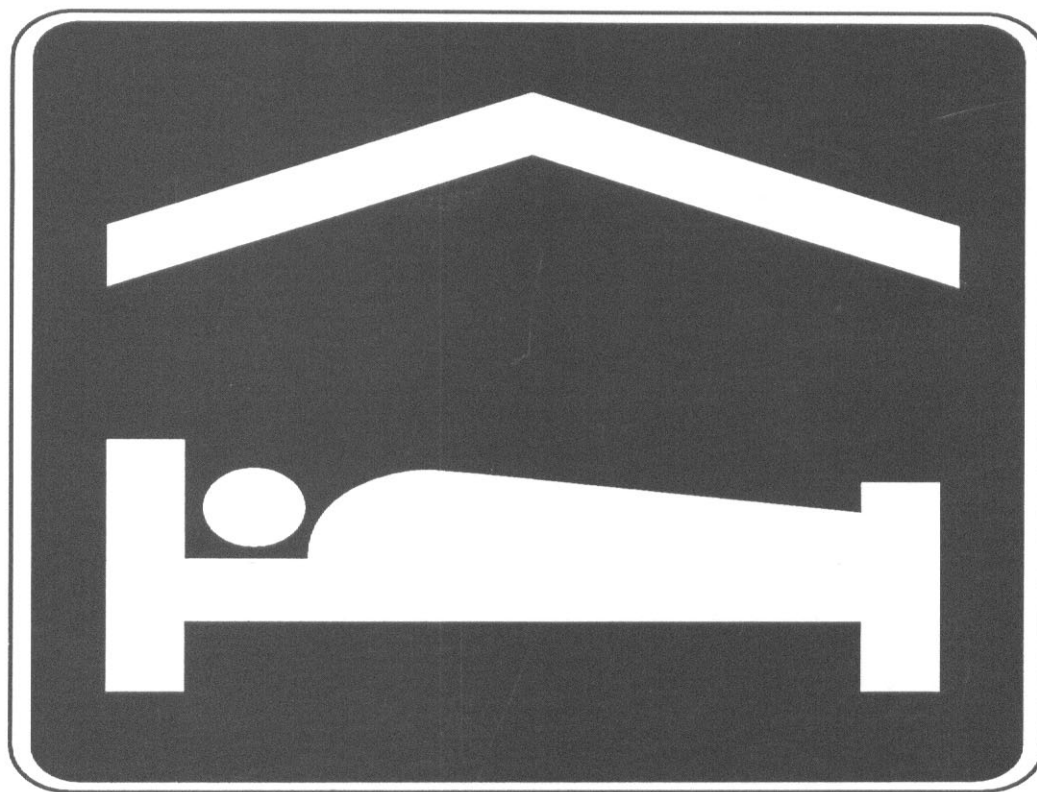


**HUMAN INTERVENTION IN THE THE CLEAR LAKE BASIN
OF RIDING MOUNTAIN NATIONAL PARK**

LAND USE, SUBDIVISION AND DEVELOPMENT



1992-6

**BRANDON
UNIVERSITY**

Canadian Cataloguing in Publication Data

Bazillion, Helen

Human intervention in the Clear Lake Basin of
Riding Mountain National Park : land use, subdivision
and development

(RDI report series ; 1992-6)

Prepared for Riding Mountain National Park and the
Canadian Parks Service.

Includes bibliographical references.

ISBN 1-895397-05-7

1. Land use - Manitoba - Clear Lake. 2. Real estate
development - Environmental aspects - Manitoba - Clear
Lake. 3. Outdoor recreation - Environmental aspects -
Manitoba - Clear Lake. 4. Riding Mountain National
Park (Canada). 5. Wasagaming (Man.). I. Braun,
Connie. II. Rounds, R. C. (Richard C.). III. Brandon
University. Rural Development Institute. IV. Canadian
Parks Service. V. Title. VI. Series.

HD319.M3B39 1992 333.78'3'0971272 C92-098098-8

**HUMAN INTERVENTION IN THE CLEAR LAKE BASIN OF
RIDING MOUNTAIN NATIONAL PARK
LAND USE, SUBDIVISION AND DEVELOPMENT**

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**Prepared for Riding Mountain National Park and
the Canadian Parks Service**

published by

**The Rural Development Institute
Brandon University
1992**

RDI Report Series 1992-6

"Empowering rural people with information"

Any views contained herein are those of the authors and do not necessarily represent the views of
Riding Mountain National Park or the Canadian Parks Service

PREFACE

Canadian national parks have a dual mandate to preserve and protect the country's unique physical and cultural resources and to encourage public visitation to learn about and enjoy the natural environment. In order to manage these objectives effectively, each park has a designated visitor centre which provides the majority of visitor needs for accommodation, services, recreation and information.

In Riding Mountain National Park, the townsite of Wasagaming has been assigned the role of visitor centre. The choice was logical as Wasagaming had already been developed as a tourist resort on the shores of Clear Lake before Riding Mountain became a national park in the early 1930s. As a visitor centre, Wasagaming must provide support services such as campgrounds, hotels/motels, restaurants and commercial ventures for day and overnight visitors. It also offers recreational opportunities such as boating, swimming, fishing, recreational sports, hiking and picnicking. Interpretive programs instruct visitors about park themes and teach them how to explore the park without damaging natural resources. In addition, Wasagaming houses the park administrative offices, facilities and staff accommodation.

Somewhat at odds with national park policy, Wasagaming also supports two subdivisions with private cottage owners who lease prime land from the park and seasonal cabin dwellers who buy seasonal camping permits with no ownership right to the land. This intensive land use requires a complicated municipal infrastructure in the form of sewage and solid waste disposal, water treatment, electrical facilities, and a circulation system of roads and pathways.

All these activities and services put a strain on the natural environment in and around Wasagaming. Over the years, controls on human intervention have been introduced to cope with increased user demands. These activities have had a lasting impact on the park ecosystem.

This is one of a series of inter-related reports that are meant to review human intervention in the Clear Lake Basin. Emphasis here is placed on indicating how the developed areas in the townsite of Wasagaming such as cottage subdivisions, campgrounds, commercial enterprises, recreational facilities, and municipal infrastructure have affected, exploited and manipulated area land use. By understanding these issues, park management can design a development plan to cope with human intervention. Other reports in the series are concerned with visitor services, Clear Lake fisheries and water quality in the Clear Lake Basin.

ACKNOWLEDGEMENTS

The authors wish to thank Ray Frey, Ray Whaley and Wybo Vanderschuit of the Warden Staff for assistance in defining the study and gathering literature sources to review. Joan Rollheiser, Administrative Assistant at the Rural Development Institute (RDI), prepared all materials for publication. Dr. Richard Rounds, Director of RDI, served as series editor. Heather Coulter and Roberta Joice of the Government Documents Section of Brandon University Library provided expertise in obtaining source materials. Cam McKillop of Riding Mountain National Park sent much needed information on municipal services. Sylvester Yakielashek, Secretary-Treasurer of the Local Government District of Park provided up-to-date material on the community of Onanole and surrounding subdivisions.

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INTRODUCTION

Land use, subdivision and development of the townsite of Wasagaming and nearby areas of the Clear Lake Basin (Figure 1) as a visitor centre for Riding Mountain National Park was not aligned to the current objectives set out by national park policy. Present policy requires a visitor centre to provide only those services and administrative functions necessary to support visitors during their stay, and that are sympathetic to the national park theme and setting (Parks Canada 1987). Pre-park development created incompatible land uses including leasing of lots on which to build summer cottages and creation of a seasonal (once portable) cabin campground. Furthermore, various recreational and entertainment activities were established which attract participants that are not necessarily interested in national park themes.

Emphasis on development in the early years of Riding Mountain National Park was on attracting local people who would come for the entire season. In 1933, when the park was established, administrators wanted to entice visitors as quickly as possible to justify the choice of Riding Mountain as a national park over the alternative location in the Whiteshell region. During the Depression, however, most people had little money with which to travel and vacation. Accordingly, visitors to the new park were primarily families who lived within a day's journey. They were allowed to lease land from the park at low cost, and to build cottages.

The Depression also was responsible for rapid development of Wasagaming to meet national park standards as a visitor centre. As part of a national relief program to provide the unemployed with an opportunity to work, the federal government funded large make-work projects. One such project resulted in the construction of park buildings, recreational facilities, stores, roads and bridges.

Clear Lake's natural beauty and surrounding forests, and the new amenities at Wasagaming, began to draw more summer visitors. A seasonal portable cabin campground was erected to cope with the large number of people who wished to stay in the park, but did not wish to build cottages.

In the late 1950s and 1960s, visitor-use trends changed as increased automobile ownership allowed people to come to the park from greater distances and stay for shorter periods of time. Day-use increased, requiring additional land uses in the form of transient campgrounds, hotels/motels, restaurants, day-use picnic and recreational areas. The result was that Wasagaming did not have the financial resources or space to provide for all of these roles. The townsite quickly became overcrowded with over-abundant and fragmented services. Land use conflicts arose between short- and long-term users and interests. Human impact from the increased population in Wasagaming resulted in manipulation and exploitation of land in the form of defacement of the landscape from overdevelopment of facilities and activities, and of water resources through chemical, sewage and solid waste pollutants.

The primary management problem was the fact that no firm national park policy controlled early development of visitor centres (until 1969). By 1970, development and subdivision in Wasagaming were firmly entrenched, and proceeded beyond the role of a visitor centre in both its recreational capacity and policy of permitting private use of prime park land (Hoole 1972).

Park administrators felt that in order to carry out the 1969 national park policy statement, a master plan was required for the development of Riding Mountain National Park. In this way management could restrict, control and direct the growth of Wasagaming as a visitor centre. During the early 1970s, park management began plans to halt cottage leasing and private use of campgrounds. The public protested because they had no opportunity for input, or to respond. Following several years of deliberation which included public participation, a master plan was prepared and instituted in 1977. It was a compromise allowing continued occupancy of privately owned cottages. No new lots would be leased, however, and a policy of attrition would be enforced. The seasonal campground also would not be expanded. Renovation and redevelopment of existing areas was allowed in order to promote tourism, as long as it complemented the national park setting. Park administrators hoped that such a development plan would prevent further exploitation of park

resources while engendering use. Any new ideas for recreational activities or facilities would have to be accommodated in areas outside the park. This would benefit the communities of Onanole and Erickson.

The purpose of this report is to review available documents concerned with development of Wasagaming as a visitor service centre, indicating positive and negative human impacts within the manipulated environment of the townsite and the surrounding Clear Lake Basin.

LAND USE IN THE CLEAR LAKE BASIN

Parks Policy and Land Use

Both the *National Parks Act* of 1930 and the *National Parks Policy Statement* of 1963 indicate that the purpose of the national parks system is to "preserve for all time areas which contain significant geographical, biological or historic features, as a national heritage for the benefit, education and enjoyment of the people of Canada" (Marshall 1973:3). The policy statement's wording exhibits a philosophical dichotomy. Conservation and preservation practices usually discourage intensive human use of an area and may be incongruent with the second mandate to encourage people to visit, learn about and enjoy a national park setting. Administrators responsible for planning and management of parks must find a proper balance to achieve both goals.

Each park in the Canadian National Parks system has instituted a master plan to allow management to define the character of the area and control development. Zoning into different areas according to particular uses allows limits to be set on what activities may occur within a park and where they are permitted. Five zones are defined for Canadian National Parks. The distribution of the zones in the Clear Lake Basin are indicated in Figure 2 (Hoole, 1972). They are defined as follows:

Zone I designation recognizes that certain resources or places with historical or cultural value require special preservation. Use by the public is severely restricted.

Zone II status, wilderness recreation areas, is meant to assure that certain areas are kept in their natural or primitive wilderness condition. The public is allowed to enjoy the area but only in ways consistent with the wilderness character. Support facilities such as campgrounds and picnic areas are primitive, access is gained by hiking and no motor vehicles are permitted.

Zone III indicates natural environment sections; Riding Mountain National Park has no Zone III area.

Zone IV designates specific areas where outdoor recreation and interpretive activities are allowed. All development is controlled to minimize negative human impact on resources.

Zone V, the focus of this report, refers to heavily developed areas which support services to park visitors in the form of accommodation, restaurants, commercial outlets, recreation and interpretive facilities. Moreover, it contains a municipal infrastructure of water, sewage and solid waste disposal, and a system of roads, trails and pathways. The Zone V service area also houses the administration headquarters for the entire park. In spite of heavy use, a visitor centre is designed to enhance the preservation of natural resources by locating and building facilities that are sympathetic to the park theme and setting.

Figure 1

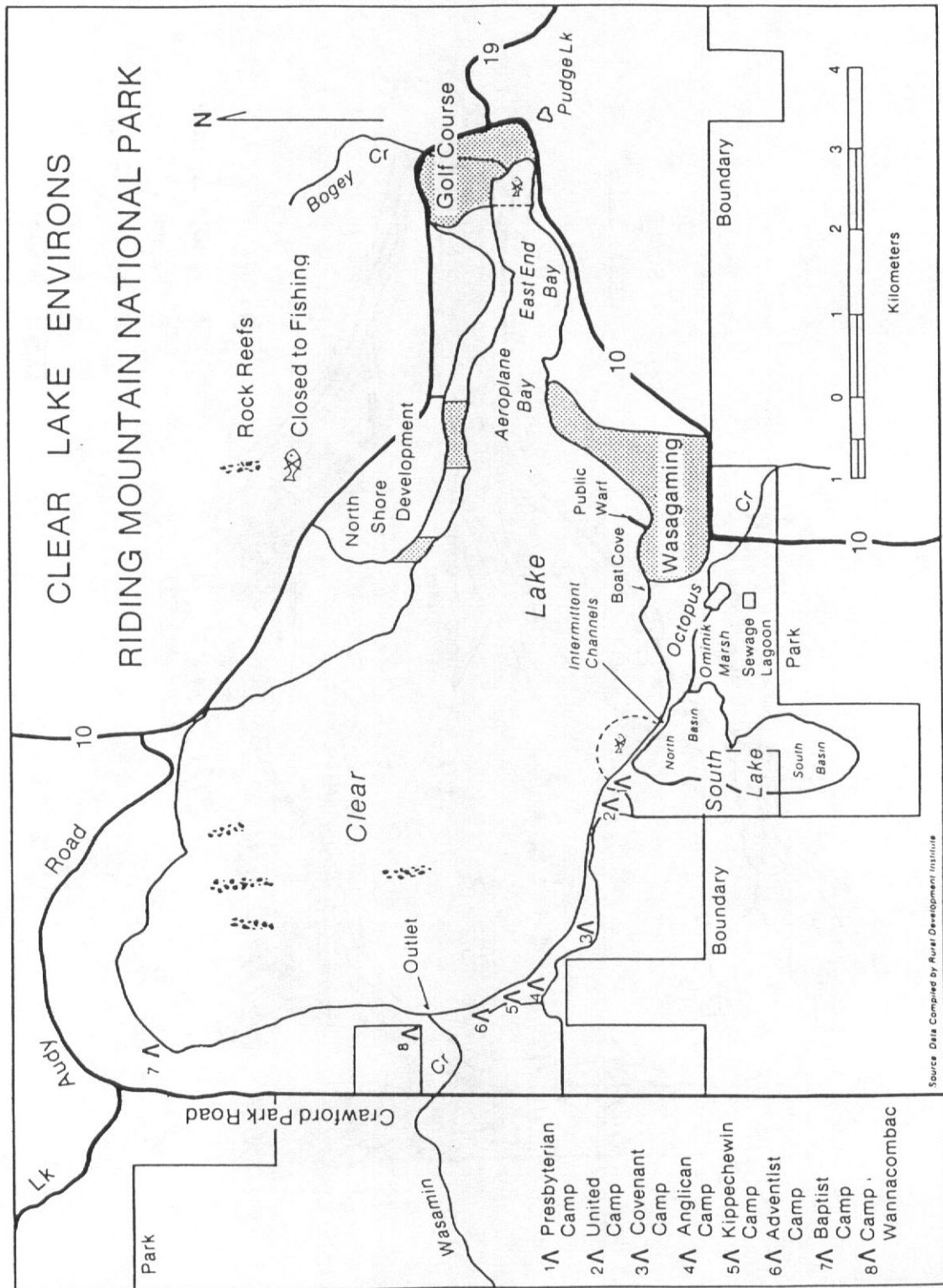
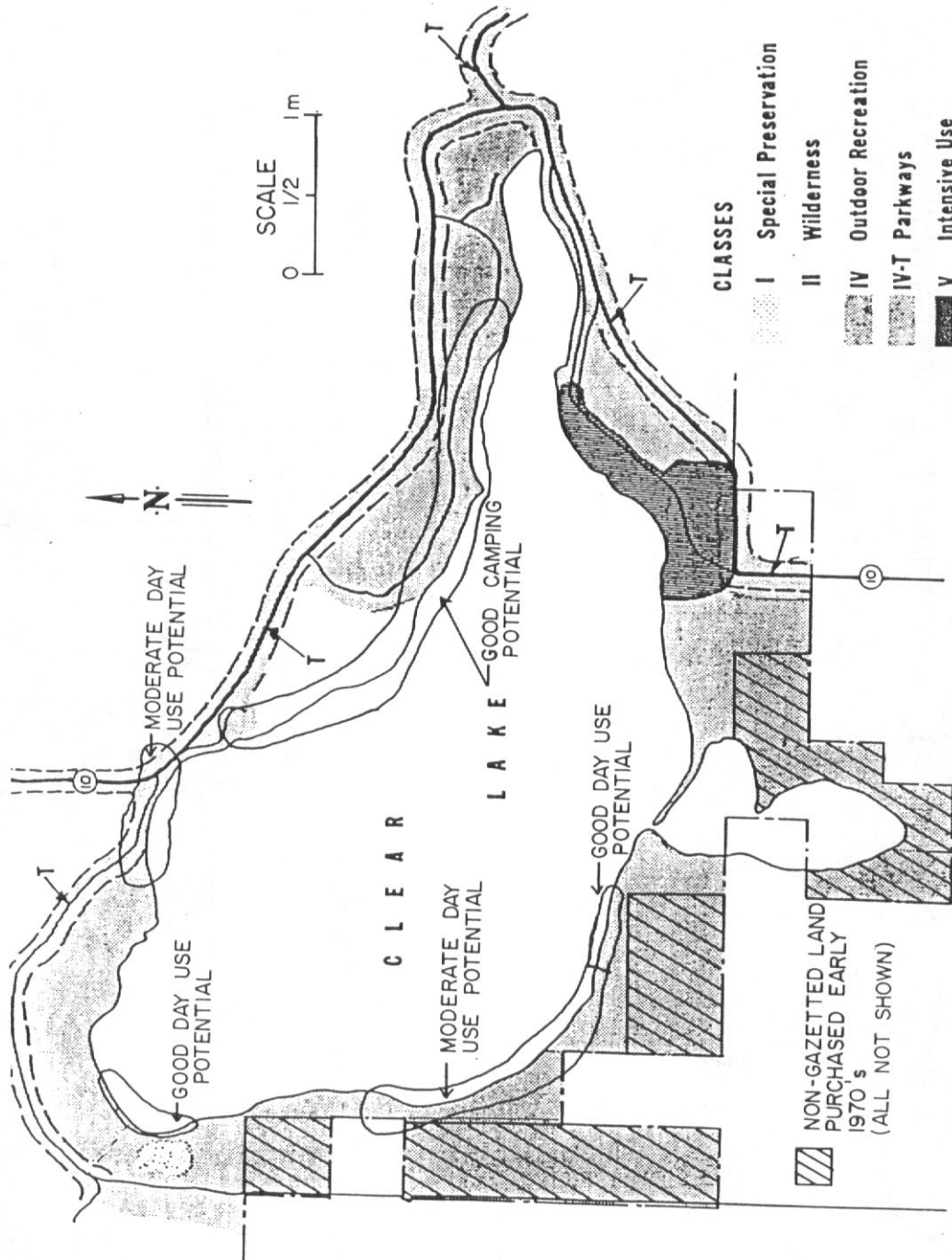


Figure 2

Land Use Zones in the Clear Lake Basin



HOOLE, 1972:3

Each national park has designated at least one Zone V visitor centre to co-ordinate activities. In Riding Mountain National Park, the visitor centre is located at Wasagaming, a small resort community along the south shore of Clear Lake (Figure 1). The townsite is situated on the park's southern border adjacent to the main entrance, and lies approximately 2,000 feet above sea level on a rolling plateau. Expansion of the townsite is limited on the western boundary by Octopus Creek and Ominnik Marsh which drain into Clear Lake at the Boat Cove, and South Lake through a ditch. The northern border of Wasagaming extends along the shoreline of Clear Lake from the Boat Cove to the eastern limit of the surveyed cottage lots. Three other areas included in Riding Mountain Zone V are the park works compound located on the south side of the parkway, the sewage treatment lagoon to the southwest of Wasagaming and the north shore subdivision on Clear Lake (Figure 1).

Hoole (1972) analyzed land use in the Clear Lake Basin at the time when human impact was increasing rapidly. It was recognized that RMNP had not achieved the national profile originally intended, but rather had become a regional park. The Provisional Master Plan in effect in 1970 recognized both the outstanding natural features of the Park and the outdoor recreation and servicerole of Clear Lake and Wasagaming. This plan, however, stated that Wasagaming was over-developed and called for phasing down of private use and an increase in public use of the area. Hoole's report stressed the fact the RMNP served as many people as the entire Manitoba Provincial Park system, and provided 29 percent of the motel/hotel accommodation and 41 percent of all campsites in the entire Parkland Region of Manitoba.

Expansion of facilities in Riding Mountain was not deemed appropriate under these conditions. Rather, the less desirable, yet adequate potentials of smaller lakes immediately south of Clear Lake were identified as potential areas to alleviate some development pressures in the Clear Lake Basin.

In spite of extensive development, the poor quality of the beach area and rocky nature of the waterfront in Wasagaming limited potential development. Two areas of shoreline, however, possessed good potential for day use activities, and the entire southwest shore had moderate day use development potential (Figure 2). Another area near the junction of Highway 10 and the north shore of Clear Lake also had moderate day use potential. The entire north shore, from the junction with Highway 10 to the eastern arm of the lake had good camping potential (Hoole, 1972). Private church camps and cottage development already had usurped much of the land with good potential (Figure 1).

The 1972 land use and activity report concluded by stating that 1) no additional water-oriented day use activities should be provided in Wasagaming, 2) the most appropriate recreational land uses along the Wasagaming shoreline were camping, cottaging, viewing and interpretation, and 3) the southwest and northwest shores of Clear Lake offered the best potential for water-oriented day use activities. From a planning perspective there were no equivalent regional alternatives to cottaging on Clear Lake. The smaller regional lakes, however, did offer options for portable cabins then located in Wasagaming. Further private expansion was stopped, a buy-back program was advocated, and a change of policy that re-emphasized the preservation and education roles of the Park was recommended.

Six major land use classifications are recognized within the townsite of Wasagaming (Figure 3) (Parks Canada, 1988): 1) Seasonal cottages, 2) Clear Lake Seasonal Campground, 3) Wasagaming Campground, 4) commercial area, 5) recreation area, and 6) park services (Figure 3).

1. Seasonal cottages comprise the oldest type of land use, pre-dating the establishment of the national park. Cottage development, therefore, occupies a considerable portion of lakefront acreage, and a high percentage of total park users are seasonal cottage dwellers. Although national parks policy does not consider cottaging an acceptable land use, it has recognized it as a traditionally permitted use in Wasagaming and has allowed it to continue. Lots are leased from the park and regulated by the *Lease and Licence of Occupation Regulations* (Parks Canada, 1988). Lessees must make sure their summer homes conform to the *National Parks Cottages Regulations* (Parks Canada, 1988). No

new lots were released after 1959 because of limitations of water and sewage facilities. Also, the focus of park development at this time changed to supporting facilities for short-term transient visitors.

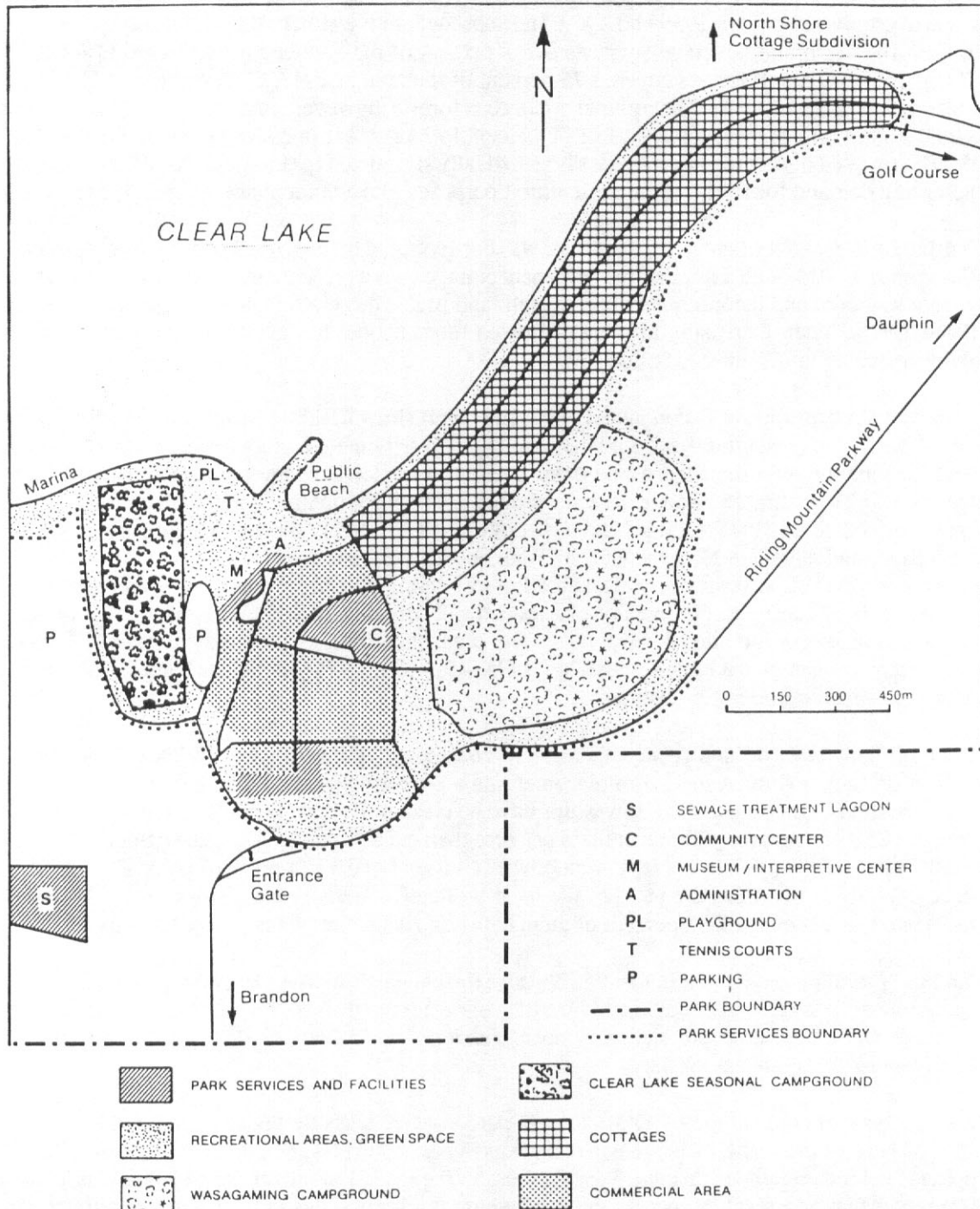
2. The Clear Lake Seasonal Campground also pre-dates establishment of Riding Mountain as a national park, and is recognized as a traditional land use (Figure 3). The campground contains small portable cabins occupying lots that require seasonal camping permits on a yearly basis under the *National Parks Camping Regulations* (Parks Canada, Community Plan, 1988). From its inception, the campground has catered to seasonal visitors. It usually is booked to capacity forcing transient visitors to find accommodation elsewhere. The decision was made in 1959 not to expand the area because it would encroach upon other recreational and commercial land uses in Wasagaming, create overcrowding and further disrupt the ecosystem.
3. Wasagaming Campground was instituted to accommodate changes in visitor trends during the 1950's. As more people acquired automobiles, they began to vacation farther from home and stay for shorter periods of times. The Wasagaming Campground was opened in 1964 to provide short-term transient campers a place to stay because the seasonal campground always was pre-booked. Serviced and unserviced tent and trailer camping sites are available in this campground.
4. The commercial area is found in the centre of Wasagaming and includes motels, hotels, rental cabins, restaurants, gas stations, a fire hall and retail stores to provide services for park visitors (Figure 3). The park does not encourage commercial, recreational or entertainment facilities that are not in keeping with park themes and which would attract visitors for purposes other than learning about the national park.
5. Recreational areas and facilities for day-use include picnic grounds, tennis courts, lawn bowling greens, a golf course, the main pier for swimming and boating activities, a playground, and the Lakeshore Hiking Trail. These facilities are scattered throughout the town. Day visitors have difficulty finding parking spaces and locating the various facilities. Space for these activities is insufficient and overcrowding creates potential for exploitation of the environment.
6. Park services and facilities include the administrative headquarters for Riding Mountain National Park, interpretive facilities to teach visitors about park themes, a museum, an information centre, public washrooms, park-owned buildings such as staff housing, a public works compound and water, sewer and solid waste sites (Figure 3).

Land Use in the Onanole Area

The Local Government District of Park (South) (LGD Park) is a traditional Canadian parkland region farming area, with mixed grain and livestock operations interspersed with woodlands and wetlands. In areas adjacent to Riding Mountain, the landscape becomes more undulating, soils poorer, the growing season shorter, and farming marginal (Curle and Rounds, 1992). The area was used extensively for forest products, hunting and trapping during early settlement, and small farms dominated the landscape from 1900 to 1950. Since 1950, rural depopulation has reduced the number of permanent residents as mechanization of agriculture and agro-economics led to larger farms. Recent population trends in LGD of Park (including Onanole) show a decrease from 1,390 permanent residents in 1961 to 993 in 1976. Since 1976 the population has changed little as the 1986 population was 945. The total decrease between 1961 and 1986, however, was 32 percent (MacLean and Rounds 1991).

Figure 3

Land Use Designations in Wasagaming



Source: Community Plan, 1988 (modified)

Land use change between 1900 and 1950 is not well-documented, but most of the area of LGD of Park that lies within the Clear Lake Basin likely was forested originally, and was partially cleared for cropping and extensively fenced for grazing. Using the eastern half of LGD of Park as representative of land clearing after 1950, air photo analysis suggests changing trends during the 1950's, 1960's and 1970's. Using broad surface cover categories, significant clearing of coniferous forest occurred between 1959 and 1969 (ANOVA by quarter section, $p < 0.05$) (Table 1). This was followed by a significant increase ($p < 0.05$) in mixed forest between 1969 and 1978, much of which was regrowth of previously cleared forests. This is evident in the increase in cropland between 1959 and 1969, and subsequent reversion to the 1959 level by 1978. Analysis of limited 1947 airphoto coverage suggests that 8 percent of the area had been cleared of forests between 1947 and 1959. Overall, forests covered 75 percent of the area in 1947, 67 percent in 1959, 53 percent in 1969, and 69 percent in 1978. The original coniferous forests, however, covered less than half their original area, and mixed forests had increased from 2 percent to 36 percent in overall coverage between 1959 and 1978. The reversal during the last ten years is statistically significant ($p < 0.02$), and is at least partially related to increasing demand for land for non-agricultural purposes (development and wildlife preservation).

Exurbanite demand for land in LGD of Park was concentrated in the Clear Lake Basin watershed adjacent to Wasagamung. Although a number of permanent cottages were present outside of RMNP as early as 1950, they were scattered and inconsequential in overall land use. The area remained almost entirely agricultural until the 1960s, when increasing affluence allowed more people to develop recreational properties, and available space no longer existed inside RMNP.

A major land use study was conducted along the south side of Riding Mountain in the 1960's (Jenkins 1970). A variety of agricultural, wildlife, recreational and settlement factors were evaluated. Although it is difficult to separate only the Clear Lake Basin area from the LGD of Park analysis, use of Township 19, Range 19 and Township 18, Range 19 data provides an approximation for the study area. Arable land comprised 39 percent of the area, trees and bush dominated 50 percent, water bodies occupied 6 percent, and native pasture and marshland 2 percent each. Both quantity and quality of arable land diminishes the closer one gets to RMNP. Land capability classification resulted in a nearly even division of classes 1-3 (30%), classes 4-6 (36 percent) and mixtures of classes 3-6 (33 percent). All lands classified higher than 3 have significant limitations for annual cropping. The area, therefore, is marginal farmland. Grazing land classification was somewhat higher with classes G3 (45 percent), G4 (34 percent) and G5 (21 percent). G3 lands are reasonably productive pastures.

When all soil, climatic and related factors are considered, a Productivity Index can be derived. The classification ranges from A to J, with placement on a property based on average yields of various crops. Based on wheat production, the two townships have no class A, B, C, or D lands, and only 9 percent of class E acreage. Class E produces 20 percent less per acre than class A lands. Most cropland (74 percent) in the area falls into Class G (33 percent less productive). Classes I and J comprise 16 percent of the acreage and produce only about one-third the yield of the most productive lands in the district. In 1969 there were 83 farms in two townships, with 80 percent of them between 70 and 560 acres in size (Jenkins, 1970).

Land use problems developed in the area because the annual cropping that occurs on most arable lands is incompatible with the easily erodible and infertile coarse-textured soils. Jenkins (1970) stated that persuading farmers that cereal crop production is not necessarily profitable was difficult. The area is far more productive with forage-livestock use.

In an analysis of lands in the LGD of Park, 21 percent were classified in Canada Land Inventory classes 2 and 3, 30 percent in class 4, 42 percent in class 5 and 8 percent in class 6 (Curle and Rounds, 1992). Annual cropping is not recommended on class 5 and 6 lands, and severely limited on class 4 lands. Curle and Rounds (1992) report that non-resident owners, most of whom hold properties in the Clear Lake Basin, owned 39 percent class 5 and 48 percent class 6 land. Development, therefore, has not taken good agricultural land out of production.

In the late 1960's, Parks Canada officials recognized the need to secure some lands in the Clear Lake Basin, but outside of RMNP, to serve as a buffer for critical park resources against encroaching development (Comin, 1983). The "non-gazetted" properties totalled 2140 acres in 16 parcels, all of which were located around the periphery of South Lake, Clear Lake and Lake Katherine (Figure 2). The land was primarily hayland and bush, with some cultivated acreage. When the lands were not managed for several years, local farmers complained about unused hay, weed growth, and fire hazard. Policy was changed to allow haying on a share-crop arrangement with local farmers, and some extractive activity was conducted by Parks Canada. Ultimately, the South Lake Horse Center was established for Park owned animals. These lands currently serve to shield part of the South Lake-Clear Lake drainage from direct impact from agricultural activities.

Table 1 Surface cover vegetation in the eastern half of the LGD Park (acres per section)

Year	No. sections	Aspen		Conifer		Mixed forest		Cropland		Pasture		Water	
		Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
1959	20	9	1	409	64	10	2	146	23	32	5	34	5
1969	37	12	2	216*	34	107*	17	236	37	39	6	29	5
1978	17	11	2	198	31	227*	36	142	22	23	4	38	6

* Significant change relative to previous values ($p < 0.05$)

Source: Rounds, R.C., original air photo analysis; unpublished data.

By confining development in Wasagaming to boundaries set by the 1977 *Riding Mountain National Park Master Plan*, further cottage construction was encouraged outside of the park. Onanole, located 3 km south of the park entrance, benefitted most from the containment policy, and increased both residentially and commercially. The Local Government District of Park realized that they required a detailed analysis of land use, subdivision and development demands. Encroachment of recreational activities and cottages adjacent to traditional agricultural and residential areas was increasingly evident and was causing conflicts. As a result, an *Onanole Sector Plan* was undertaken to ensure that growth would take place in a planned, orderly fashion (Hilderman, 1983). Specific areas within the settlement centre were designated for residential, commercial-general or commercial highway, parks and recreation, institutional, seasonal recreation-cottages, and agricultural use (Figure 4).

The plan determined that seasonal development was to occur in seven subdivisions (Figure 4): (1) Mountain Estates (176 lots), (2) Grey Owl Resort (143 lots), (3) Countryside Estates (66 lots), (4) Southbay Estates (44 lots), (5) Parkview Estates (14 lots), (6) Victor Crescent (18 lots), and (7) Grey Owl Estates (215 lots). Developers are required to submit subdivision plans that comply with specific regulations concerning soil and drainage conditions and vegetation and slope patterns in order to minimize environmental problems such as flooding and erosion.

SUBDIVISION AND DEVELOPMENT

Land use, subdivision and development are so intricately inter-related that separation or sequencing of events are difficult. Often, policies and regulations result from the need to control development that already has occurred, and land use options are limited. Regulations become reactive rather than proactive, as society seldom tolerates complete dismantling of previous development. In the present situation, the historical tension is exacerbated by public-private dichotomies in ownership and changes in public attitude reflected in public policy through time. Much of the present subdivision and development in the Clear Lake Basin occurred before present land use policies were enacted. Accordingly, events must be traced historically to understand the present situation. This approach will be used to assess the various activities recognized by current land use regulations.

Subdivision and Development in RMNP

Seasonal Cottages

In 1906, control of the Riding Mountain Timber Reserve was transferred to the Forest Branch of the Department of the Interior. J.R. Dickson, Inspector of Forest Reserves in Canada, visited the reserve to inventory timber, survey trails and water routes and establish conservation practices. In an effort to halt lumbering abuses and control forest fires, he advocated establishing a summer resort at Clear Lake (Lothian, 1979). He felt that if people maintained summer residences in the park, they would be active in preserving and protecting the land. Until 1914, however, land development was restricted mainly to construction of rough cabins for hunters and trappers and picnic sites for day visitors. Some, like George Clark and his family from Erickson, had camped on the shores of Clear Lake since 1908 and had used the reserve for fishing, hunting, lumbering and picnicking (Lothian, 1976). What kept most people out of the reserve was a lack of roads and bridges to reach the lake. Clark built bush trails and crude bridges over swamps in order to travel by horsedrawn cart. The beach where he camped was known for many years as Clark's Beach. In 1914, an attempt was made to locate a settlement at the west end of Clear Lake near Wasamin Creek. Its exposed location, however, discouraged visitors.

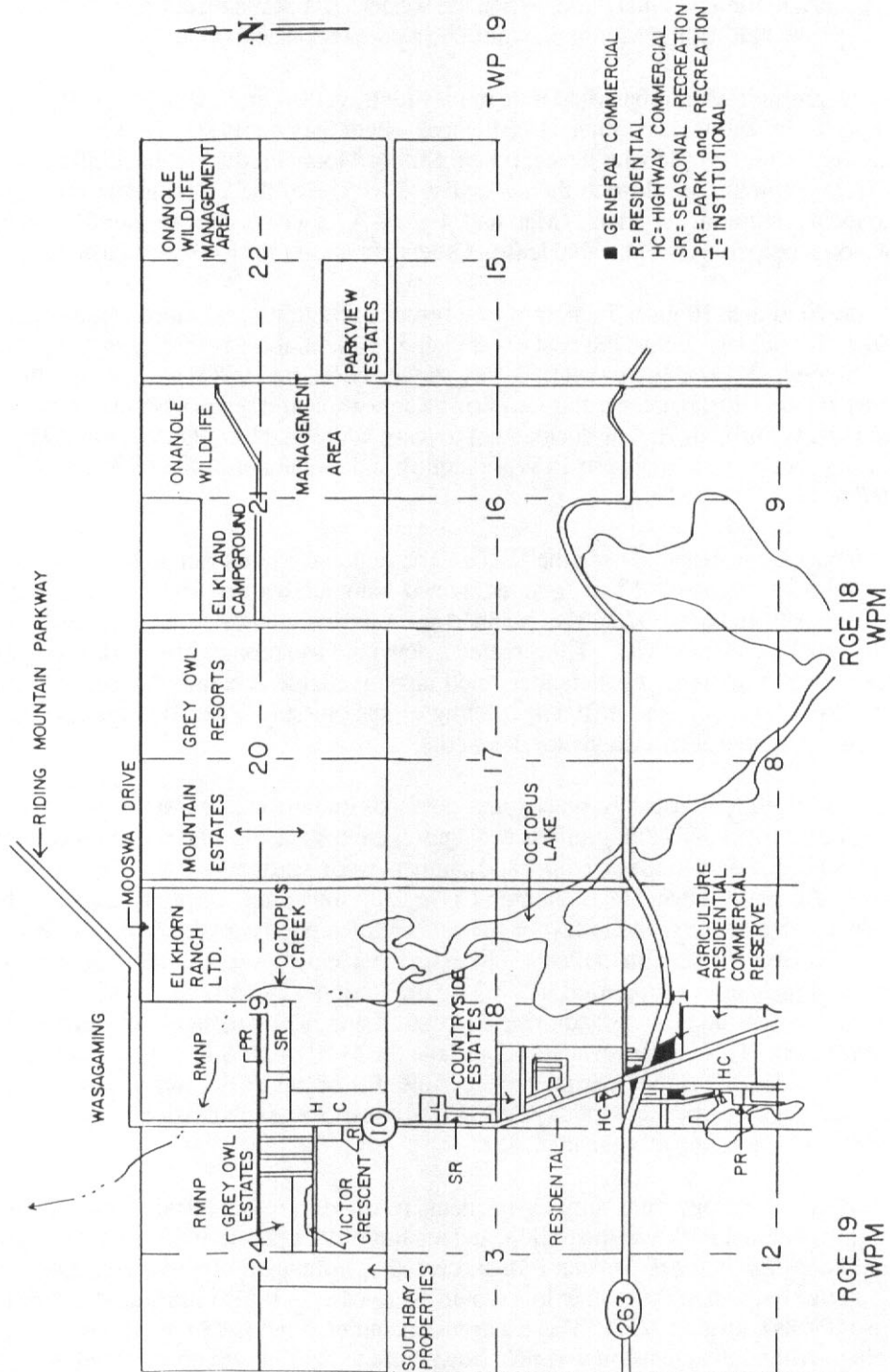
In 1916, the government commissioned a survey of the forest reserve to find a new location for a resort subdivision. The Clark's Beach area on the south shore of Clear Lake was selected. The initial subdivision consisted of 17 lots along the lakeshore. By 1923, however, plans were revised and the number of cottage lots was expanded to 175, which were laid out in 17 blocks (Figure 3) (Lothian, 1979). Annual permits for lots were issued under the Forest Reserve Regulations for ten cents per foot of frontage (Ringstrom, 1981).

A second cottage subdivision was established by the Forestry Branch in 1928 on Clear Lake's north shore (Figure 1). It was officially known as Clear Lake Subdivision but residents called it Dauphin Beach. The subdivision consisted of nine blocks, each in the shape of a horseshoe facing the lake. Blocks contained 10 to 18 lots (Lothian, 1979). A primitive road connected the subdivision to the main forestry road.

When Riding Mountain became a national park in 1933, about 70 of the 175 lots in Clark's Beach Subdivision were occupied under annual permit. Many of the cottages, however, were not located within lot lines, nor did they always adhere to park regulations that required a public reserve 30 metres in width along the lakeshore. A team of engineers led by Joseph Hardouin resurveyed and expanded the subdivision to bring it up to the status of a park townsite. Hardouin's survey provided a residential area of 24 blocks incorporating the former Clark's Beach Subdivision. The name of the townsite was changed to Wasagaming, a Native term meaning Clear Lake. In 1932, Acting Park Superintendent, James Smart authorized the opening of all lots not already spoken for on a first-come, first-served basis.

Figure 4

Land Use, Subdivision and Development in the Clear Lake Basin Area of LGD of Park



At this time, in addition to residential expansion, plans were underway to construct public campgrounds, a commercial centre, a day-use recreation area, park headquarters and an improved road system. Work on the Riding Mountain National Park townsite proceeded much faster than was thought possible, owing to an infusion of money and employment as a way to assist jobless persons during the Depression.

Cottage settlement was encouraged for several reasons. The park was new and needed to build up a clientele. Originally there had been controversy regarding whether the Riding Mountain or Whiteshell site was more appropriate for a national park. When the western Manitoba location was chosen, the administration wanted to prove that Riding Mountain would be a popular place to visit.

During the Depression Manitobans had little money for travelling and vacationing. Those who could travel looked for a place close to their permanent residences where they could stay for an extended period of time with their family. Thus, people who leased lots in Riding Mountain during the 1930s primarily were from Brandon or rural communities close to the park. By 1950, 188 of the 256 summer cottages were leased to Brandon and local community residents (Marshall, 1973). A majority of the residential cottages are operated by the Crown on a perpetually renewable lease. Others are leased for a 42-year term.

The townsite continued to grow in stature as a resort community and more and more people requested residential lots. By the late 1950s, the cost of servicing residential areas increased faster than income from land rents. Although rent was increased to defray service costs, by 1958 it was evident that the community had outgrown available infrastructure, thus requiring a new water and sewer system to service the north shore. Because costs were exorbitant, it was decided not to lease additional lots. On 26 May 1959, the government ruled that further leasing of cottage lots in Wasagaming and on the north shore would no longer be possible (Lothian, 1979).

A change in park focus began during the 1960s. The regional population was steadily employed and had increasing disposable incomes. Most families owned automobiles and spent their extended holidays on destinations further from home. They also planned several trips of shorter duration each year, and national parks became popular places to visit. This created a new land use problem for park management. Seasonal users, whether cottage or cabin dwellers, occupied most available accommodation spaces in the townsite. Short-term visitors, however, had difficulty finding a place to stay. The Wasagaming Campground was opened in 1964 to handle short-term visitor demand.

Changing recreational patterns also placed new demands on land use. Most waterfront sites already were occupied by cottages, seasonal campgrounds and church groups leasing land for summer camps. Waterfront activities and picnic grounds for day-visitors and campers were confined to a small crowded section between the south shore of Clear Lake and Wasagaming Drive. Administrators began to question the use of land in the townsite by private owners, and to favour the concept of supporting greater public recreational land use and increased resource protection policies. Management called for a containment of development in Wasagaming; a view that was supported in 1963 by the National Parks policy statement which called for a long-term phasing out of cottaging by acquiring all existing summer home sites through the process of attrition (Parks Canada, 1988). This view prevailed throughout the 1960s and 1970s causing uncertainty and ill-will among summer residents. In the interim, private buildings began to fall into disrepair and the upkeep of grounds suffered. It was feared that septic systems in the North Shore subdivision would deteriorate, polluting the groundwater, and subsequently the lake.

Public outcry from Wasagaming summer residents resulted in re-appraisal of the attrition policy by the Riding Mountain National Park administration, and institution of a public-input process. As a result the 1977 *Riding Mountain National Park Master Plan* accepted continuance of private cottages and cabins as a traditional land use even though no new lots would be released. It also reinstated the visitor centre as an acceptable use (Parks Canada, 1977). These actions encouraged modest improvements and redevelopment in Wasagaming. Although expansion was not allowed in the park, it was encouraged in surrounding areas.

The *Wasagaming Community Plan* is part of the *1987 Riding Mountain National Park Management Plan*, and provides guidance for the future development, maintenance and administration of the community. The community plan, in addition to permitting continuation of cottages, delineates the following regulations:

- (1) cottage development will remain at existing size and number,
- (2) the reserve along the lakeshore will remain available for public use as a lakeshore walk,
- (3) *National Park Cottage Regulations* and *Wasagaming Cottage Building Guidelines* must be followed in upgrading and renovating cottages,
- (4) cottagers will assume more costs associated with municipal services and each site must provide one parking space, and
- (5) Canadian Parks Service will only purchase cottages required for public or park operational purposes (Parks Canada, Community Plan, 1988).

These regulations not only returned some control of private ownership, but also established security, and cottage owners began to take better care of summer homes. This situation prevails today in cottage areas.

Seasonal Campgrounds

Camping also was popular at Clear Lake long before Riding Mountain became a national park. In fact, one of the first projects undertaken by workers during the Depression was to build a public campground. In 1930, five acres at the west side of the townsite were divided into streets each containing several camping lots (Lothian, 1979). Workers built kitchen shelters containing wood stoves, tables, benches and ice foot lockers. The next year a piped-in water system was added, toilet and washroom buildings constructed and arrangements made for disposal of waste water and sewage. A community building was erected so that campers could gather for entertainment and dancing. Electricity was added in 1936 to light shelters and streets. The development became known as the Clear Lake Seasonal Campground (Figure 3).

In 1933, the Clear Lake Seasonal Campground hosted 12,154 campers (Lothian, 1979). Camping was so popular in early years that, in 1934, ten additional acres were developed. Expansion continued until 1976, when 45 acres containing 651 lots were available. Of these, 292 were serviced electrically, and 359 were not (Villafranca, 1976).

Most campers came from regional centres such as Brandon, Dauphin, Erickson, Minnedosa and Neepawa. The western Manitoba prairie offers few attractive spots for woodland and lake vacationing, and many low and middle income families can camp for the entire season at relatively little cost. This was an important consideration during the Depression. Families often return each summer, contain three generations, and have spent ten or more years holidaying at the Clear Lake Campground. They spend an average of 57.3 nights per summer at the campsite (Boux, 1975).

Campers are issued annual seasonal camping permits from the park. Prior to 1962, lots were made available for the season on a first come basis, but this policy caused a rush at the beginning of each summer to get the best sites. According to Boux (1975) "there were many hard feelings if 'that' lot had been taken by someone who had an advantage (lived closer, could get the day off, or was able to set up [their] own equipment)". After 1962, seasonal campers were allowed to reserve a lot for the upcoming year by sending an application and licence fee to the Park Superintendent before 15 April of each year. This way campers could usually keep the same lot every year. The usual result was that seasonal campers occupied the choice lots near the lake while transients were given sites some distance away if they were vacant.

Initially, visitors camped only in tents, but gradually, in the interest of comfort, the park allowed shack-tents, trailers and portable cabins. At the end of each summer, the building or trailer had to be removed and stored outside the park (Marshall, 1973). After 1951, a concessionaire provided a storage area in the townsite for portable accommodation units. The cabins were put up each spring and removed each fall for a fee (Lothian, 1979). The service was discontinued as a result of the *1977 Master Plan* when cabins were allowed to remain on lots year-round, but they could be occupied only during the summer season (May to September) (Stadel, 1991).

The campground had a cluttered, unattractive appearance because there were no regulations concerning size or design of accommodations or set-backs from roads. Increased use of vehicles in the campground caused safety problems for pedestrians, and congestion resulted in landscape deterioration. Trees that provided screening often died or were cut down, and trampling of footpaths by pedestrians allowed surface drainage and erosion to become major problems.

The situation worsened during the late 1960s and early 1970s when park policy discouraged private use and supported public use of campgrounds. Confusion and uncertainty over the future of the Clear Lake Seasonal Campground resulted in poor maintenance of buildings. While the Clear Lake Campers Association conducted surveys and lobbied for support of continued seasonal use, park administrators began preparing a master plan for the development of Riding Mountain.

In the interim, the structural condition of cabins, kitchen and toilet shelters deteriorated. In spite of increased vehicular traffic, no new parking facilities were developed. However, these issues were recognized, and in 1976, Parks Canada called for a plan to redevelop Clear Lake Seasonal Campground. The plan presented alternative designs to renovate campground buildings, realign internal roads and provide more parking areas. To accomplish this, several campsites were withdrawn, bringing the total of 651 campsites down to 525 (Villafranca, 1976).

Public support in favour of retaining seasonal use of the Clear Lake Seasonal Campground paid off as the *1977 Master Plan* accepted its continuance as a traditional land use. The campground, however, was restricted to its current area and service was maintained at present levels (Parks Canada, 1977). Certain physical enhancements were undertaken to improve conditions.

A post-audit screening report in 1984 recommended specific alterations to roads and pathways. Traffic was restricted in the campground by looping streets. A greenbelt was created in the centre and along the edges of the campground. Footpaths were widened and paved and a drainage channel was to be constructed to prevent erosion (Cowie, 1984). Through these actions much of the landscape deterioration caused by human impact was lessened.

The community plan concept in the *1987 Park Management Plan* set out specific objectives and policies concerning seasonal campgrounds. These regulations currently are in effect and cover size of campground, maintenance of buildings, parking provision, cabin building guidelines and seasonal camping permits (Parks Canada, 1988).

Wasagaming Campground

The decade of the 1950s saw a dramatic change in visitor-use patterns in Riding Mountain National Park. Although seasonal camping remained popular, the greatest increase in visitor use came from people using trailers or tents wanting to camp in the park for brief periods. Increasing availability of automobiles opened new possibilities for short or weekend family summer vacations at relatively low cost. Clear Lake Seasonal Campground experienced use conflict as a result of this trend. Most of its camping lots were booked ahead

by seasonal campers, and transient visitors found it difficult to obtain reservations. By 1958, it was evident that Clear Lake Seasonal Campground had reached the saturation point.

Development of a new campground for transient campers was approved in 1959, and a site of 126 acres was chosen for the Wasagaming Campground, which is located within the townsite, east of the business area (Figure 3) (Lothian, 1979). Construction began in 1959 by clearing land for approximately 500 sites, preparing access roads and building 20 kitchens and 10 toilet shelters. A large trailer section was included and contained hook-ups for water, sewer and electrical services.

The official opening was held in 1964, although a small portion of the campground was opened in 1962 for transient campers. A total of 4,842 permits were issued in the campground during the first season (Marshall, 1973). Wasagaming Campground is the largest campground in Riding Mountain National Park, and absorbs the greatest share of total party-nights (80 percent). Between 1977 and 1982 the average total annual party-nights remained constant at 24,600. Projections for the 1983-1993 period call for a modest one percent increase. The campground is seasonal, operating from May to September, with an overall 40 percent occupancy rate. During July and August, however, the campground is filled to two-thirds capacity and during peak holiday weekends it often is full. These use figures are bracketed by shoulder season averages of 10 to 30 percent occupancy (Ferre, 1983; 1984).

Camping was tent-oriented in the early years. A survey conducted in 1968 reported that 48 percent of the Wasagaming Campground lots were occupied by tents, 26 percent by tent trailers and 25 percent by trailers (Marshall 1973). An increase in recent years in the use of self-contained campers has necessitated modification of some of the tenting areas.

Several human impact problems developed in the Wasagaming Campground. Most difficulties concern the logistics of coping with increased numbers of people and vehicles in the area. The 1977 *Master Plan* dealt with the issue of overcrowding by restricting further expansion within Wasagaming townsite (Parks Canada, 1977). Park officials felt that if additional facilities were needed in the future, they could be located outside of Wasagaming. Administrators, however, recognized a need for redevelopment of a road system in and around Wasagaming. Prior to implementation of the Parkway Bypass and construction of a new entrance into Wasagaming, traffic was routed down Mooswa and Wasagaming Drives, through the business core and out through the cottage area. Major traffic congestion occurred during summer months, especially when long registration lines formed for Wasagaming Campground. It was not uncommon to see campers and trailers queued for blocks.

Studies recommended a bypass road to eliminate the 40 percent of entering vehicles that were not destined for Wasagaming from the townsite. A new townsite entrance from the bypass to connect with Columbine Street would provide direct access to the Wasagaming Campground and cottage areas as well as provide collector or storage lanes for vehicles waiting in campground registration lines. Wasagaming Drive could then be used mainly for access to the Boat Cove, Clear Lake Seasonal Campground and a proposed day-parking area. With removal of 40 percent of the vehicular traffic from the business area, it was hoped that a more pedestrian-oriented environment could be developed (Parks Canada, Prairie Region Planning Division, 1977).

Care was taken during the road design and construction stages to leave as much of the local landscape as possible undisturbed. Landfill material from local borrow pits was used to repair areas that were disturbed. Special handling was required in the Octopus Creek section of the road so as not to disturb spawning grounds for fish and fowl. Trees and other vegetation barriers were left to screen the new road from campground and residential areas.

Once the new road system was in place, attention focused on upgrading the internal road system and facilities in Wasagaming Campground. Barber's (1976) report concerning a pedestrian and bicycle circulation system for Wasagaming (later revised by Cowie, 1982), advocated an improved pedestrian trail system to allow campers to walk more directly through the campground without getting lost. The existing circular pattern created confusion for visitors. A second objective called for a pathway system to link the campground more directly with the downtown business core, the beach and the Lakeshore Walk.

In the summer of 1981 Parks Canada retained the firm of Hilderman Feir Witty and Associates, with I.D. Engineering, AEB Engineering and Number 10 Architectural Group, to prepare an area development plan and design for upgrading the Wasagaming Campground. The design focused on three areas:

- (1) the restructuring of the main campground entrance road, upgrading campground sites and pathways and rehabilitation of disturbed sites,
- (2) designs for specific facilities such as an entrance kiosk, washroom and shower building, and street lighting, and
- (3) general recommendations for improving kitchen shelters, site furniture, signage and a site maintenance program (Hilderman, 1981).

The selected design placed the entry kiosk 250 metres inside the campground where it could be used to monitor activity in all sections of the campground. The roadway to the kiosk was divided and beyond the kiosk there would be a separate road for each type of camping (serviced, semi-serviced or unserviced). Privacy was gained for campsites because vehicles from one area would not pass through another. All roads in the campground were widened to accommodate two-way traffic. The plan eliminated some existing roads and proposed that the area involved be rehabilitated to match the surrounding landscape. This required removal of previous road surface material, regrading without destroying trees or shrubs, importation of topsoil, and planting of native trees and grasses.

Development of new roads in the campground required more space. Eighty-one campsites were removed and the area rehabilitated in the same manner as the original road beds. Once covered with topsoil, most of the former campsite land was left to regenerate.

Some sites were redeveloped into three types of pathways. A major pathway system was constructed as a 2.44 metre wide asphalt pedestrian and bicycle path through the middle of the campground along the entrance road. This system connected all three camping sections to the lakeshore. The major pathways were carefully landscaped to allow high intensity use by pedestrians, cyclists, handicapped persons in wheelchairs, those wishing to rest on benches, and people gathering together to listen to interpretive lectures along specified trails.

A secondary system of service pathways that linked washrooms and kitchen facilities with campsites was upgraded. These pedestrian pathways were expanded to 1.8 metres in width and covered with gravel. Local vegetation was used to screen shelters from campsites to make the area more aesthetically pleasing.

A third type of pathway within the campground consisted of narrow trails which connected various parts of the campground with each other. Usually they were dirt-surfaced, but gravel could be added to correct muddiness or grade.

In addition to redeveloped road and pedestrian pathway systems, better designs for shelters and campsites, installation of a good lighting system and proper signage improved the function of Wasagaming Campground. Although the number of campers has remained constant, the redesigned and expanded circulation systems and facilities lessen the congestion when so many people concentrate in one area, and restricts opportunities for undesirable human activities which damage the environment. Landscaping was completed with the mandate to blend in with the natural beauty of the park.

Commercial Land Uses in Wasagaming

In 1931, Acting Superintendent James Smart authorized a survey to prepare development plans not only for an expansion of cottage subdivisions and a public campground, but also for the creation of a business subdivision. The new commercial area was to occupy three blocks of lots just to the west of the cottage area. Additional areas were reserved for park development and construction of hotel and bungalow accommodations (Figure 3).

Private development of commercial sites began in 1932. Lots were leased for stores, a tea-room restaurant, a rooming house and a service station (Lothian, 1979). Most were constructed along Wasagaming Drive (Figure 5). A large 67-room hotel was completed in 1933 and served the visitor-use demand for accommodation in Wasagaming until it was destroyed by fire in 1959. Forty more units accommodated visitors in the Idylwyld Bungalow Camp opened in 1932. The original Baker Hotel was replaced by the Sylvan Lodge, which also was destroyed by fire in 1969 (Lothian, 1979).

Additional surveys carried out between 1935 and 1939 extended the boundaries of Wasagaming to more than double its original size. The business area gained three more blocks for commercial development (Parks Canada, Community Plan, 1988). In the next decade, several projects were undertaken both by the Parks Service and private enterprise to provide recreational facilities such as a dance hall, theatre, golf course, lawn bowling greens, tennis courts, a children's playground, picnic areas, a beach, a boating area, a roller skating rink and a bowling alley. A fire hall was erected by the National Parks Service as well as a breakwater on the waterfront which allowed the operation of a private boat livery. Campgrounds were enlarged and a new Lakeshore Road constructed leading to the golf course and Superintendent's residence. A ten acre site was reserved as a government industrial area for a central garage, trade shops, living quarters for maintenance staff, a medical centre and a building for the R.C.M.P. (Lothian, 1979).

The post-war boom in visitor use created new demands on the townsite. Day-trippers required parking lots, service stations, park areas for picnics and recreation, change houses at the beach, and more restaurants and stores. Short-term travellers needed trailer and tent camping sites, grocery stores, and bicycle and pedestrian trails. These new facilities had to compete for vacant land with the more permanent visitors building cottages. By 1956, Wasagaming had 263 cottages, 15 stores, 6 hotels, 10 guest houses, 2 motels, 11 restaurants and cafes, a telephone office, a post office and 3 service stations (Stadel, 1991).

Facilities built to meet increased visitor demand often were juxtaposed in a haphazard fashion where space permitted. Land use conflicts arose as cottagers, campers, day-users and retail operators vied for limited space, and human impact on the environment began to cause problems. Overcrowding and over-development put a strain on municipal services and visitor safety was jeopardized by increasing vehicular traffic through the centre of the townsite. A bypass was needed to divert through traffic and new roads and entrances were required to disperse in-town traffic. Deteriorating streets, lands and sidewalks needed repair, and more parking lots, bicycle and walking trails were needed to encourage a pedestrian orientation in Wasagaming.

All these requirements would result in alteration of the townsite. Construction of new roads, commercial and industrial facilities would disturb the landscape, destroy trees, shrubs, grasses, and soils, and change habitats for mammals, birds and fish. Visitors had and would continue to cause considerable environmental damage in that the sheer number of people moving about the townsite trampled vegetation, and littering created pollution and attracted unwanted wildlife into the community.

Location of Commercial Operations in Wasagaming - 1987



It was obvious that Wasagaming was overcrowded. Conflicts in the 1950s caused park administrators to question the role that National Parks should play in providing facilities to the public. The existing philosophy of providing large scale resort-style recreational opportunities for park visitors was replaced by a different approach where conservation of park resources was considered equally important. Visitors were encouraged to enjoy the park in its natural setting and only activities that fostered appreciation and understanding of the heritage resources and themes of the park were encouraged (Parks Canada, Community Plan, 1988). Services, activities and facilities that did not complement this philosophy were discouraged and facilities such as the roller skating rink and bowling alley were moved outside of the park to the Onanole Corridor.

A policy of containment of townsite development also was introduced. Beginning in 1959, further cottage site leasing was discontinued in an attempt to lower the density of private structures. When both hotels burned (the Chalet in 1959 and Sylvan Lodge in 1969), neither was replaced and the land was purchased by the park to be used for public parking (Lothian, 1979; Federal Buildings Review Office, Building Report #85-43/85-54). For a time, park policy advocated the long-term objective of acquiring all summer hotel sites and the seasonal campground.

After years of planning and public dialogue, a *Master Plan for Park Development* was introduced in 1977. The plan confirmed that Wasagaming would serve as Riding Mountain's Visitor Services Centre. Expansion, however, would be confined to existing boundaries (Figure 3 and 5). The plan also accepted the traditional land use of cottages and seasonal campgrounds, but restricted further development in these areas. Although new commercial accommodation and facilities would be encouraged to develop outside the park, especially in the Onanole Corridor, renovations to existing businesses in Wasagaming were encouraged to improve their physical appearance, economic viability and safety (Parks Canada, 1977).

The *Master Plan*, therefore, defined a community concept which set the objectives and policies for the townsite in terms of size, boundaries, land use, and physical appearance. It also provided for fiscally responsible administration to guide and maintain the community. The *Community Plan* called for close interaction among Wasagaming, the Local Government District of Park and the unincorporated village of Onanole. In formulating the plan, administrators considered visitor surveys, public input, marketing surveys, technical assessments and National Park Acts, regulations and policies (Parks Canada, Community Plan, 1988). The *Community Plan* recommended an updated commercial study to analyze existing operations in Wasagaming to suggest improvements, determine locations, and identify the number and types of businesses needed. It prepared zoning regulations and examined possibilities of winterizing commercial operations.

The need for such a study was evident as early as 1977 because several proposals had been submitted to park administrators for expansion of existing businesses and new commercial ventures. A framework was needed to evaluate short- and long-term demands. The high cost of proposed research and the need for a visitor survey to determine demands on the commercial sector postponed implementation of the plan until late 1978.

In 1978, 41 businesses operated in Wasagaming. Ten outlets provided 335 accommodation units, 10 restaurants and food services contained 686 seats, 16 businesses offered retail sales or services to the public, and 5 outlets were in the entertainment and recreation business (Fay, 1980).

Various factors were recognized as influencing the planning of commercial land use in Wasagaming and limiting the degree of change allowed. The *National Parks Act* maintains control over land use in parks by limiting commercial activities to essential services. While the private sector is encouraged to open new businesses, the land is not available for purchase. Investors must apply to the Park Superintendent who has authority to issue business licenses and leases. The Wasagaming marketplace also is influenced by its seasonal nature, and the cost of doing business in the townsite is high since most outlets can open only from 15 May to 15 September. To offset seasonality, business owners often provide several services in one outlet.

The study indicated that Wasagaming had an adequate supply of commercial services in the form of motel, cabin accommodation, grocery stores, service stations, clothing stores, gift shops, recreational services and restaurants to serve park visitors. An oversupply of gift stores was evident. Although there were public requests for cocktail lounges, pubs and more recreational opportunities for teenagers, these activities were not considered appropriate in a national park setting.

Several studies were completed during the next ten years to identify trends affecting tourism. Included were surveys of the characteristics of park visitors and their satisfaction with commercial services in and around Wasagaming¹. The demographic profile of Canadian tourists had changed from primarily family-oriented visitors to use by young, unmarried people and older retired couples. People are more conscious of outdoor activities than they had been 10 years earlier, and also more sophisticated in seeking creative vacation experiences. The park, therefore, has to offer a wide variety of unique, high-quality services at reasonable cost to satisfy new demands. Annual visitation, however, has not increased significantly, and it is expected that demand for park services will not increase significantly in the near future (Environment Canada, 1988).

An updated commercial study to identify current trends was completed in 1988. There were few changes in the number or types of businesses in Wasagaming between 1978 and 1988 but 30 percent of retail sales outlets and 50 percent of food services had changed ownership. Wasagaming outlets remained highly seasonal, catering mainly to summer tourist clientele. Primary businesses provide accommodation, fast food and gift shops. Housekeeping style accommodation decreased by 30 percent, while lodge style accommodation increased 14 percent.

Park Services and Facilities

Park services and facilities in the townsite area include not only the municipal infrastructure handling water, sewage, solid waste disposal, electrical power, and road maintenance, but also the operation of administrative offices and buildings and interpretive facilities. Although intricately related to subdivision and development, the essential services are reviewed separately because of their importance in allowing, maintaining and potentially restricting options in Wasagaming.

Water and Sewer Systems

The initial design for a summer water service for Wasagaming was instituted in 1936, when a 20,000 gallon steel tank was built to house water pumped from Clear Lake. A series of shallow mains carried the water to park administration buildings, commercial outlets and the Clear Lake Seasonal Campground. Removal of waste products from these areas was accomplished by a low volume sewer system (Lothian, 1979). This limited water and sewer distribution system did not incorporate the cottage area. Cottage residents were required to supply their own water or use lake water. They also used private septic systems.

As visitor use of Wasagaming increased, the need for an improved water and sewage system was identified. Since water pressure was low in many areas and water would freeze in shallow pipes during winter, fire

1 Included were the Riding Mountain National Park Visitor Survey (Wallace-Brown, 1987), the 1986 Woods Gordon report entitled Riding Mountain National Park Marketing Strategy, the Wasagaming Market Report by Tourism Manitoba-Parkland Region, and the 1987 Visitor Activity Management Process by Park staff: Not all original documents were available to the authors, but were reviewed in available reports.

fighting was jeopardized. A new water system was introduced in 1962-63. A brick pump house was constructed on Crocus Street (Figure 5). Water was pumped from an intake pipe that extends 800 feet into Clear Lake, to a storage tank, where it was purified, and then distributed through small pipes to buildings. Most cottages were included in the new system, and winter water bleeders were installed to keep water from freezing in cold weather.

A new town sewage system also was completed in 1963. Sewer mains carried waste to a lagoon system in the southwest section of the townsite (Figures 1 and 3). Two pumping stations, one at the east end of Wasagaming and one near the Clear Lake Seasonal Campground, pushed the effluent to the lagoon where it was purified. Purified waste drains from the lagoon into the Octopus Creek-Ominnik Marsh-South Lake system.

The original single cell treatment facility allowed a considerable amount of pollution to remain in the treated water released. The new system expanded the lagoon to three cells occupying 17.9 acres, with a total storage capacity of 21.4 MIG. Total cost of the system was \$640,000 (Lothian, 1979; Rempel, 1977).

In 1972, the Federal Government Environment Protection Service called for clean-up of existing sources of pollution from federal establishments when it published *Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments*. The purpose was to regulate treatment and establish standards for effluent quality applicable to waste water discharged from all federal installations. The guidelines state that sewage treatment should eliminate concentrations that (1) are toxic to lifeforms, (2) result in sludge deposits which might settle in the lake once discharged and harm aquatic life, (3) form oil or scum on surface water, (4) produce adverse colour, turbidity, taste or odour in the lake, or (5) produce nutrients which cause growth of weeds or algae in the lake (Environment Canada, 1976). The guidelines also set limits for allowable concentrations of chemicals and bacteria in treated water.

A minimal treatment system includes activated sludge plants, trickling filters, rotating biological contractors, independent physical-chemical plants and two-celled lagoon systems. Discharge is required each spring (Environment Canada, 1976), and compliance with disinfectant treatment guidelines is mandatory. Sample monitoring is conducted to control and record residues, and alarm systems are installed to warn of malfunction. Appropriate action is taken if guidelines are violated.

In light of the federal guidelines, Riding Mountain National Park began assessment of the adequacy of sewage treatment facilities. In 1976, the firm of James F. MacLaren Limited carried out an *Engineering Study of Sewage Treatment and Disposal Requirements for Riding Mountain National Park, Manitoba* (Rempel, 1977). The first of two volumes is an information survey identifying areas of concern, and the second volume is a systems design plan that includes findings, recommendations and cost estimates for improving Wasagaming's water treatment systems. The assessment concluded that operations of park water systems are satisfactory, but that certain modifications were needed to conform to government guidelines. Specific waste water problems concerned the need to (1) reduce bleeder flows, (2) reduce infiltration into the sanitary sewage system, (3) upgrade the sewage lagoon, (4) upgrade waste treatment at the golf course clubhouse, and (5) upgrade the sewage ejector systems at the warden stations. It was recommended that bleeder flow be reduced by mechanically altering the pumping station with installation of a hydro-pneumatic tank, eliminating three bleeders and reducing individual flows to optimize present freeze protection bleeders. Sanitary sewage infiltration could be reduced by the use of chemical grouting, and replacement or lining of leaking pipes. Groundwater monitoring near the sewage lagoons would determine the extent of pollution caused by infiltration from lagoons, and an additional primary treatment pond adjacent to the lagoons would increase capacity. A new septic tank and tile field were recommended for the golf course clubhouse. Sewage ejectors for warden stations should be replaced by above ground NODAK filter systems (Rempel, 1977).

A second report was issued in 1977 entitled *Groundwater Investigation at the Wasagaming Lagoon Site - RMNP* (Rempel, 1978). It reported that degradation of groundwater has occurred near the three lagoons but contamination was not serious. In light of the information collected, it was concluded that expenditure of \$500,000 to construct another treatment cell was not justified. It was suggested, however, that \$14,000 should be spent on pump house alterations in an effort to minimize waste water flow (Rempel, 1978).

In 1985, funds were approved for installation of a septic field at the Wasagaming Golf Course. It was hoped that the new septic field would prevent accidental overflow from the existing holding tank which was requiring weekly pumping (Toews, 1985).

Storm runoff also caused difficulties. For years it flowed off the land through a series of pipes directly into Clear Lake. Pollution carried in the runoff was a potential danger, as was soil erosion when pipes overflowed.

Solid Waste Disposal

Two federal documents concerning solid waste disposal were written in the late 1970s. The *Code of Good Practice on Dump Closings or Conversion to Sanitary Landfill at Federal Establishments* set guidelines to close open dumps that were attracting unwanted wildlife such as rodents and bears, polluting the air by dust, smoke and odour, creating fire hazards and polluting the surface and groundwater. Regulations were introduced to restrict unauthorized access by erecting signs and fences, to cover dumps with sanitary landfill and to prevent pollution (Environment Canada 1977).

Federal guidelines for solid waste disposal were released the following year. The objectives of solid waste management at federal establishments are to gain maximum safety, efficiency and economy in the collection, storage, transportation and dispersal of solid wastes such as garbage, combustible and non-combustible rubbish, ashes, street or grounds refuse and industrial wastes (Environment Canada, 1978). The document lists guidelines for types of containers used, how to segregate waste materials, the frequency of collection, types of vehicles used and disposal (i.e. incineration or landfill).

Using federal guidelines, Riding Mountain National Park upgraded existing collection and disposal systems in Wasagaming and the North Shore subdivision. A report was prepared in 1981 to assess present conditions and recommend changes. Section One of the report details problems and reviews alternatives. Section Two determines waste quantities in the townsite. Section Three discusses the potential of a centralized container system. Section Four describes the present landfill operation used at the Grey Owl landfill site (Figure 1) and reviews costs and implications of establishing an incineration facility rather than integrating into a regional system (Rempel, 1981). Several recommendations have been adopted since 1981 and Wasagaming now uses a containerized system of collection.

Electric Power Supply

The first electric power system was introduced in 1935, when a small generating plant producing 120 kilowatts was set up in a power house in the townsite. At first this system produced power only for government buildings and street lighting in Wasagaming, but by 1937 light standards and poles had been installed around the townsite. The generating plant continued operation until 1946 when power demands exceeded the capacity of the station and the park purchased a contract for electric power from the Manitoba Power Commission. This agency extended a connection line from Erickson to Wasagaming at a cost of \$14,000 to the National Parks Branch. The arrangement remained in place until 1958 when demand again exceeded supply. Negotiations resulted in the Manitoba Power Commission taking over the distribution system, making improvements and providing power in return for a franchise agreement allowing the

Commission to purchase the park generating plant and the right to sell power in the townsite for 20 years. Later, a lease covering the site of the generating plant was issued to the Commission's successor the Manitoba Hydro-Electric Board (Lothian, 1979).

It is evident that the consultants' reports have had a great impact on designing systems to improve the quality of Wasagaming's municipal infrastructure. As a result, many human impact issues associated with water, sewage and solid waste disposal have been kept to a minimum (e.g. inadequate water supply, seepage of pollution into groundwater, lake pollution, soil erosion, unsightly littering, troublesome wildlife control, air pollution and unsightly disturbed sites). Other improvements have been proposed, but lack of funds has prevented adoption.

Management of Roads

Human impact associated with vehicular access and congestion has been discussed previously in connection with the development of the Wasagaming Campground. The 1977 report on *Wasagaming Roads and Parking* (Parks Canada, 1977) details many issues and led to construction of a bypass road and a new exit to Columbine Street, on which visitors can drive directly to the Wasagaming Campground without having to enter the townsite (Figure 3). These projects greatly eased vehicular traffic on Wasagaming Drive. Formation of collector lanes for vehicles awaiting registration at the Wasagaming Campground, along with realignment of internal roads for both the Clear Lake and Wasagaming Campgrounds, also solved other major road safety problems. The *Area Redevelopment Plan for Wasagaming Campground* (Hilderman, 1981), the *Clear Lake Campground Area Redevelopment Plan* (Villafranca, 1976), and the *Post Audit Screening Clear Lake Campground Road and Pathway Construction* (Cowie, 1984), review traffic and access problems and offer solutions.

Establishment of more and larger well-marked and landscaped parking lots on the periphery of the townsite has helped to create a pedestrian orientation to the commercial sector. The Barber (1976) report, *Pedestrian and Bicycle Circulation System for Wasagaming Visitor Services Centre* (revised by Cowie, 1982), helped persuade people to recapitalize projects to improve street surfaces, curbs, sidewalks, and bicycle and walking trails in the townsite. Not only have these projects improved the safety for pedestrians, the handicapped and cyclists, but also they have reduced soil erosion problems. Although a proposed pedestrian mall that would involve closure of some streets to traffic has not materialized, the idea may be considered if funding becomes available.

Park Buildings and Interpretive Services

The 1977 *Master Plan for Riding Mountain National Park* reaffirmed Wasagaming as the visitor services centre for the park (Parks Canada, 1977). A policy of containment, however, prohibited further land expansion for such services, and congestion in the central townsite area, where most of the information and interpretive services are located, causes human-impact problems. Government buildings are used to provide services which include the museum-interpretive centre, an information bureau, an administrative office buildings, the fire hall, a medical building, the service compound, and residences for the Park Superintendent and other staff required to live in the park (Figure 3). The *Community Plan* objectives state that park visitor centre facilities should be upgraded to better serve visitors, respond to changing markets and improve the appearance of the townsite (Parks Canada, 1988).

The Interpretive Centre and the Administration Building are located on Wasagaming Drive in the centre of the day-use park area. It has been recommended that the information and office functions be relocated to an area where visitors entering the park may have better access. Visitor-use surveys indicate that many visitors are not aware of the downtown location and often do not receive park information and regulations (Hanna, 1985; Wallace-Brown, 1988). Moving these facilities closer to the park entrance also would free more land for the day-use area and relieve some downtown overcrowding. These recommendations have not been implemented owing to insufficient funding.

The Administration Building was renovated in 1991 to improve space for wardens and other park staff. In 1957 the park information bureau was moved from the Administration Building to Wasagaming Drive just north of the south entrance. This building is open during summer and provides park information, maps and brochures, and sells fishing licenses.

The museum building has been renovated to reflect its natural and historic significance. Furthermore, it serves as the park Interpretive Centre. Interpretive hiking trails, such as the Ominnik Marsh Trail and the Lakeshore Walk, are located in Wasagaming. The Lakeshore Walk has deteriorated over time as other activities encroach upon the lakeshore and create conflicts. The Boat Cove, campground, waterfront and cottager activities interfere with the hiking trail. Lack of maintenance has allowed the trail to deteriorate, with portions washed away, trampled or overgrown. Littering also is a problem.

The Fire Hall and Medical Building remain situated at the corner of Ta-Wa-Pit and Buffalo Drives (Figure 5). The industrial compound once situated in the same area was moved to a new site 2 km east of the townsite and south of the bypass. It contains a service garage for vehicles, a workshop and storage space. Staff accommodation in the park includes the Superintendent's Residence near the golf course and several duplex units in town. Most staff, however, are encouraged to live in Onanole or Erickson, so that families can enjoy a more urban style of life (Lothian, 1979).

Recreational Services and Facilities

Recreational services and facilities and resultant conflicts are discussed in the report in this series relating to visitor services. To review briefly, waterfront activities concerned with swimming, boating, waterskiing, windsurfing, fishing and beach activities such as recreational games, playgrounds and picnic sites all compete in time and space and may cause conflicts. Environmental degradation in the form of soil erosion, water and beach pollution and landscape damage occur when too many people and activities are crowded into a small area. To compensate for overcrowding, the *Master Plan* narrowed the range of activities permitted in the park by stating that only those recreational opportunities that foster the park theme will be permitted. Activities such as rollerskating were moved to the Sportsman's Park in the Onanole Corridor. Other activities requested by visitors such as miniature golf and liquor lounges or pubs, are not allowed in the park.

Subdivision and Development in the LGD of Park-Onanole Corridor

Following restrictions on expansion in Wasagaming in 1977 and institution of formal land use planning in LGD of Park in the early 1980's, subdivision and development occurred rapidly in the designated areas in the LGD of Park (Figure 4). Earlier, unplanned expansion was concentrated in the area along Highway 10 between the south entrance to RMNP and the unincorporated village of Onanole (hereinafter the Onanole Corridor). The area was beginning to experience conflicts because of the haphazard arrangement of existing development. Major problems included lack of central water and sewer systems and safety concerns with multiple access to Highway 10.

In 1978, Onanole contained five accommodation establishments: Elkhorn Ranch, Gray's Cabins, Motel-On-A-Nole, Parkview Cabins and Southgate Motor Hotel. These businesses offered 61 accommodation units. Three were open year-round rather than just during summer. Sportsman's Park provided 175 campsites in 1978. Three restaurants and a grocery store provided food, while Elkhorn Ranch and the Southgate Motor Hotel contained liquor lounges. Other businesses included a service station, hardware store, beauty salon and two horse rental outlets (Fay, 1980). The Town of Erickson, located 25 km south of RMNP, also offers services to park visitors, but use studies are not available.

Between 1978 and 1988, the Onanole Corridor experienced significant increase in numbers of services. Of six restaurants in Onanole in 1987, two were new and one had expanded greatly since 1978. Five accommodation services offered 107 lodge/motel units in 1987 (35 in 1978), and four businesses offered 112 housekeeping units in 1987 (200 percent increase over 1978). In addition, 200 fully serviced campsites are available outside of RMNP. Three of the five accommodation services are open all year (Canadian Parks Service, 1988).

Development began on the more than 600 private lots in seven subdivisions in the early 1980's. The total number of subdivided small-holdings (less than 10 acres) increased most rapidly between 1976 and 1981 (Table 2). Between 1961 and 1976, when small-holdings were not common, about half were developed and half undeveloped at any time. Once the restriction of expansion inside the park created demand outside of RMNP, however, subdivision rapidly expanded the number of lots. The rate of development, however, lagged, as less than one-fourth of the available lots were developed in 1981.

Table 2 The development of small-holdings in the LGD of Park, 1961 - 1989

Year	Small holdings				Total
	Developed		Undeveloped		
	No.	%	No.	%	
1961	19	49	20	51	39
1966	21	45	26	55	47
1971	39	54	33	46	72
1976	52	56	40	44	92
1981	111	22	386	78	497
1986	314	59	219	41	533
1986	314	59	219	41	533
1989	393	61	254	39	647

Source: Curle and Rounds, 1992

As the total number of lots available expanded less rapidly after 1981, development increased as new owners constructed cabins, cottages and second homes in the subdivisions. By 1986, about 60 percent of the lots had been developed and this ratio remained the same even with the addition of 114 new lots between 1986 and 1989. In 1989, therefore, 40 percent of the available lots had either not been purchased, or were not yet developed by owners.

Subdivision and development has been controlled since the inception of a planning district. Each lot must contain a clear well and individual septic field that could later be redirected into a central system. Strict guidelines must be followed to avoid contamination of the groundwater source. For that reason, subdivisions also are located at some distance from agricultural, industrial or waste disposal areas. Treed buffers are required to separate subdivisions from other adjacent areas. Each subdivision has to be linked to the highway

system by a public road that contained adequate drainage ditches, and must be serviced by hydro and telephone lines.

Subdivision and development, however, have not occurred without consequence. Onanole is facing expensive servicing costs relating to demands by seasonal occupants for off-season winter road-plowing and year-round hydro needs. In addition, some cottagers are planning to retire permanently in their cottages, which will increase service demands.

Conflicts also have developed concerning the types of recreational activities that should be encouraged. Skiers and snowmobilers want to use the same trails, while hunters may conflict with those wanting to view wildlife. High-density seasonal home development may disrupt movement of wildlife which traditionally migrated across the park boundary to feed on private lands. Although wildlife areas exist near developments, animals do stray into subdivisions. Each subdivision is encouraged to retain tree cover and woodlots to enhance wildlife habitat. Around Octopus Lake and along Octopus Creek, a 100 metre set-back is required for subdivision lots to protect wildlife. It is along this drainage that development poses the greatest potential threat to the Clear Lake Basin.

SUMMARY

The townsite of Wasagaming has to fulfil a complex role in its position as the Visitor Services Centre for Riding Mountain National Park. Through the years it has served diverse groups with accommodations, recreational opportunities, commercial outlets, interpretive facilities, modern conveniences and satisfactory roads. Furthermore, development has adhered to national park policy by trying to balance conservation and resort-style activities. As expected, however, conflicts occur among groups and activities, and between public and private interests.

The purpose of this paper is to review the development of the area and to identify conflicts to show how human impact has changed the local environment. Moreover, the paper discusses various extant and potential solutions to cope with conflicts. Following is a summary of conflicts and steps taken toward resolution for land use, subdivision and development in the Clear Lake Basin.

Long-term users usually are cottagers or seasonal cabin residents who may have long-term family interests in RMNP. Short-term users include campers or day-trippers who often are young and unmarried, or retired couples, who are highly mobile. The two groups have different expectations when visiting the park.

As a result of early development, cottagers occupy much of the prime land in the townsite. This allows less space for campers and day-users and services and facilities for the latter are concentrated in small areas. Park administrators originally tried to eliminate private use of park land by cottagers and seasonal cabin residents by acquiring properties as they become available. No new lots were leased after 1959 and a policy of attrition was imposed. Public protest resulted in compromise, and the 1977 *Master Plan* allowed existing cottaging to continue. Potential cottagers are now encouraged to build on sites in the Onanole subdivisions.

Short-term users require hotels/motels, bungalows or campgrounds. Prior to 1964 these users competed for bookings in the Clear Lake Seasonal Campground, and often were disappointed. Wasagaming Campground opened in 1964 and caters to the short-term visitor. It was recently renovated to provide improved privacy and access. Through time, therefore, land use decisions have been made that at first encouraged, and later discouraged private development. As the user-public changed ideologies, the need for space for day-use or temporary camping necessitated land use change. Ultimately, sections of the townsite were allocated for specific uses. Expansion of existing cottage and cabin areas was prohibited, and new

facilities were added to accommodate the transient visitors. Today, Wasagaming is a mixture of developments that reflect changes in historical use of the area. All further development was restricted after 1977.

Recreational activities also have generated conflict and environmental change. There is little available beachfront for day-users and campers as cottages occupy much of the waterfront. The relatively small human-enhanced beach offers swimming, boating, waterskiing, windsurfing and fishing. Competition among diverse activities and congestion caused by too many participants may create safety hazards. To reduce negative impacts, visitors are encouraged to use the Boat Cove to relieve central waterfront congestion, but plans for a marina have not been implemented. Channels were created through the breakwater to allow circulation and wave action to clean the beach area and use of chemicals has been discontinued.

On-shore activities may cause congestion in the small downtown area. Day-use area is available for games, picnics, a children's playground, tennis courts, walking and biking. Visitors, however, must cross busy streets to move from the parks to campgrounds, stores and restaurants, and motorized traffic is a hazard to personal safety. Creation of parking lots at the edge of the townsite, and redesigning of the road system has encouraged a pedestrian concept in recent years. A proposed mall on Wasagaming Drive, however, has not been implemented. Littering is a problem in the townsite, because it encourages bears to enter the area. Containerized litter boxes have been installed throughout the community.

Conflicts in the area include landscape degradation from overcrowding, especially when expansion and construction of new facilities occur. Curtailment of new development in the townsite, and elimination of activities and services not in keeping with the park's nature theme have alleviated congestion to some extent. Funds have been committed for renovation and improvement of existing commercial sites, but projects must meet building code standards, and landscaping of disturbed sites is encouraged. Economic impact studies indicate which commercial ventures meet the changing market needs of visitors.

Road patterns originally directed all vehicles into the townsite, causing traffic congestion in the downtown area and long lineups for campers waiting to register at the Wasagaming Campground. A bypass and new access design into the townsite has reduced traffic flow. New parking lots encourage a pedestrian concept, and new internal roads in the campgrounds have improved circulation and restricted landscape degradation.

Park facilities and services also may create problems. Original siting of information and administrative facilities was too far from tourists entering the park and used land needed for day-use activities. Remedial recommendations call for removal of administrative offices to a new site, with information services closer to the park entrance.

The municipal infrastructure is heavily used, but infiltration from the water/sewage system has been reduced. Expansion plans for a new lagoon currently are too expensive to implement. Solid waste removal has been improved by an automated containerized system, and litter and air pollution at dump sites improved by requiring open dumps to be covered with clean landfill. Burning is discouraged and air quality has improved.

Human Impact of Land Use, Subdivision and Development

No area of RMNP has been more disturbed than the townsite of Wasagaming. The permanent cottages not only consumed much of the waterfront area, but also resulted, through time, in development of surfaced roads and storm drainage networks, water and sewer lines, pumping stations, and hydro development. Similar facilities were constructed for the extensive Clear Lake Seasonal Campground, and Wasagaming Campground. The commercial area contains all environmental disruption typically associated with a small town, including road and sidewalk networks, traffic and congestion.

Efforts to diminish human impact through acquiring properties as leases expired or people wished to sell met with public resistance. Ultimately, a plan was put in place to restrict further development, acquire only essential properties, and upgrade existing development according to environmentally sound principles. Even improvements, however, disturb natural areas. Construction of a better road network and expansive parking lots necessitated land use change in order to improve human movement and reduce congestion and conflict. The fact that these changes were affected with environmental sensitivity mitigated further extensive disruption, but retains the town sites servicer character. As with any town with central services, the collection and treatment of wastes creates other potential or real environmental impacts. Although the sewage treatment for Wasagaming currently is adequate, the location of the lagoons along the Octopus Creek-Ominik Marsh-South Lake-Clear Lake drainage poses potential threat at any time owing to malfunction or system deterioration, and water quality could be affected in the Basin.

Human impact on the Clear Lake Basin was not lessened by restriction within RMNP that lead to development outside of the park in the Onanole region. Rather, potential impacts simply were physically moved within the Basin. Although congestion was decreased within Wasagaming, the land use changes and subsequent subdivision and development have occurred primarily within the Octopus Lake-Octopus Creek drainage. Any environmental disruption or changes that occur because of interference with surface vegetation and drainage, or subsurface water quality could impact Clear Lake in the future.

The fact that development outside of RMNP is controlled by a planning district, and that liaison occurs regularly between federal, provincial and local interests should prevent any obvious or immediate negative impacts. What may be lacking, however, is a formalized extensive monitoring network to allow early detection of potential problems, or to identify point-source offenders. This is not only important for areas of subdivision, but also for the remaining agricultural lands in the Clear Lake Basin. No known studies were found concerning the impact of agriculture on water or air quality in the area.

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