kerchoff Canoe/Kayak training school, based on the Madawaska River, continually runs each year at full capacity throughout the summer months.<sup>73</sup>

Canoe outfitters in Ontario in 1976 were numbered at 93, quite a substantial number.<sup>74</sup> Canoe rental firms in 8 southern counties\* of Ontario totalled 24 as of 1976.<sup>75</sup> In Ontario, projections for demand for back country river travel is linked very closely with the demand for wilderness recreation. The users who go into the interior of Algonquin and Quetico Parks to a large degree are canoe tripping. It is a simple fact that canoe travel is the most reasonable way to travel the interior back country areas of Ontario which is studded with thousands of lakes and river routes.

"The number of interior camping user days in Algonquin Park doubled to 260,000 within five years prior to 1973. During this same five year period, Quetico Park experienced a 12.6 percent average yearly increase in interior users."<sup>76</sup>

The Division of Parks Ontario Ministry of Natural Resources, have developed two projections which provide alternative estimates of future participation in interior wilderness camping:<sup>77</sup>

Projection I assumes that growth in participation in interior camping, and hence in wilderness camping, will match the growth of the Ontario population between 1976 and 1991.

Projection II assumes that participation in interior camping, and hence wilderness camping, will continue to grow more rapidly than the Ontario population until a saturation point is reached. This saturation point is that at which the province-wide participation rate in the back country recreation activity of canoeing reaches the present participation rate in non-urban Northern Ontario, which has the highest present participation rate of any region. Participation in interior camping will grow until 1981 at a rate of 11 percent, the average rate of growth in interior camping in Algonquin and Quetico Parks between 1966 and 1972, until it reaches a saturation point of 246 camper days per 1000 popula-

\*Note: County/ Municipality - Algonquin Provincial Park, Algoma, Haliburton, Muskoka, Nipissing, Parry Sound, Renfrew, Victoria

TABLE 4  
PROJECTIONS OF FUTURE PARTICIPATION IN INTERIOR AND WILDERNESS CAMPING IN ONTARIO

	('000's of Camper Days per Year)					
	1976	1981		1991		
	Residents Only	Residents & Non- Residents	Residents Only	Residents & Non- Residents	Residents Only	Residents & Non- Residents
Projection I						
Total Interior Camping	1,300	1,600	1,400	1,800	1,600	2,000
Wilderness - Low Estimate (25%)	330	400	350	450	400	500
Wilderness - High Estimate (40%)	520	640	560	720	640	800
Projection II						
Total Interior Camping	1,300	1,600	2,200	2,700	2,600	3,200
Wilderness - Low Estimate (25%)	330	400	550	680	650	800
Wilderness - High Estimate (40%)	520	640	880	1,080	1,040	1,280

Notes: These projections cannot be translated directly into area requirements.

The wilderness recreation user group and the remainder of the interior campers may mix in the use of identical areas.

Source: Ministry of Natural Resources, Wilderness Parks, Part I, 1977, p.11.

tion. The wilderness camping participation rate will be between 62 and 98 camper days per 1000 population per year. After 1981, these rates will remain constant, and until 1991 growth in participation will match the growth of the Ontario population. (Table 4).

Either projection may prove to be correct or both quite inaccurate. Outside influences such as highly inflated living costs, economic influences on the manufacturing industries, changes in living styles and expectations, and world crises may play a part in changing the demand curves.



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### CHAPTER III

#### ESTABLISHING, MAINTAINING AND IMPROVING THE RECREATION RIVER TRAVEL OPPORTUNITY

The process of establishing, maintaining and improving the recreation river travel opportunity in Ontario begins as a political question. Once the question of the extent to which opportunities will be supplied is determined by the political process, the remaining problems for the river resource planner are operational - How to successfully put into operation the policy to supply recreation river travel opportunities?

The total process that considers establishing and maintaining the supply of this or any other recreational opportunity in Ontario must consider the following aspects in order to achieve a good planning and management structure:

- 1) the political aspects
- 2) the legal aspects
- 3) the legislative aspects
- 4) the administrative aspects
- 5) the technical aspects
- 6) the economic aspects
- 7) the environmental aspects

River resource managers must gain a high level of understanding of each of these aspects that enable the 'decision' of supply:

- 1) to be made,
- 2) to be put into action, and
- 3) be sustained.

The following sections of this Chapter will provide the reader with certain points of information that may help gain this understanding.

#### 1. The Political Aspects

The political aspects that will affect both the establishment and the maintenance and improvement of the recreation river travel opportunity in Ontario are essentially the development and implementation of policies as deemed necessary by the Federal, Provincial and Municipal governments. All political decisions to enact legislation and exercise power should be directed towards maximizing the social benefit. It will be the political process serving the public wishes that will choose to supply or not supply river travel opportunities.

The role of the resource manager in the political decision-making process is one of information supply such that the policy decisions made are based on substantial fact and are workable.

The development of policy should reflect the broad provincial, social, economic and political goals and involve and consider special interest groups and local citizens.



Although the Province is primarily responsible for the management of the river resources based on substantial Crown ownership, the Federal government will predominate where:

- 1) the present or emerging problems are of such magnitude that their resolution will require a massive input of technical and financial resources;
- 2) the national interest is strong;
- 3) the federal government has clear constitutional responsibility; and/or such as for navigation, shipping, fisheries, federal lands, agriculture, and international waters;
- 4) interprovincial conflict may develop.<sup>1</sup>

With regard to the policy decision and provision of opportunities for recreation river travel in Ontario it is unlikely that the Federal government would interfere unless the rivers proposed for supply involved Federally owned lands such as Indian Lands or National Park land or could be economically utilized for national power development. Some large rivers in northern Ontario may be of national significance in terms of a future nationwide need for power resources.

Of the three levels of government in Ontario, the Municipal level could be the most responsive locally in providing river travel opportunities. Their geographical jurisdiction however, is restricted.

Given that the policy decree is to supply recreation river travel opportunities in the Province, the next step is to put that policy into operation. Implementation of policy is both constrained and supported by several aspects that must be considered. The operational framework upon which policy

NOTE: Point 1 is not supportable. If the distribution of benefits is nation-wide or inter-Provincial then Federal responsibility may be initiated. Size of a project & its cost are not dominate reasons for Federal Involvement.

implementation will be based to be successful must consider these aspects:

- 1) what is the legal framework in place;
- 2) what is the legislative framework in place;
- 3) is there an administrative framework; will this require a new political initiative;
- 4) is it technically feasible and ecologically sound to implement the policy; and
- 5) is it economically feasible?

## 2. The Legal Framework

The legal right to control the development and use of a natural resource, such as the river resource, emanates from either:

1. proprietary or ownership rights or,
2. rights assigned through the legislative process.

1. Ownership rights in Canada and Ontario have their foundation in the historic development of English land law where the doctrine of tenure came from an essentially feudal system.<sup>2</sup> Today, in the case of land, the law knows no absolute ownership. The land is held of the Crown or of a subject for various periods of time. The interest in land is known as an estate of which there are two classes:

- 1) freehold estates
- 2) leasehold estates.

Private lands can be legally held in freehold estate (fee simple) which is the greatest estate in land or leasehold estate. It is common to have tenancy for a certain term.

With respect to water the legal rights to control its development or use are classified as either public rights or private rights. Public rights are vested in all members of the public and are not owned by governments. The three public rights to rivers in Canada are:

1. the right of navigation
2. the right of floatability
3. the right of fishing.

To the river traveller, the right of navigation is the most important. This right emanates from English common law and was thought to refer only to tidal streams and rivers. In Canada, navigability has a limited meaning based on the question of fact which means that the judiciary exercise discretion in deciding if a river is navigable or not. Many of our large rivers such as the Ottawa, MacKenzie or Fraser leave little question as to their navigability but canoeists travel on rivers that are small and/or flow only during spring freshet along the entire course. Settling on what criteria are to be used in determining navigability is a major problem. One school of thought requires a river to be used for commercial purposes and this determines navigability; another school, at the other extreme, argue that use by small pleasure craft such as canoes makes a river navigable. At this time the controversy continues. The importance of the navigability classification to canoeists is in what rights it confers to the users. Their rights on a navigable stream are similar to the public rights on a highway. It includes the paramount right of passage such as the right to pass, to anchor and moor,

and to stop for loading and unloading (but not at private docks). The rights to float timber and fishing are of little importance to the canoeist. Floatability is relevant only in tidal and sea waters.

Intricately connected to the legal rights as conferred by the classification of navigability is the common law right known as the riparian right. These are the rights that belong to the owner of land adjoining a river, stream or lake. Of real importance to the canoeist is whether the shoreland owner also owns the river bed. The traditional common law doctrine states that the owner of the bank (on non-tidal rivers or streams) owns the river bed to the middle line or thread of the river. Someone who owns land on both sides of the river then owns the entire river bed. These rights of ownership would include the right to fence the river, to prevent access, and the exclusive right to fish and erect wharves, dams, booms, piers, bridges and other structures. These private rights can virtually prevent the public from canoeing.

In Ontario, a number of legal cases resulted in passage of the Beds of Navigable Rivers Act in 1911 which states that the Crown in right of the Province of Ontario own the beds of most navigable waters. In terms of the rights of canoeists on any specific river or stream takes the problem right back to the problem of determining navigability.

Further legal complications face the canoeist. Public access to and from the shorelands has been assured,

in some areas, by shoreline road allowances. These are 66 foot wide strips reserved by survey and registered on individual land grants back in the nineteenth century. In 1953, to preserve water access in the areas not covered by the road allowances, the Province reserved a 66 foot strip fronting on all (navigable) waters. Again, we are confronting the problem of determination of navigability. Both shoreland allowances confer on the canoeists the rights of access, the right to stop briefly for meals, the right of passage to reconnoitre, to portage, track or line. The rights quite probably include the rights to camp and gather firewood. There are recent discussions on the policies concerning the shore allowances in Ontario. The 66 foot strip is supposed to be reserved for public use but, in reality, shoreland owners have consistently treated the lands as their own and built docks, boathouses and other structures on the reserved lands. The Ontario authorities have not attempted to control or enforce the public reserve on private individuals and a cloud of confusion lies over the whole matter as canoeist and cottagers seem unaware or unsure of their legal rights. Where structures are in place, and the reserve is virtually inaccessible to canoeists because of the physical reality, administrators are tending to think that legal disposition of the reserve to the adjacent owner is a reasonable decision. In many cases it would be the most sensible thing to do, however careful thought must be given to be sure the disposition is in the interests of all the public concerned.

As over 90 percent of the land in southern Ontario is held in private ownership there are difficulties in assuring the public (canoeists for one) the right of access to the waters. In northern Ontario, where the large majority of the land is publicly owned, the control of the use and development on shorelands is automatically a part of the Provincial government's proprietary right.

The rights of the public are virtually non-existent on privately held lands. Only through legal processes, instituted through statute, grant, reservation or prescription, can the public gain rights to use and control private land.

Some legal techniques based on the control right through ownership or right of use available to a public agency are:

- |                                                |                                                                                         |
|------------------------------------------------|-----------------------------------------------------------------------------------------|
| Provides<br>estate<br>interest.                | 1. purchase by grant;<br>2. lease;<br>3. expropriation by assigned right of statute;    |
| Provides<br>interests<br>less than<br>estates. | 4. licences;<br>5. easements;<br>6. profits a prendre; and<br>7. restrictive covenants. |

The right of control established by legislative statute will be dealt with later in this Chapter.

In the southern part of the province where the large majority of lands are held in private ownership, the legal means listed above will be very important to implementing a policy decision to supply the river travel opportunity. Private landowners have habitually distinguished themselves as

being very possessive of their right in the land. Unfortunately, this attitude resulted partly from the actions of the general public in the past to disregard this right, and trespass on the land or if granted access, to cause damage to the property. Garbage dumps, littering and vandalism have, too often, been the reward to a private landowner allowing the public to use his land. This is one of the most formidable problems to be confronted by river resource managers if they are to provide river travel opportunities in the south and provide rights for the traveller to utilize privately-owned shore properties for access, landing, portaging or campsite purposes. Other than the legal means of expropriation, usually considered a last resort technique, all the other legal techniques listed require a willing agreement with the landowner. The legal means for the public to gain access on private lands are described below:

- 1) Purchase by grant or patent would provide the Crown, normally by a fee simple title, with the closest estate to absolute ownership, and so control, as is possible. This is certainly the most assured means of gaining the control over use and development of a river resource but is also the most expensive, especially if major purchases are contemplated. Purchase of key sites for the control of access, some landings and campsites, and portages may be the most reasonable approach to take initially.
- 2) The Crown may choose to lease private land for public use. Leasehold is created by a contract in which the interest of

one person in the land is conferred on another. The right to exclusive possession of the land is conferred usually for a certain period of time and for a certain consideration. Leasing may become a more reasonable means of gaining the rights for control considering the present constraints on funding and the probable low priority of river recreation taken on a Provincial scale in the south. Disadvantages centre primarily on limited tenure which may be conferred in conjunction with conditions restricting the provision of river travel opportunities.

3) The right of expropriation of private lands is provided to several Provincial agencies. It is not commonly used as a means of gaining control over lands, except after unsuccessful attempts have been made using other techniques. This method can also be costly and tends to create an unfavourable cloud over the expropriating agency. All rights of fee simple estate are gained however which helps to ensure the viability of sustaining the river travel opportunity as initially created.

4) A licence involves permission to use another person's land without which the use would be a trespass. For example, river environments surrounded by Crown-owned lands are commonly licenced to private individuals to take timber by a Crown timber licence, to occupy the Crown-owned beds of navigable waters by license of occupation, to trap or fish, to establish and operate commercial enterprises or to use land for pasture or crops, by land use permit. The technique of private indi-



viduals providing a license for the public to use their lands could be a possibility in the south. Disadvantages are similar to a lease as conditions of use may be enforced by the lessor restricting or conflicting with the intended recreation use.

5) Easements are interests, arising by express or implied grant or by prescription, which involve a defined use of certain land for the benefit of other land.

A right-of-way is a common easement that could provide the public with the right of access or portage. Scenic easements are being used in the United States to protect river corridors and essentially amount to purchasing the development rights on property. Easements may be a prime technique in the southern part of the Province, which is so heavily privately owned. No large expenditure of public funds is required because easements generally cost less than fee title. Easements can offer permanent protection, negotiable terms and the land remains on the tax roll although, as an incentive to private owners, tax assessments may be lessened.

6) Profits a prendre provide the right to enter upon the land of another to take some profit of the soil which is capable of ownership such as minerals, oil, stones, trees, fish or game, for the use of the owner of the right. Such a right could be used to provide rights to river travellers to hunt or fish on certain private properties. Disadvantages are chiefly based on the problems inherent in convincing private landowners to allow public use and providing incentives to offset their fears of misuse of their lands by the public.

7) Restrictive covenants are contracts or covenants imposing a restriction in the nature of a negative obligation on the use of one person's land for the benefit of land belonging to the covenantee. This technique would be rarely used by the Crown in the south as so few lands would be sold to private concerns. If however, the Crown is placed in a position of sale this technique could be used to retain some control of use and development that could be structured to complement the river travel experience or, at least, to not detract from it.

The writer feels that the greatest opportunities available to governments to gain right of use on private lands will be the use of some sort of incentive programs which will compensate the landowner for his loss of privacy. Little progress will be made by simply ensuring the landowner that he will suffer no loss materially. What must probably be offered are incentives such as property tax reductions or payments that actually provide the landowner an opportunity to gain. These can be considered legal or legislative in nature because of the need for statutory amendment, added regulations or policy decisions.

### 3. The Legislative Framework

Legislative responsibility regarding river resources in Ontario is divided between the Federal government and the Provincial government as well as Municipal authorities and quasi-judicial bodies. Each level of government has established several agencies to study, plan, operate and regulate the river resources. Difficulties in any of these phases have

been experienced as a result of overlapping and oftentimes, conflicting jurisdictional responsibilities. For example, the planning and implementation of the Rideau Trent Severn corridor is in its eleventh year of work. This can probably be explained by the fact that 21 different agencies are legislatively involved.

The Federal government has exclusive jurisdiction, by authority of the British North America Act, over several areas such as navigation, shipping and fisheries. As a result of the western Provinces substantial interest right, provided by the Natural Resources Acts of 1930,<sup>3</sup> they are responsible for the administration of the water resource. Ontario was assigned this right at the time of inception of the BNA Act.

Of concern to those interested in establishing, maintaining and improving a recreation river travel opportunity in Ontario are the several legislatively decreed Federal, Provincial and Municipal statutes providing the legislative jurisdiction to control the river resource.

#### 1. Establishment of Opportunity

The Federal government has been provided the legislative right (under the National Parks Act<sup>4</sup> F.S., C.189) to establish 'wild' river parks which will offer recreation river travel opportunities. In establishing any National Parks, rivers within the parks boundaries may supply river travel opportunities.

The Provincial government has jurisdiction to establish Waterway Parks under the Provincial Parks Act.<sup>5</sup> The Ministry of Natural Resources has been assigned as the legal agency for control and management of these parks, under Section 7(1) of the Act.

The Municipal governments, through the powers conveyed to them by the Provincial government to draw up an Official Plan and bylaws, may virtually put an end to Provincial or Federal plans to reserve open space shoreland for river recreation by creating land use bylaws that conflict with this concept. The role of the senior governments is of an advisory and commentary nature on the Municipal plans but there is no guarantee of success. The Ministry of Housing can, however, control all bylaws.

## 2. Maintenance and Improvement of the Opportunity

The maintenance of a quality river recreation travel opportunity involves many more elements than simply a provision of running water and shoreline. There are several areas of qualitative and quantitative concern regarding the water resource such as:

- 1) sustaining a certain quality of water
- 2) ensuring a certain quantity of water
- 3) the shoreline condition as regards development and use
- 4) the health and safety factor of the total river environ.

The following discussion presents only the key legislative authorities and their statutory control power as regards the recreation river resource which is indivisibly part of the control of all water resources in Ontario.

## 1. The Ontario Conservation Authorities

One of the two major classes of mandate provided to the Ontario Conservation Authorities is conservation and recreation land management. Under Section 20 of the Conservation Authorities Act<sup>6</sup> they have broad powers to acquire and expropriate land, enter into legal agreements, study and investigate watershed resources, control surface water flow, develop recreational facilities and several more powers. Because the Authorities are situated in the southern part of the Province their ability to create river recreation travel opportunities is limited in scale by both jurisdictional boundaries between each Authority and the large proportion of privately-owned land. It is within their power to acquire land or enter into agreements to control long stretches of shoreline properties but the need for such action is not required at this time because there is enough opportunity to satisfy the demand for river recreation at present without acquiring land. Their legislative powers are important to the supply and maintenance of the river travel opportunity as they acquire and maintain access points, landing areas, and campsites, do research and distribute literature on river travel corridors and control water levels and flow by constructing diversions, drains, dams and control structures; (Section 20 (j), (k), (l).)

## 2. The Ontario Ministry of Natural Resources

The power of this Ministry to establish river recreation parks has already been stated as the prime source of

legislative control over the supply of the recreation river travel opportunity. This power is especially effective as the Ministry controls a large proportion of the public land in the north. In the south, the right to establish Waterway Parks is limited although the Ministry does have the power to acquire lands under the Public Lands Act.<sup>7</sup> The important element in the south with regard to maintaining and improving the recreation river travel opportunity is the power to control the use and development of the public waters and the land underneath these, and to comment and advise on use and development on the shorelands.

The Public Lands Act is one of the most important statutory supports for the Ministry. Under this Act it can control the use of the public waters as regards dams, dredging and filling and occupations by private interests, and can enter into agreements as regards controlling the use of private lands. Its control of public lands and waters through the Beds of Navigable Waters Act of 1911 provides the recreational river traveller the right of access to waters over these lands and facilities can be erected or supplied the traveller where public lands adjoin public waters. Any individual can camp for twenty-one days on public lands without any written authority.

The Lakes and Rivers Improvement Act is another important statute to the maintenance and improvement of recreation river travel. Under Section 1(a) of the Act states the purpose of the Act which is to provide for the use of waters of the lakes and rivers in Ontario and to regulate improvements in them, and to provide for:

- (a) the preservation and equitable exercise of public rights in or over such waters;
- (b) the protection of the interests of the riparian owners;
- (c) the use, management and perpetuation of the fish, wildlife and other natural resources dependent on such waters;
- (d) the preservation of the natural amenities of such waters and on the shores and banks thereof; and
- (e) ensuring the suitability of the location and nature of improvements in such waters, including their efficient and safe maintenance and operation and having regard to matters referred to in clauses a, b, c and d, their operation in a reasonable manner. <sup>8</sup>

Considered under the Act is the construction, repair and use of dams, the depositing of materials in the water, the floating of timber, and the privilege to use water for mechanical, manufacturing, milling or hydraulic purposes.

The Game and Fish Act allows the Ministry to make regulation as regards "the management, perpetuation and rehabilitation of the wildlife resources in Ontario, and establish and maintain a maximum wildlife population consistent with all other proper uses of lands and waters."<sup>9</sup> The opportunity to fish and hunt or view wildlife can be an important part of a river recreation trip.

The Provincial Parks Act<sup>10</sup> and Wilderness Areas Act<sup>11</sup> provide the authority to the Ministry to establish provincial parks and wilderness areas. These areas may contain riverways capable of supplying a travel experience and they allow public river access.

### 3. The Ontario Ministry of the Environment

The quality of the water in a river is an important element to the supply of a quality river recreation experience. The Ministry of the Environment under the Environmental Protection Act<sup>12</sup> has the power of administration, enforcement and regulation as concerns pollution, waste management, litter management and disposal.

### 4. The Ontario Ministry of Housing

In the south, the control of use and development on private lands will have a large impact on the experience of recreation river travel. The Planning Act<sup>13</sup> provides the statutory framework for land use planning and implementation at the local government level throughout Ontario. The Act requires the approval of the Minister of Housing for local planning and land use control decisions, and provides for the establishment of planning units. The Official Plans, subdivision controls and zoning bylaws prepared and adopted by the Municipal governments affect river shoreline environments. The Act allows the Minister of Housing to circulate subdivision plans and official plans to any government agency in Ontario for comment. Sustaining the quality of water for recreation may become an issue on rivers and lakes in the south subject to heavy cottage, industrial or residential development. It will be up to the several Ministries involved with supply of recreation opportunities and the local planning boards to judge the desirability of the recreational activity.



#### 4. The Administrative Framework

An effective Administrative Framework for river resource management must be available to facilitate the operation of policy directives and the river plan. As the responsibilities for water are divided between a number of agencies by statute, the administration of the river resource in Ontario may seem to run under the handicap of not having decision-making and regulatory powers under the umbrella of one super control agency. As illustrated in the section entitled legislative framework, most of the decisions and regulations are concentrated in a few key agencies such as the Ministry of Natural Resources and the Ministry of the Environment. But the number of other agencies having the legislative power to participate in activities that effect the river resource has the potential to create a major problem of coordinating activities such that some semblance of comprehensiveness is achieved in implementing the management of the total river resource. However, to suggest that the solution to the administrative complexities is creation of one super control agency is, in the writer's opinion, a mistake considering the public attitudes to large bureaucracies, the severe financial constraints in place at the present time, the general negative feeling towards autocratic systems and the presence of certain Cabinet committees already in place.

In terms of adequate supply at the present time the demand for river recreation opportunities is not overly large

in Ontario. It would probably be quite easy to overlook some of its specialized needs and requirements if only site-specific planning is done and single purpose structures for planning and implementation are available. Comprehensive planning and administration may, very likely, be the one method of really ensuring the maintenance or initial establishment of the opportunity or, at the very least, a way to ensure that the opportunity is recognized as an alternative or complementary activity, and given consideration. The main problem in the past has been that water development as a whole, which includes recreation, was regarded as a means of satisfying single purpose objectives such as the provision of power or water, or for that matter, recreation. As new water problems have emerged there is now a trend to re-examine the concepts behind water development and management and move away from single purpose management.

There are signs ... that such development is no longer regarded as a means of satisfying single, and rather narrow purposes ... Water management has come to be regarded as an important means of attaining broad social goals, such as raising the standard of living, stimulating regional growth or improving the quality of the environment ...

"New strategies of management are also emerging, notably those of multiple purpose development, planning on a river basin basis, and the melding of water planning with planning for other purposes, such as urban development."<sup>14</sup>

What is an effective administrative structure? In an article by Lyle E. Craine<sup>15</sup> on water management innovations in England it was suggested that there be substantial govern-

mental involvement in water management because of the inherent complexities of water and its public utility character.

Presented were five goals that governments or agencies should be able to achieve to effectively influence water use and development:

1. supplying water resource intelligence;
2. identifying resource potentials and developing plans;
3. regulating the use of water by -  
creating and enforcing standards;  
allocating to specific uses; pricing;
4. developing water resource to maximize net benefit.
5. organizing regional water distribution and disposal systems;

In order for an administrative structure to be effective, Craine proposed that:

1. it have the ability to apply the total range of governmental techniques (listed above) for influencing water use and development.
2. it have the ability to consider and adjust or adapt to externalities stemming from hydrologic interdependencies.
3. it have the flexibility to adapt water management actions to different circumstances of time and place with protection against arbitrary and capricious actions.
4. it have the ability to express and consider the range of values relevant to a water management decision.
5. it have the ability to finance water management consistent with its objective of efficiency.
6. it have the ability to lead to permanent legal and administrative measures that employ the five basic governmental goals listed above.

There have been some recent attempts on the part of Provincial and Federal governments to create administrative

bodies that could achieve some of the basic governmental goals for control as presented and have the ability to satisfy some of the criteria for effectiveness above:

1. Administration can be placed under one agency that consolidates all the main water management functions.
2. Commissions can be set up such as the former Ontario Water Resources Commission to coordinate all water oriented activity.
3. Agencies can be established to coordinate the various aspects of a specific water project.
4. A body such as the Ontario Conservation Authorities Branch can be set up to co-ordinate activities in geographic districts.
5. A Cabinet Committee can be established to co-ordinate legislation and policy formulation. This is the source of policy directives to all the Provincial agencies.
6. Committees can be set up to co-ordinate activities concerning water resources by control of the economic policy.
7. Advisory and technical boards can be organized to co-ordinate gathering information and to furnish advice. The Canadian Council of Resource Ministers is such a body.
8. Federal-Provincial study and planning bodies can be organized by agreement to co-ordinate a specific project in an area. Examples are the two federal-provincial agreements involved with the heritage aspects of the Rideau Trent Waterway in Ontario and the Qu'Appelle Valley in Saskatchewan.<sup>16</sup>

The formulation of Provincial policy is now done in Cabinet Committee. It is the writer's opinion that, in the Ontario government, the two Cabinet Committees now in place, the Cabinet Committee on Resources Development and Management Board Committee, provide the needed comprehensive approach to water resource development and use. This type of administrative body is listed as number five above. Both committees

provide a regular forum in which Provincial Secretaries, Ministers and their senior officials can discuss issues affecting more than one ministry within their policy field. They also provide a formal mechanism for ensuring that conflicts between ministries be examined and that the resolution of such conflicts be based on well developed and supported arguments.

#### Administration Framework in Ontario - Implementation

At the present time, administration of the recreation river travel opportunity is primarily the responsibility of the Ministry of Natural Resources while additional supply opportunities, on a small scale, are partially administered by both the Conservation Authorities and local Municipalities. These latter are constrained by jurisdiction and serve essentially to supply access points, landings and some campsites.

As the Ministry of Natural Resources has only legislative responsibility to control certain aspects of the water resource in the Province such as recreation access and development, fish and wildlife management, weed control, and resource development on the public lands, how effective can it be in responding to a public desire for quality river recreation travel opportunities?

In the north the Ministry is in a much stronger control position because of the prevalence of public lands than its administration position in the south. In the south, administration of the land element is under several legisla-

tive jurisdictions as described in the section on the legislative aspects.

The Ministry does have several important abilities which could support its effectiveness in creating an opportunity supply in the south. With reference to Craine's five techniques that he felt to be essential, the Ministry can:

1. supply water resource intelligence;
2. identify resource potentials and develop plans;
3. regulate some uses of water by creating and enforcing standards; allocating to specific uses and pricing; and
4. develop water resources to maximize net benefit.

These are actions it could take given the substantial proprietary rights it controls over the navigable waters but can the Ministry realistically be this effective? Fortunately, for private and public interests alike, it cannot. The management of the water is affected by the surrounding land base. The Ministry can only advise and comment on development and use of this through the Minister of Housing or by participating in special purpose study committees.

With due consideration to the fact that the demand for recreation river travel opportunities may increase at a faster pace than projected in Chapter III, at this time it would not seem to warrant any major administrative changes in the policy or implementation stages.

The formation of semi-independent agencies can sometimes be useful in creating an administrative framework for

certain government functions that require flexibility and have unique problems requiring completely new programs.

Examples are:<sup>17</sup>

1. the entry of a government into a new field such as health insurance;
2. when government contemplates the operation of an essentially commercial enterprise;
3. when government seeks to provide services or fulfill functions in partnership with other governments or organized groups;
4. when a quasi-judicial agency is to be created such as the Ontario Labour Relations Board;
5. when government wishes to deal with a function away from a political point of view such as the sale of liquor or licencing of premises for liquor sale;
6. when governments wish to accommodate special interest groups; possibly with a political objective in mind;
7. when governments wish to create a picture of non-political decision-making such as resulted in the Ontario Energy Board.

The supply of recreation river travel opportunities does not seem to realistically be concerned with any of the above situations. The formation of a semi-independent agency within government is not recommended for administration of this activity. However, consideration may be given to different treatments of administering the opportunity between the north and south parts of the Province considering the different administrative frameworks already in place in these two areas.

In the north, the Ministry of Natural Resources is the most logical administrative body because of its proprietary rights and is already quite involved in the establish-

ment of the opportunity supply. In some cases such as the identification of a nationally significant river, it would be quite reasonable for the Province to enter into Federal-Provincial agreements for establishment purposes at least and possibly a continuing Federal financial and operational support agreement could be made. One such river has already been identified - the Attawapiskat flowing into James Bay.

In the south, a good case can be made for the Conservation Authorities to be the prime administrators of the activity:

1. they have a legislative mandate to be involved in conservation and recreation;
2. they have legislative power to acquire land and expropriate land;
3. they may enter into legal agreements with private and public interests;
4. they have large administrative areas;
5. their administrative areas are based on watersheds;
6. they take their program initiatives from the local level.

##### 5. The Technical Aspects

There are several technical aspects that must be considered in both the planning stage and the operational stage once the political decision to provide a recreation river travel opportunity in Ontario has been made and the legislative and administrative framework is in place. These are no less important hurdles to be crossed than those of a political, legal, legislative, administrative, economic and environmental nature towards the completion of a workable plan.



The broad, Provincial policy decision to provide the opportunity may determine the scale of the program and direct the responsibility of drawing up an initial program to any one agency or to several. A small scale program or programs intended to only support the opportunity supply (eg. provision of access points, portage marking, landings and campsite development) may be made the responsibility of the Conservation Authorities or policies can be developed at the local level.

The general study program will be developed by the responsible agency and probably presented back to Cabinet on the Provincial level or Municipal councils for support and funding. From this point on, the technicalities of the planning process, including implementation measures, are considered.

#### 1. The Planning Stage

- 1) Determination of a goal for the recreation river travel program is an essential first step in determining its technical feasibility and ensuring a measure of success. Success of the program can never be assessed if there was no initial goal stated. The goal statement would probably be to simply provide recreation river opportunities to the people of Ontario. A further determination could be made regarding where the opportunities will be provided, and by whom.
- 2) An assessment of the available funding will provide essential information that may place some constraints on the scale of the program. Funding will constrain the availability of staff and set limits on and prioritize initial objectives regarding the study, and the collection and analysis of data.
- 3) A program should relate to some geographic area. Where will river travel opportunities be provided and priority areas should be determined.

- 4) As a general rule, all programs with determined goals have broad objectives providing initial guidance. Having assessed the demand and supply situation for the activity, it would be possible, at this stage, to place quantitative direction to these objectives. The broad objective may be to supply so many user days of each type of river travel recreation opportunity in northern Ontario and so many for southern Ontario. Public input should be considered at this stage.
- 5) Having given priority to meeting the supply goal in certain areas of the province (step 2 and 3) and considering the funding constraints, the collection of study information begins. The inventory for a study area should relate closely to the specific objectives for that area. What river travel experience is to be provided here? There will be a different emphasis and needs for information for different river travel experiences.
- 6) Analysis of the information gathered from the inventory should also be directed back to the broad objectives for that river. There are several techniques of evaluation available and the choice of technique will depend on the type of river experience considered reasonable and what public opinion has supported.
- 7) The resource inventory will serve to both give a more precise enunciation of the objectives for the specific study area and possibly provide reason to re-assess the broad objectives as determined in step 4. Objectives cannot be met without the resource base to support them.
- 8) Specific river objectives can now be presented and public input could again be taken.
- 9) Usually there are several ways to meet objectives. The alternative methods should be studied and assessed for feasibility using specific techniques such as benefit cost analysis.
- 10) It may become obvious at this stage that more data is required and should be gathered.
- 11) The conceptual river environment plan is drawn up that will satisfy the objectives as they stand. This plan will outline the strategies and targets to provide the specific river travel experience. It will outline the scale of development required to sustain the experience offered.

- 12) The plan again should undergo public scrutiny involving public hearings and written submissions.
- 13) No plan is capable of remaining effective and relevant over time. New policies may arise as the needs and desires of the users or society change. The river resource manager should include in the river plans a mechanism to provide the operational means of revision. It should carefully present under what circumstances and from what interest groups will moves for revision be considered.

## 2. The Operational Plan

In order to make the plan operational and be assured of some measure of success at meeting the objectives of the plan certain management techniques and decisions will probably have to be used and/or considered.

The conceptual river plan will be developed for each river on the basis of the type of river experience to be offered to the user. Decisions have already been made concerning the amount of development and control of use. The operational stage will chiefly concern the detailed mechanics of the plan. The decisions of 'what' has been made and now exactly 'how' must be considered. How do river managers implement the plan to sustain the river experience offered? Decisions of a technical nature could be:

### 1) Safety

- to supply or not supply safety measures.
- who will carry out patrols?
- how often will patrols be made?
- what equipment will be needed for patrol?
- if emergency beacons are to be supplied, where to get them; how to distribute them, and receive them?
- if patrols done by air and landing strips required which strips will be built first, given funding, and exactly where are they to be built?

## 2) Access and Egress

- if access and egress roads require construction and are to be provided what type of roadway; what route will it take; how will maintenance be assured?

## 3) Portages

- if to be marked how will portages be indicated; by signs or blazing?
- what size, shape, colour is required?
- where exactly will signs be located?
- how wide will portages be?
- will there be rest spots or campsites developed for longer portages?

## 4) Maintenance

- how will litter and garbage be removed?
- will cans be supplied; what type?
- how often will litter need cleaning up; how to find out if litter requires collection?
- how to distribute information on litter and treatment of sewage waste?
- what kind of human waste disposal is contemplated; on-site or off-site disposal?

## 5) Campsites and Landings

- what size will campsites be?
- can use be limited in numbers?
- what rotation time will be required to avoid excessive ecological damage to ground cover and vegetative cover?
- how developed will landings be?
- is there a requirement to clear some vegetation at landings or stabilize the embankment?
- if signs are to be used on campsites, what size, type, colour and posted where?

One could present a very long list of operational decisions that may have to be made to implement the plan successfully. These are only a very few examples.

## 6. The Economic Aspects

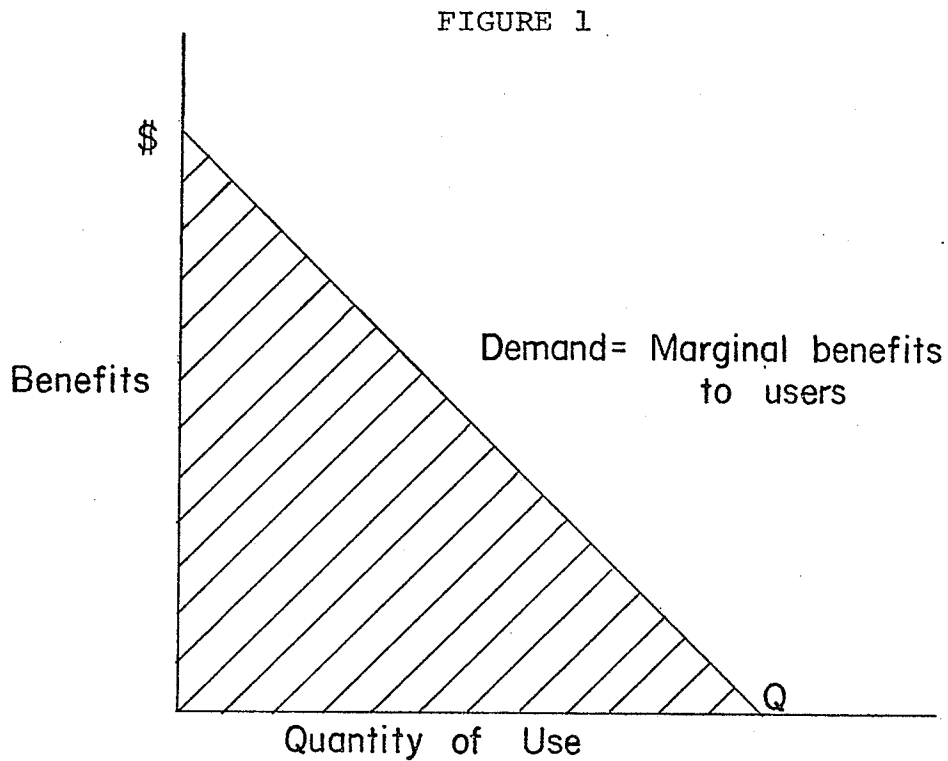
Economic aspects are intricately involved in both the establishment stage of the river travel opportunity and during the maintenance and improvement stages. If a river section is to be managed primarily for recreational use, other use development such as timber production, hydro production, water management for wastes or drinking supply, or residential/industrial development may not be possible. Some compromise might or might not be feasible. Compromises of this sort may involve what are called social costs. Because recreation use has been chosen as paramount, society will have to forego all or part of the benefits that would have been realized had an alternative use such as hydro production been implemented. Also, individuals and groups may be faced with certain sacrifices as, for example, would result if controls were placed on shoreline development and they could no longer sever cottage lots from their property for monetary gain or develop their own lot a certain way for personal gratification.

Another economic aspect involved with the development of a river recreation resource is the effect the development could have externally.

The subject of externalities would include social costs such as the loss of timber production values because of a non-cut policy on the timber fringe along a river corridor or the loss of hydro electric production for the future if a river resource has the production potential.

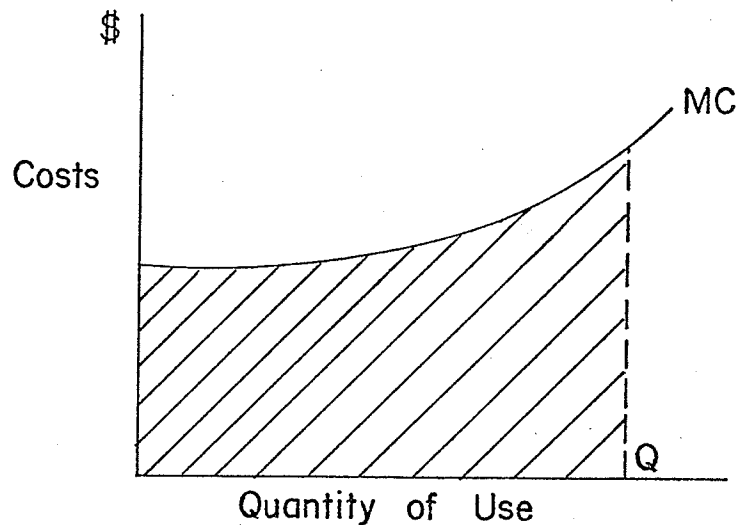
The most beneficial and successful decision-making process will indicate to the resource planner the use or combination of uses which can produce the largest public good, or in economic terms, produce the maximum net social benefit.

In economic terms, net benefits will be maximized at a point where marginal benefits equal marginal costs. The demand function for the use of a natural environment is graphically presented in figure 1.



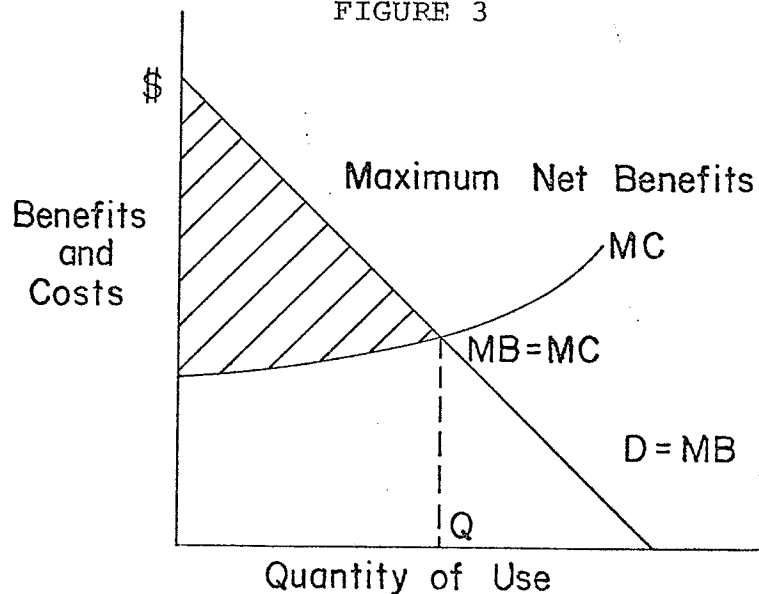
The area under the demand curve represents the total benefits to users of  $Q$  for each quantity of use. The corresponding marginal cost curve measures the total cost of varying amounts of use.

FIGURE 2



Where the two curves intersect, i.e. where marginal benefits equals marginal costs, indicates the net benefits or the maximum social benefits.

FIGURE 3



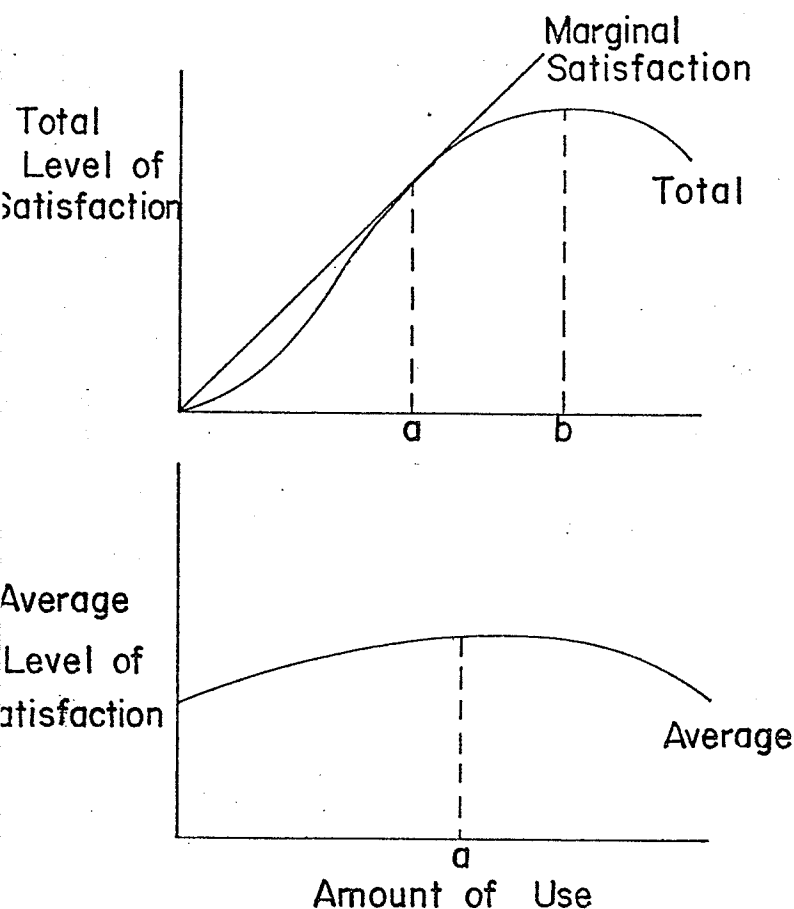
Benefit-cost analysis has been commonly used as an economic guide to allocative decisions. As a social decision-making concept it is still incomplete and more research needs to be done to accurately account for the many intangible benefits such as the above mentioned value of simply preserving a natural area.

It is reasonable that some rivers in Ontario may be used by recreation canoeists more than others. If a use plan has been drawn up for a river it will normally prescribe a certain recreation experience type that users can expect to have. By the use of certain management techniques, as presented in the section on environmental aspects, this experience type can be sustained. The regulation of use can be done by techniques that will ration the amount of use by economic means - a system of pricing.

In time, as demand increases and the supply of natural environment rivers remains constant; the level of satisfaction of users cannot be continuously maximized if their social carrying capacity regarding crowding has been reached.



FIGURE 4



a - amount of use where average level of satisfaction is maximized.

Overcrowding occurs beyond this point.

b - amount of use where total satisfaction of all users is maximized.

Source:

United States, Department of Agriculture, Forest Service Proceedings: River Recreation Management & Research Symposium General Technical Report NC-28, Minneapolis, Mn., P.410.

A management goal for each river or section of river must be articulated.

- 1) is management goal to maximize aggregate satisfaction? Then will allow high use density levels?
- 2) is management goal to maximize the average level of individual user satisfaction? Then would have to regulate quantity of use.

The articulation of the management goal can be traced back to formulation of general outdoor recreation policies, worked out in Cabinet Committee. Given the objective of the outdoor recreation program of the Ministry of Natural Resources:

to provide from public lands and waters  
and to encourage on other lands and waters:  
a wide variety of outdoor recreational  
opportunities accessible to and for the  
continuous benefit of the people of  
Ontario<sup>18</sup>

it follows that both high use density and low use density river travel opportunities should be accessible to people. Following through the planning process resource managers recommend through a proposal submission the most reasonable use to be made of a river section given information on demand, bio-physical resource base and public opinion.

Pricing techniques can be used to control the amount of use if the second management goal is desired. Other techniques are available to ration use such as those of a regulatory and manipulative nature have the same economic effect presented in Table 5.

The graph below presents the situation when supply is fixed:

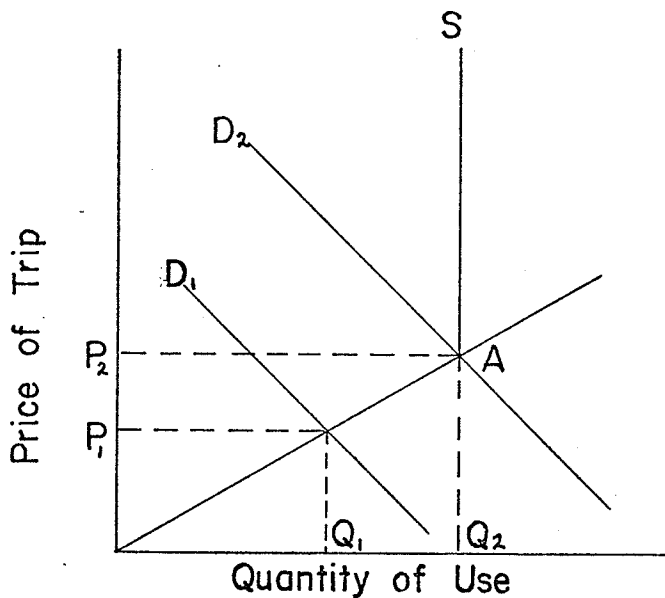


FIGURE 5

Demand for trips could increase up to A after which the supply is constrained by lack of rivers offering a natural environment experience.

Demand to suit the second management goal should be kept somewhere short of  $Q_2$ .

## 7. The Environmental Aspects

The importance of managing the river recreation resource in order to mitigate the impacts of the travel activity on the environment can simply be supported by understanding that the quality of the canoe camping activity experience is inextricably bound to the condition of the environment. Different canoe camping experiences are available in the Province ranging from wilderness environment types to more intensively used river routes and each can provide a satisfying travel experience to certain individuals. Each individual has his own critical thresholds for such factors as crowding and garbage on campgrounds which is referred to by researchers as the behavioral carrying capacity of users. Considering that the supply of recreation river travel opportunities is for people the behavioral carrying capacity and its relationship to the environmental carrying capacity is of great importance.

Planners must be aware of this relationship and have dealt with the environmental question in the formulation of goals and objectives for the specific river resource. Planners may gain this understanding primarily during public participation in the planning stages and should have considered the implications of the peoples' desires and the probable effect of the undertaking on the environment from resource inventory background information.

If a resource development will have environmental impacts these must be considered in terms of the dimension

of the social costs caused by both internal (direct) and external (indirect) effects of the impact.

The Environmental Assessment Act, 1975,<sup>19</sup> requires environmental assessments for those undertakings of the Ontario Ministry of Natural Resources deemed to have a significant impact on the environment. Canoe camping will undergo a class environmental assessment<sup>20</sup> wherein guidelines to mitigate the impacts on the environment of the canoe camping undertaking will be applied to canoe route construction, maintenance and use.

The broad categories of the environment that are considered are:

land\* see example below  
water  
flora  
fauna  
air.

Human categories are also considered:

social  
economic  
cultural  
significant ecological processes.

An example of the aspects and components that are considered under the land broad category is presented below:

Broad Category	Aspects	Component
Land	Physical	Topography
	Chemical	Chemical Characteristics of Soil
	Biological	Wildlife Habitat
	Unique/Rare	Unique Land Features
	Representative	

Specific projects within the sub-activity of canoe route development that are considered are:

- 1) preparation of the watercourse, such as clearing deadheads, regulating water flow;
- 2) providing access;
- 3) camping services and facilities.

The cause and effect relationships between the projects and actions of the canoe camping undertaking and the components of the environment are intensively detailed in the Class Environmental Assessment for the activity developed by the Ontario Ministry of Natural Resources.

Table 6 and Table 7 indicate, in detail, what environmental components are considered and the action components involved with canoe routes.

Generally, the greatest impact that the canoe camping activity could have on the environment is at the campsites, on the landings (access points included) and on the portages. Canoeing activities can also involve several recreational activities such as swimming, hiking, fishing and hunting that can have an environmental impact. The camping activity associated with canoeing probably has the largest impact because of the extended and intensive use that occurs involving such problems as:

- garbage disposal
- sewage disposal
- soil compaction and erosion
- wildlife disruption
- vegetation destruction

visual manipulation  
campfire effects  
noise.

Research will be required to understand both the ecological and the 'social' carrying capacity in order to know what management techniques the river resource will require to sustain its amenity value to the user, i.e. so the user continues to have satisfaction from the river travel experience. (Table 8)

TABLE 6

ACTION COMPONENTS: CANOE ROUTES

A	Mechanized Water Travel		Preparation of the Water Course
B	Portages	Non-Mechanized Water Travel	
C	Landings		
D	Campsites	Services  and  Facilities	Camping
E	Garbage Disposal: Buying		
F	Garbage Disposal: Carry-Out		
G	Sewage Disposal: No Facility		
H	Sewage Disposal: Facility Provided		
I	Mechanized Water Travel	Recreational  Activities	
J	Non-Mechanized Travel		
K	Hiking (Non-Directed)		
L	Swimming		
M	Angling		
N	Hunting		

These action components were selected in deference to their importance and commonality in canoe route undertakings throughout the province.

TABLE 7

ENVIRONMENTAL COMPONENTS: CANOE ROUTES

	COMPONENT	ASPECT	CATEGORY	
1. 2.	Physical Character of Soil Topography	Physical	Terrestrial	
3.	Chemical Character of Soil	Chemical		
4. 5. 6. 7. 8. 9. 10.	Vegetative Biomass Vegetative Composition Wildlife Population Wildlife Composition Wildlife Behavior Invertebrates Microorganisms	Biological		
11. 12.	Endangered Wildlife Unique Land Features	Uniques		
13. 14.	Physical Character of Surface Water Physical Character of Ground Water	Physical		Aquatic
15. 16.	Chemical Character of Surface Water Chemical Character of Ground Water	Chemical		
17. 18. 19. 20. 21. 22. 23.	Aquatic Vegetation Biomass Aquatic Vegetation Composition Fisheries: Population Fisheries: Composition Fisheries: Behavior Aquatic Invertebrates Phytoplankton	Biological		
24.	Unique Water Features	Uniques		
25. 26.	Physical Character of Air Microclimate	Physical	Atmospheric	
27.	Chemical Character of Air	Chemical		
28.	Unique/Rare/Representative Ecosytems	Uniques	Ecological  Processes	
29.	Eutrophication	Aquatic		
30.	Encroachment	Terrestrial		



(Table 7 Cont'd)

	COMPONENT	ASPECT	CATEGORY
31. 32. 33.	Visual Aesthetic Audio Aesthetic Natural Aesthetic	Aesthetic	Socio-  Economic  &  Cultural
34. 35.	Land Use: Resource Extrac- tion-Commercial Land Use: Resource Extrac- tion-Individual	Economic Land Use	
36. 37.	Land Use: Commercial Land Use: Cottaging (Private)	Recreational Land Use	
38. 39. 40. 41.	Mechanized Land Activities Non-Mechanized Land Activities Mechanized Water Activities Non-Mechanized Water Acti- vities	Recreational Activities	
42.	Historical and Archaeological Sites	Uniques	

The rationale used in constructing this list of environmental components for the canoe routes assessment was one of including only those components felt to be impacted upon during the normal construction, maintenance and use of canoe routes.

TABLE 8

## MANAGEMENT TECHNIQUES TO CONTROL USER NUMBERS

Type of Control	Method	Specific Control Policies
Regulatory	Increased policy enforcement	Impose fines Increase surveillance of BWCA
	Zoning regulations	Spatial zoning of uses Temporal zoning of uses Limit camping in some campsites to one night
	Restrictions on use intensity	Open or close access points Require reservations Assign campsites and travel routes to each camper Limit usage via access points Limit size of parties Limit people per campsite Limit camping to campsites only Limit total BWCA population
Manipulative	Physical Alterations	Open or close access roads Improve (or not) access roads Improve (or not) campsites Make portages more or less difficult Open or close portages
	Information disposal	Advertise specific BWCA attributes to attract certain types of users Education users regarding care of BWCA ecology Advertise underused areas of BWCA
	Eligibility requirements	Charge constant entrances fees Charge marginal cost fee Require demonstration of ecological knowledge

1. Gilbert, Peterson, and Lime, 1972, p.137.

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- <sup>2</sup>Ontario, Ministry of Natural Resources, unpublished paper, Elements of Land Law, p.1.
- <sup>3</sup>British North America Act, 1930, 20-21 George V, C.26 (U.K.)
- <sup>4</sup>R.S.C., Chap. 189, Sect. 6(3).
- <sup>5</sup>R.S.O., 1970, Chap. 371, Sect. 3(2).
- <sup>6</sup>R.S.O., 1970, Chap. 78, Sect. 20.
- <sup>7</sup>R.S.O., 1970, Chap. 380, Sect. 49(1).
- <sup>8</sup>R.S.O., 1970, Chap. 233, Sect. 1a.
- <sup>9</sup>R.S.O., 1970, Chap. 186, Sect. 3.
- <sup>10</sup>R.S.O., 1970, Chap. 371.
- <sup>11</sup>R.S.O., 1970, Chap. 498.
- <sup>12</sup>R.S.O., 1971, Chap. 86.
- <sup>13</sup>R.S.O., 1970, Chap. 349.
- <sup>14</sup>W.R. Derrick Sewell, "The Administrative Framework for Water Management in Canada," Law of Environmental Quality Chapter X, p.7.
- <sup>15</sup>Lyle E. Craine, "Water Management Innovations in England," Law of Environmental Quality, Chapter XI, p.32-53.
- <sup>16</sup>Sewell, "Water Management," Law of Environmental Quality, Chapter X, p.11.

<sup>17</sup>Peter Silcox, "The ABC's of Ontario: Provincial Agencies, Boards and Commissions," Government and Politics of Ontario, Donald C. MacDonald (ed.), MacMillan, Canada, 1975, p.135-152.

<sup>18</sup>Ontario, Ministry of Natural Resources, A Guide To the Organization and Management System, Queen's Park, Toronto, 1972, p.6.

<sup>19</sup>R.S.O. 1975, Chap. 69.

<sup>20</sup>Ontario, Ministry of Natural Resources, Land Use Coordination Branch, Queen's Park, Toronto, December, 1976. (DRAFT.)

## CHAPTER IV

### THE MADAWASKA RIVER - A CASE STUDY

#### INTRODUCTION

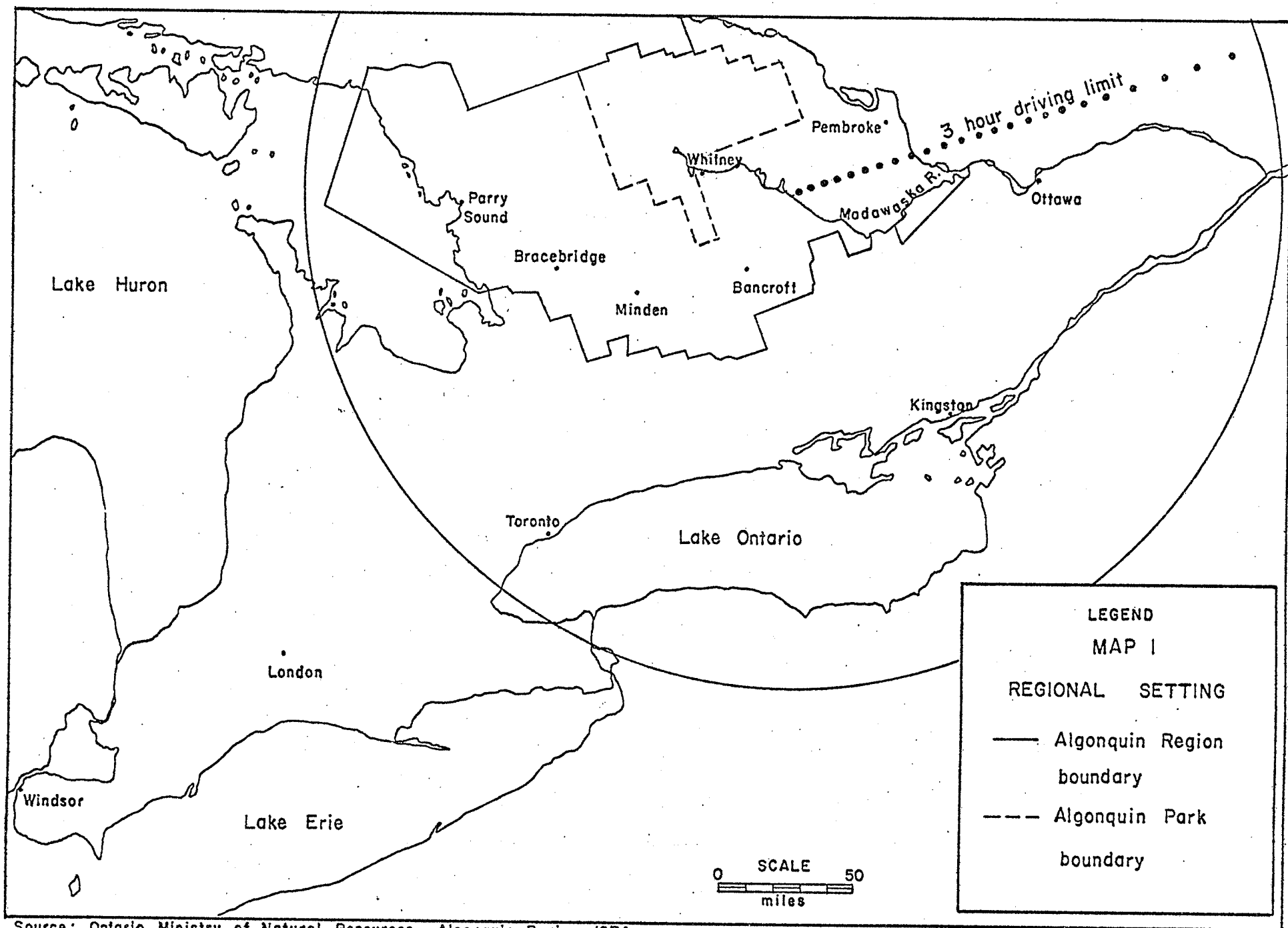
At the present time, a study is in progress concerning the possible designation of the Madawaska River as a Provincial Waterway Park. It is a timely and prime illustration of the intricacies and problems inherent in preserving waterways for recreation river travel and supply of travel opportunities in southern Ontario.

In 1971, the Crown land sections of the river were established as a Provincial Park reserve. In 1978, the reserve area is undergoing pressures to supply alternate resource development opportunities in the form of cottage development and hydro production. Additional problems of recreational overuse have increased drastically over the last number of years as have conflicts of use between different types of recreationists and the public versus the private landowner.

In the planning process the following current problems and issues have been identified by the planning team of the Ministry of Natural Resources:<sup>1</sup>

#### 1. Recreational Use:

The use on the study area has been steadily increasing over the last five years. Along with canoeists, kayakers,



fishermen and boaters, car campers have infiltrated the area making use of the free camping sites which have been made accessible by the timber access road. Their numbers have grown such that river travellers often find no unused campsites left and the sites are generally showing signs of deterioration from overuse. The private campground owners have complained about unfair competition perpetrated by these 'free' opportunities.

2. Private land development:

The current park reserve includes only Crown land within 120 meters of the river. Seventeen percent of the land is privately-owned; scattered but strategically located, creating a potential hindrance to park development objectives. Already faced with a recent subdivision proposal on one of these private holdings, the Ministry planners consider this type of development inconsistent with their park proposal to retain an undeveloped white-water resource for public use.

3. Ontario Hydro proposed power development:

This section of the Madawaska has been identified by Ontario Hydro as a possible site for additional impoundment structures to extend in their peak load ability. Tentative timing on the construction of either a high or low level dam at Highland Falls is given as after 1994. However, the realization of either proposal would virtually destroy much of the river resource whose present

qualities and characteristics have made it outstanding for a potential waterway park. There are four Ontario Hydro flood reserves on this section of the river.

Map 2 shows the area that would be flooded if either proposal is realized.

These three main areas of conflict present definite challenges to the river resource manager in developing a water use plan for this study area. It serves as an excellent example to illustrate the difficulties of supplying river travel opportunities in southern Ontario. Management responsibility for the Crown lands and waters will be with the Ministry of Natural Resources, Pembroke District Office.

Three options have been investigated to bring a solution to the problems noted:<sup>2</sup>

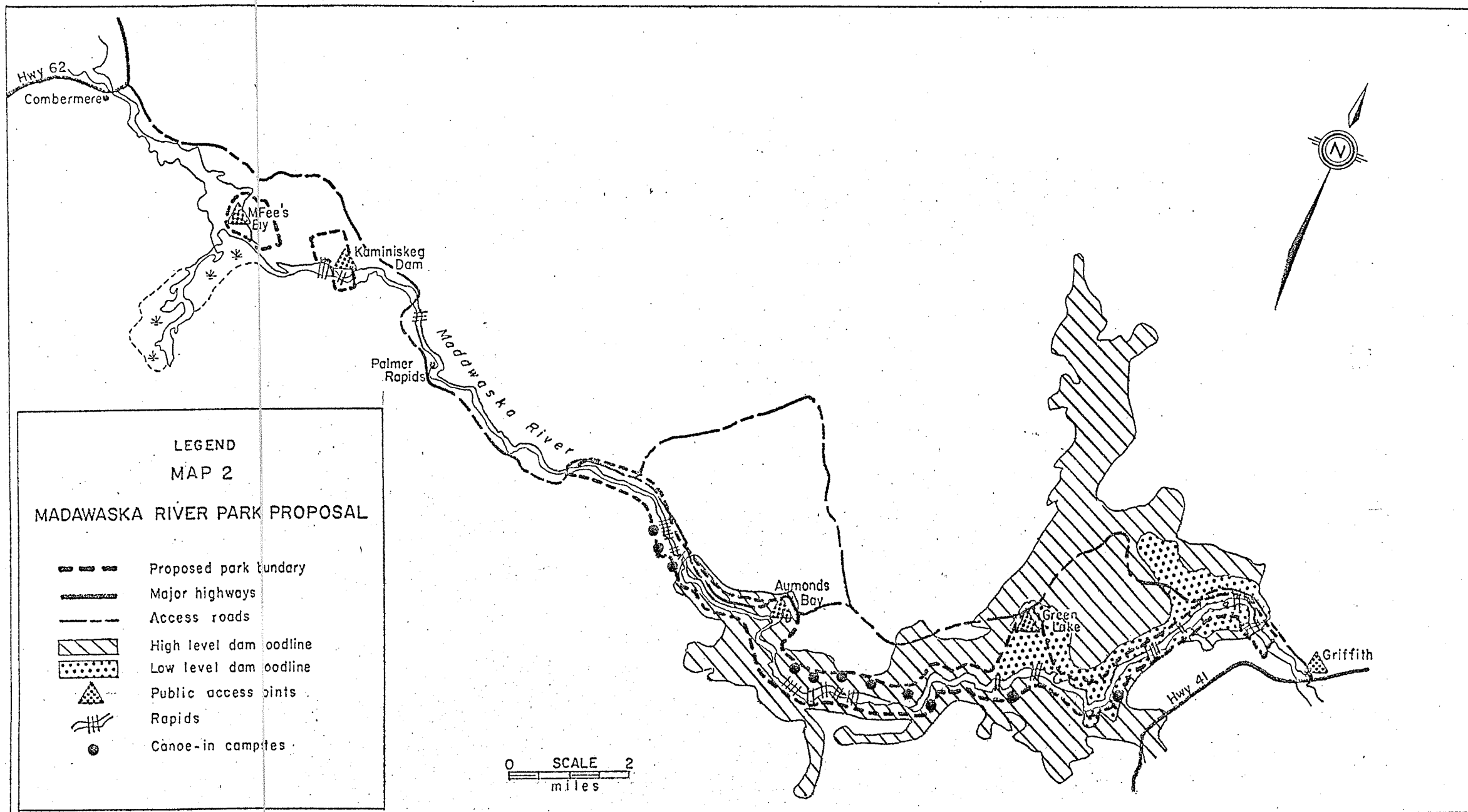
1. Continuing the existing Crown land management program;
2. an intensified Crown land management program;  
and
3. the establishment of a new Waterway Class Provincial Park.

The first two options would not confront either the Hydro development or private development issues and would only partially remedy the recreation overuse problems.

The establishment of a Provincial Waterway park on the Madawaska has the following advantages:<sup>3</sup>

1. Significant whitewater resources would receive protection and appropriate management.
2. Timber and other outdoor recreation values would be protected.





Source: Ontario Ministry of Natural Resources, Algonquin Region, undated

3. Facilities would be established in balance with resource capabilities.
4. Revenues (user fees) would offset the public investment in facilities and operations.
5. User control would be effective under the Provincial Parks Act.
6. Conflicts with the private sector would be reduced - the park proposal would actually stimulate private sector tourist development.

The following discussion will provide a brief background setting then will discuss those aspects, as presented in Chapter III, that surround the establishment and maintenance of this proposal as a Provincial Waterway Park.

#### BACKGROUND INFORMATION

The Madawaska River travels approximately 256 kilometres from Source Lake in Algonquin Park to its mouth on the Ottawa River at Arnprior. It is a major tributary of the Ottawa River and has a drainage area of 8262 square kilometres. The Pembina River in Manitoba drains 8831 square kilometres to provide a comparison. The river has four major Hydro control dams affecting the water volume of the study area. It includes six of the most significant lakes in the district.

The river flows generally from northwest to southeast through a variety of landscapes ranging from strongly broken Precambrian upland to weakly broken plain. Elevations in the upper portions range between 270 and 500 meters varying over 150 meters within very short distances. The lower section flowing through surficial materials of till, outwash and

lacustrine deposits is characterized by elevations of from 150 to 200 meters.

Mixed stands of white pine, poplar and white birch and the tolerant hardwoods including hard maple, yellow birch and beech border the river valley.

#### The Study Area

The section of the river proposed for designation as a Provincial Waterway Park can be considered the natural core of the entire valley. This 45.2 kilometre stretch between Combermere in Radcliffe Township to Griffith in Griffith Township is essentially a river basin having only one widening into Mekeek Lake in its extreme upper section. Characterized by rapid sections and moderate flow in the pools, the river drops on an average of 1.34 meters per kilometre. The white-water section, considered the most outstanding for variety and accessibility in southern Ontario, is 21.8 kilometres long and drops .79 meters per kilometre. The average width of the river is 140.8 meters, the widest part being above Aumond's Bay. The reserve section is navigable all year, but low summer flows during extremely dry summers can create several quite shallow sections. The seasonal variations in water level actually add immensely to the interest for river runners as the river is always changing and provides an exciting and different trip experience on each travel occasion.

Rapid difficulty reflects the varying water flows but

there are novice class I sections throughout and expert class IV at Slate Falls as well as a 23.4 kilometre flat water section between McFee Bay and Aumond's Bay.

The river is accessible by road at several points and caters to users coming from either western or eastern origins. A forest road provides access to the formerly inaccessible sections of Snake Rapids, the most popular stretch, which passes through mainly Crown land. Within a three hour drive are 3.5 million people including the cities of Ottawa and Toronto. The population of the four townships adjacent to the river is approximately 2,700 people, the large majority of which are situated rurally. Only three small communities border the river. Cottage development is concentrated above Kamaniskeg Dam, but scattered and few in number between Palmer Rapids and Wadsworth Rapids, near Griffith.

#### Recreation Values

In a Provincial evaluation of waterway resources the reserved section rated the highest score for any river in southern Ontario.<sup>4</sup> It has an estimated recreational use capability of over 365 user days per mile of river per season. Both day use and non-wilderness back country recreation targets will be satisfied by the Park and there is a limited facility for base camping at key nodal points along the river.

Day use activities are varied: canoeing, kayaking, fishing, hiking, picnicking and hunting. Canoe tripping and camping opportunities for over 10,000 user days per year

support the backcountry travel value. Only two other rivers in southern Ontario rated at all close to the Madawaska in their ability to supply backcountry travel opportunities. (The Petawawa River in Algonquin Park and the lower Magnetawan River north of Parry Sound.)

It is contemplated that the outdoor recreation opportunities range from high intensity day use to low intensity wilderness experience. The river already is well known without any effort to publicize its significance. Users come from as far away as Pennsylvania, New York and Windsor, every weekend throughout the summer; more and more people have been coming each year. (No count of users is recorded.)

Between the years 1973-1976 inclusive the writer canoed the section from Palmer Rapids to Griffith on the May long weekend and each year a significant increase in user numbers was noted. Canoeing at other times throughout the summer substantiated the same increases over the years, particularly in terms of a growing kayak use. The section is used as a training ground for the Canadian Olympic Team (kayak and canoe) and has been featured on a national television show (This Land - Spring, 1977).

### Heritage Value

#### Natural

This river section includes outstanding parts of a natural river system and vegetative communities as

well as a number of elements of the earth science system of Ontario. The river follows a major fault line and above Aumond's Bay and below Highland Falls, follows a major spillway channel. The extensive rapid section below Aumond's Bay, commonly known as the Snake Rapids, the river narrows, constricted by bedrock outcroppings. Scattered drumlins occurring south of Latchford Bridge and Jamieson Mountain could provide spectacular views if a trail were provided from the river.

### Cultural

In the 18th century, the river had been used as an exploration and fur trade route. In later years, the Addington colonization road crossed the central portion of the river and evidence still remains although it is now overgrown with vegetation. No other Ontario park or park reserve is known to have such a feature. Above and below Latchford Bridge is evidence of the squared timber and lumber industry period. There are still old chutes and rock pins in evidence on the river.

With reference to the discussion on variety of experiences presented in Chapter II the Madawaska River does feature several of the main user preferences for wilderness river travel: users would find on the Madawaska River Reserve an area for sport and play, an escape from everyday life, interesting, natural features, an area in which to enjoy an affiliation with chosen trip companions, challenging rapid sections. The river also offers them the opportunity to view both a natural and cultural heritage.

## FRAMEWORK FOR THE PLAN

### Establishment

As discussed in Chapter III several aspects surround the initial establishment as well as maintenance and improvement of a Waterway Park opportunity such as proposed for the Madawaska River.

#### 1. Political, Legal, Legislative and Administrative Aspects

A general policy statement has been made by the Ontario Cabinet supporting the supply of a variety of accessible recreational opportunities to the people of Ontario. This has been transferred, for administrative purposes, to the outdoor recreation branch of the Ministry of Natural Resources.

Backcountry travel and camping opportunities will make up one component of this recreation objective. Over the next fifteen years (1976-1991) it is estimated that somewhere between 700,000 and 1,120,000 days would be spent each year on 'non-wilderness' travel and camping outings by Ontario residents and non-residents.<sup>5</sup> The Ministry of Natural Resources will attempt to provide, primarily through its Provincial Waterway Park System, 50 percent of this need over the fifteen year interval. The Madawaska park proposal is being presented on the basis of this objective.

Establishment of Provincial Parks in Ontario requires an initial proposal to be conceived and formally presented to the Assistant Deputy Minister of the Ministry of Natural

Resources for support and approval. Proposals are commonly made at the Ministry's regional level, but can be initiated by the Minister. In the case of the Madawaska Park proposal the Region has produced a report substantiating the proposal that:

all of the public lands and road allowances bordering the Madawaska River between the northern most boundary of Concession II, Radcliffe Township and the southern most line of Concession II, Griffith Township within 640 feet of the water's edge be designated in the regulations of the Ontario Government as a Provincial Waterway Park.<sup>6</sup>

The primary reason for the proposed designation is that the Madawaska Valley is considered a unique recreational resource. The white water section and the related recreational experiences of travelling this section in an extensive undeveloped landscape should be safeguarded for the public of Ontario.

The proposal, as such, would be presented to the Minister of Natural Resources, a member of the Provincial Cabinet. If he approves the proposal it is presented by him to the Cabinet Committee on Resources Development (CCRD) of which he is a member.

A recent complication that resulted from the August 1978 Cabinet shuffle gave the Minister of Natural Resources the Ministry of Energy portfolio making him responsible for Ontario Hydro developments. The Minister cannot reasonably support both the Hydro dam proposal and the Waterway Park



proposal as they have incompatible objectives. Either the Minister must wear two hats when representing the two proposals to the CCRD, a difficult role, or he may choose to make his decision to support only one of the proposals before going before the CCRD, a more efficient procedure.

From this point on the proposal is essentially studied in terms of its priority to other Provincial resource development schemes. From the CCRD the proposal, recommended and supported by this committee, proceeds to two other Cabinet Committees. Management Committee of Cabinet and the Policy and Priorities Committee both consider the proposal in terms of both Provincial priorities and financial requirements. Final approval occurs when the Minister of Natural Resources presents the proposal, now having complete Cabinet Committee approval, to the Provincial legislature to be voted on by all the members of the Provincial Parliament.

The Madawaska park reserve area would then be announced as a newly designated Provincial Waterway Park. The boundaries of the area would be surveyed and described in park regulations appended to the Provincial Parks Act. An Order-in-Council is the formal mechanism used to give legal status to the park regulation.

## 2. Technical, Economic and Environmental Aspects

### (i) Technical

The responsibility for the planning stage is within the mandate of the Ministry of Natural Resources. The

Madawaska River is within the Algonquin Region, Pembroke District of the Ministry. Ministry planning strategy is now in the processes of being coordinated by a province-wide program entitled the Strategic Land Use Plan.<sup>7</sup> Southern Ontario is being treated as a separate planning region along with Northern, Northwestern and Northeastern Ontario. The Southern Ontario Strategic Land Use Plan (SO-SLUP) involves two levels of planning; Provincial and Regional. Local plans, at the District level, will be prepared within the context of the conceptual framework provided by the Provincial and Regional Strategic Land Use Plans.

The Madawaska River plan is generally termed a resource management plan within the Outdoor Recreation Branch of the Ministry. The number of opportunities for backcountry travel required over the Province of Ontario technically is established by the planners in the Ministry's main office and assignments are made to the individual Regions, of which there are eight, to meet this supply need. The Regions, in turn, will assess the capabilities of each of their Districts using the data from the background information report of the District Land Use Plans (local plan level).

The Madawaska proposal,<sup>8</sup> written by Pembroke District, with assistance from the Regional systems park planner, is intended to demonstrate the capability of the study area to contribute to meeting the targets as determined by the Provincial, Regional and District outdoor recreation objectives.

(ii) Economic

Before the Madawaska Waterway Park can be established a study of its economic impact must be considered. This would most reasonably be done as the proposal is presented to the Cabinet Committee on Resources Development and later in Management Board.

The benefits of a Waterway Park must be considered in the light of the benefits and opportunities that could be had if the study area were developed for hydro purposes or, to a much lesser extent, if timber production would not be disturbed.

At the present time, Ontario Hydro does not require the possible benefits from damming the Madawaska River at Highland Falls. They state that the Madawaska is one of 35 to 40 rivers considered to be of possible benefit for additional hydro potential after 1990.<sup>9</sup> Consideration must be given to the fact that in the last year, 1976-77, rate of growth of consumption of electricity dropped from an average of 7 percent per year to 2.2 percent last year.<sup>10</sup> Before this, it was supposed that over half of the total energy investment in the period to 1990 would be accounted for in the construction of electric generating stations and transmission lines. This type of electric energy is many times more capital intensive than even such high cost energy as synthetic oil from the oil sands. Electricity rates have reflected this and risen sharply. For next year, Ontario Hydro are gearing themselves

to handle a 5.5 percent growth in consumption and anticipate that over the following next few years will gear supplies to meet a 4.5 percent annual growth in consumption.<sup>11</sup>

There would seem to be a lack of substantial arguments to support Ontario Hydro developing this power source in the near future, because of:

1. the lack of immediate requirement,
2. the decrease in annual consumption rate, and
3. the very large capital investment required.

The recreational benefits that can be realized from the study area are immediate and ongoing, are totally incompatible with Ontario Hydro's flooding plan and are not able to be duplicated anywhere else in southern Ontario. There are no substitutions or compromises that would be satisfactory and feasible to both parties.

The forest management benefits that would be foregone, given the park proposal is approved, would seem to be minimal. The land area involved is approximately 1920 hectares if a 200 meter shoreline recreational reserve were established where no normal logging procedures could occur. The forest management practices that would occur would have as a primary objective the maintenance of appearance and reduction of hazard.

There would be a loss in value flow because:

1. more expensive logging techniques would be required within the recreational reserve, and

2. some loss in increment would, of necessity, occur because normal maturity considerations would not be observed.

If the Hydro flooding proposal is realized and approximately 5,200 hectares of timber were drowned the present timber value losses would be minimal because the white pine working group is now 100 years old and could be harvested. The values that would be lost include:

1. the capacity to grow timber on this area in the future,
2. some value associated with the earlier management activity such as the research stemming from the operation, and
3. the value of the knowledge that would have come from continuing the management experience.

These are the critical economic arguments that necessarily would be identified and resolved by Cabinet in the establishment stage of the Madawaska Waterway Park.

#### (iii) Environmental

The environmental impact of the Madawaska Waterway Park proposal will be assessed prior to establishment of the park. At the present time, all functions of the Ministry of Natural Resources are undergoing study to formulate guidelines for assessing impacts and, for many routine functions, class assessment guidelines are being written to ease the burden of presenting an impact statement on each individual undertaking (eg., dams, roads, bridge construction, canoe routes).

The Parks Branch already have a manual of guidelines to aid in drawing up park master plans. The process is essentially a resource inventory and has been submitted to the Ontario Ministry of the Environment for a decision on whether the inventory approach used will meet the requirements of an environmental impact assessment.

The Ontario Hydro flooding proposal, which is still in the running at the establishment stage, will have a large impact on the area's environment considering an estimate of the area to be flooded with the high level dam option is in the magnitude of 5,200 hectares. The low level dam will flood approximately 1,000 hectares. The requirement to submit an environmental impact assessment to the Minister of the Environment for the dam and flooding undertaking has statutory authority within the Environmental Assessment Act, S.O. 1975, C.69, S.5(1).<sup>12</sup>

The impact assessment of the Hydro project will require investigation into the following areas of concern:<sup>13</sup>

1. Scale of Impact - local, regional, national, international.
2. Zones of Impact - the area upstream from the reservoir  
- the area downstream from the reservoir  
- the reservoir area.
3. Dynamics of Impact - the changing nature of all types of impacts through the life history of the facility (during the planning, construction, operating and closing-out stages).
4. Components of Impact - economic, biological, geophysical, sociological and psychological spheres.
5. Societal Distribution - to groups and individuals of Impacts

## Maintenance and Improvement

### 1. Political, Legal, Legislative and Administrative Aspects

The establishment of the Madawaska Provincial Waterway Park has been discussed in terms of the four aspects above. These same four aspects also need be considered in terms of maintaining and improving the waterway travel opportunity.

Seventeen percent of the lands bounded by the proposed park will continue to be privately-owned.<sup>14</sup> Control of the land use developments on these parcels is beyond the jurisdictional mandate of the Ministry of Natural Resources. In light of this situation, maintenance of the waterway park travel experience, as proposed by the Ministry, will essentially depend on:

1. the Ministry's influence on the Official Plans and land use control bylaws of the surrounding municipalities through its commentary and advisory role,
2. the success of the Ministry in gaining jurisdictional control over the municipally-owned 20 meter shoreline reserves and shore road allowances within the park boundaries,
3. the success of the Ministry in arranging legal agreements with private landowners, such as leases or easements, and
4. the ability of the Ministry to influence private landowners to allow certain public use on their lands; a prime example being incentive programs. At the present time there are four separate municipal councils creating bylaws that affect the park area - Radcliffe Township, Raglan Township, Lyndoch Township and Griffith Township. Raglan and Radcliffe are now preparing planning documents and zoning bylaws.

On the eighty-three percent of land in the park proposal area which is Crown land the Ministry of Natural Resources is now able to control use based on:

1. its statutory power emanating primarily from the Public Lands Act and,
2. its legal rights, as provided by proprietorship of the Crown land.

As financial constraints are severely restricting any major land acquisition programs by the Ontario Government at the present time, the Ministry is only able to consider fee simple acquisition of two strategically positioned privately-owned parcels at Slate Falls, an area proposed as an access point and located in a major block of Crown land.<sup>15</sup>

Many of the portage trails crossing private land have been long established and the public right to continue to use these is legislatively provided in Section 67(4) of the Public Lands Act.<sup>16</sup>

Under Section 30 of the Public Lands Act control of use on the Crown lands is possible. Three subsections of the river between McFee Bay and Griffith provide a natural division of the river section into administrative zones having potential to support varying intensities of use.

- a) McFee Bay to Aumonds Bay - flat water section with intervening rapids and chutes, ideal for novice and skill development.
- b) Aumonds Bay to Slate Falls - superior white water for experienced white water users (kayakers, canoeists).
- c) Slate Falls to Griffith - intermediate white water, less demanding.



Only certain facilities will be provided at five development nodes to control the type of use. Two major development nodes, at Green Lake and McFee Bay will provide public access, a total of 200 campsites, day use facilities and information services. Two minor development zones, Kamaniskeg Dam and Griffith, will not allow camping, but will provide parking, sanitary facilities and picnic facilities to the public. Aumonds Bay, a third minor node, is a popular starting point for the main white water run to Slate Falls or on to Griffith. It should probably allow for some one-night campsites for canoeists and kayakers. Twenty-five interior campsites will be provided along the river for canoe trippers.

## 2. Technical, Economic and Environmental Aspects

### (i) Technical

The number of technical, operational decisions that have to be made if the Madawaska Park proposal is approved is immense. A management/operating plan will be written which will describe, in detail, the development strategies consistent with the Park's goals and objectives. The Madawaska Park planners have proposed that both high and low intensity recreation opportunities will be available within the park.

At the key access points (McFee Bay, Green Lake and Aumonds Bay) 200 campsites will be provided while 25 interior river campsites will also be provided. The key access point

campsites will be oriented to car campers while the interior sites are to be used by canoe trippers only. The level of development at all these sites (facilities to be provided) has to be decided.

Portages and landings will probably be marked but what degree of signage, facilities or clearing will be needed?

Other detailed discussions will be made concerning safety, access and egress construction and maintenance and will be outlined in the park management/operating plan.

## (ii) Economic

Upon the establishment of the Madawaska Park the economic considerations do not end but will involve the value flow for management and operation of the resource. Benefits and costs, have to be considered on several fronts to produce a resource development program that results in a maximization of the total net benefits.

Briefly, the following management and operation costs need to be inserted into the overall benefit/cost formula:<sup>17</sup>

## I Personnel

1. Staffing
2. Hiring
3. Training
4. Performance Evaluations

## II Safety

1. Training
2. Equipment

## III Park Maintenance

1. Buildings and Structures
2. Roads and Trails
3. Utilities and Services
4. Use Areas
5. Landscaping
6. Park Equipment and Supplies
7. Capital Maintenance

## IV Facility Operations

## V Law Enforcement and Security

1. Staffing
2. Training
3. Security

## VI Visitors Services

1. Communications
2. Recreation
3. Interpretation
4. Outdoor Education
5. Monitoring and Evaluation
  - Users
  - Resources

As part of the equation of value flow, timing and staging of the development will be an important decision and be based on priority decisions in the park management/operating plan. Depending on annual budget allocations, park managers will be deciding yearly and probably revising development forecasts to enable them to work within the budget.

Practically, the outflow of cash to operate the Madawaska Park should, overall, be balanced by an inflow of benefits. The outdoor recreation program has been plagued with problems involving the computation of total benefits. The policy decision to establish the park would have considered the intangible benefits. Hypothetically, we consider now that the Madawaska Park proposal has been approved and the social intangible benefits were obviously of a magnitude to support the approval decision. Operating benefits will probably encourage managers to consider park user fees. Under Section 19(1) (o) of the Provincial Parks Act, R.S.O. 1970 C. 371 fees may be levied on those persons using the park either in the form of entrance fees to a day use area such as the primary access points along the river or permits to travel the low intensity use sections.

Structuring the fees, if this action is supported, would be a ministerial decision. It would seem to be reasonable and feasible to levy fees to enter, camp and use facilities of the primary access points and for a permit to canoeists travelling the river and using the 25 canoe-in campsites.

(iii) Environmental

One of the main impetus to tabling a park designation proposal for the Madawaska was to protect the resource. Regulating the park under the Provincial Parks Act provides the opportunity to control user activity as well as avoiding the more obvious degradation of the river if the flooding proposal was approved.

On-going monitoring of user impacts on the environment of the river will indicate such problems as soil compaction, vegetation degradation and erosion at campsites and user access points which will result in management decisions to, for example, rotate campsites, redirect user activity or decrease the number of users.

As a Park Reserve, the Madawaska River has already experienced quite severe, yet reversible, environmental degradation primarily at Kaminiskek Dam. Soil compaction, litter problems and unsanitary conditions, vegetation degradation, vandalism and rowdyism have characterized this site in increasing dimensions over the last six years. The park designation and concurrent budget allocation will enable control mechanisms to be instituted. For example, a no camping policy will be enforced at this site.

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- <sup>3</sup>Ministry of Natural Resources, Madawaska Park Proposal, p.5.
- <sup>4</sup>Ministry of Natural Resources, Madawaska Park Proposal, p.2.
- <sup>5</sup>Ontario, Ministry of Natural Resources, Algonquin Region, Development Proposal for the Madawaska River, draft, no pagination.
- <sup>6</sup>Ministry of Natural Resources, Development Proposal for the Madawaska River, draft, no pagination.
- <sup>7</sup>Ministry of Natural Resources, Background Information to the Development of a Coordinated Program Strategy, Southern Ontario, Toronto, 1977, pp.ii-iv.
- <sup>8</sup>Ministry of Natural Resources, Madawaska Waterway Provincial Park Proposal, August, 1978.
- <sup>9</sup>Communication with Norman Manning, Ontario Hydro, Public Relations, Belleville, July, 1978.
- <sup>10</sup>Communication with Norman Manning, Ontario Hydro, Public Relations, Belleville, July, 1978.
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- <sup>13</sup>James S. Gardner, Dimensions of Impact: The Case of Flood Control Dams & Reservoirs, unpublished paper, Department of Geography, University of Waterloo, Waterloo, Ontario, April, 1976, p.4.

<sup>14</sup>Ministry of Natural Resources, Madawaska Waterway Provincial Park Proposal, Algonquin Region, Huntsville, Ontario, August, 1978. p.3.

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## CHAPTER V

### SUMMARY, CONCLUSIONS AND FURTHER RESEARCH

#### Summary

The information and discussions contained in this paper may be summarized as follows:

1. The activity of river travel for recreation in Ontario is a natural reflection of the Province's history and an understandable extension of the growing trends to outdoor recreation participation. The number and variety of rivers capable of providing the travel opportunity is large. Recreationists looking for an outdoor experience in Ontario might gravitate to this activity as naturally as those surrounded by mountains might consider hiking.

2. The activity itself is characterized by variety as are the users. The dynamics of continuously changing riverscapes and users creates a complex planning and management scenario for resource managers to confront.

3. The demand for opportunities has grown in Ontario over the last ten years at a substantial rate; probably 8 to 10 percent per year. Sixteen percent of Ontarians participate in canoeing activity but exactly what experience type demanded is unknown. Given opportunities in Algonquin Park for backcountry travel and interior camping, which one can



assume will include canoeing considering the great number of rivers and lakes in the Park, growth could increase at 11 percent per year until the 'saturation' point is perceived by users or regulated by managers.

4. For backcountry canoe travel, researchers have found that remoteness and solitude are important aspects to the user and his conception of a high quality travel experience. The 'saturation' point referred to above may be the psychosocial carrying capacity when users perceive there are too many other users and the requirements for their quality experience are no longer present so they do not come to that river in the future. They will likely move on to more remote rivers. This theory may break down in response to continuously rising travel costs and the leisure time available to users in travelling such long distances to find remote rivers.

5. The supply of recreation river travel opportunities is more than adequate in the Province. The problem is not quantity of supply but location and quality in relation to user needs. It is difficult to supply a variety of river travel experiences equally to all users in all areas of the Province. A remote wilderness experience is very difficult to simulate in the populated, developed southern regions.

6. One of the most important ingredients in sustaining any type of recreation experience is the aspect of 'rights'. The right to control the land use and development on a river corridor is paramount to ensuring the continued availability

of a certain type of experience. Rights are gained through the rights of ownership, through statute or through legal agreements. Users and managers alike must realize that the only way they can be assured of a paramount control right is through legal designation of rivers or sections of rivers. It is reasonable to suspect that the success rate of legally designating rivers for recreation will be greater in the north because of the control right already in place through land and water proprietorship by the Province and the absence of other interests having control rights now or competing for them in the future.

7. In the southern part of the Province, south of the French and Mattawa River system, legal rights to control much of the river shorelines is in private hands. Even though control of the water is Provincial a complete river trip requires land-based facilities such as landings, access points, and campsites. Portage rights are provided in the Ontario Public Lands Act. Control in the south can be gained by land acquisition programs, expropriation procedures or legal agreements such as easements or licences, and in the long run many of these techniques may be utilized if demand for travel opportunities increases. At the present time, the Provincial agencies charged with the responsibility to supply the opportunity are practically limited to creating opportunity through their role as advisors to local planning efforts.

## Conclusions

Following from the discussion in this paper there are five conclusions:

- 1) The Ontario Ministry of Natural Resources is in the best legal and legislative position in the northern part of the province to continue to plan, administer and manage for the opportunity supply of recreation river travel.
- 2) Consideration could be given to entering into agreements with the Federal government through the Agreements for Recreation and Conservation Branch or Systems Planning, in the National Parks Branch for the establishment of northern river parks having nationally significant geographical, geological, biological, historical or scenic values. The Federal agency is in a better position to identify such areas and could continue to supply financial support for management.
- 3) In the southern part of the Province, the Conservation Authorities should be given consideration as the prime administrator of water travel opportunities because of:
  1. their legislative mandate to be involved in conservation and recreation,
  2. their legislative power to acquire and expropriate land,
  3. their legislative power to enter into legal agreements,

4. their large administrative jurisdiction based on watersheds,
5. their touch with local initiatives,
6. their strong financial and administrative relationship with the Ministry of Natural Resources grants are supplied to the Authorities.

4) The Madawaska River, as a whole, has been historically developed for water management and power generation. The people of Ontario have indicated by their increasing use of this river resource that a single purpose use is not the only development option on the river. The approval of the Madawaska Waterway Park proposal would be a definitive and timely demonstration that the era of multi-resource use has arrived and is a viable development option in areas of increasing resource competition.

5) If the Madawaska Waterway Park proposal is given Cabinet approval the Ontario Hydro flooding plan cannot be realized. It would seem reasonable that the three flood reserve liens on the river be removed from title at the earliest opportunity.

#### Suggested Further Research

This overview of the recreation travel activity has brought out certain areas where there is a shortage of viable research information:

- 1) In Ontario there is a need for more demand information related to specific river use and directed at natural environment river canoeing. What numbers of people are involved in different types of river canoeing? What are the needs and desires of these users? Is there a substantial latent demand? What different types of river canoeing have been established? What are the use constraints involved? What are the definitions of high quality experience?
- 2) Are social carrying capacities relevant and can they be measured? What relationship is there between the character of a river environment and the recreation experience it produces? Is there a substitution behavioral pattern?
- 3) How is the supply of rivers being used? What do users expect from different rivers? What are the prime uses in competition with river travel? Are there management techniques to placate competing uses or users?
- 4) What is the most productive means to distribute river information to users? What information do they require?

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