The Feasibility of Maritime Wilderness Tourism on Lake Winnipeg

By

Donald Barry Bachinski

A practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfilment of the requirements of the degree of Master of Natural Resources Management.

M.N.R.M.

THE UNIVERSITY OF MANITOBA

FACULTY OF GRADUATE STUDIES

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ABSTRACT

World-wide, ecotourism and adventure travel represent a significant and growing sector of the travel industry. In particular, interest in the maritime tourism sector is exploding. Small cruise ships, yachts, and even sea kayaks now routinely visit the far reaches of the globe.

Although known as a prairie province, Manitoba is also a maritime province, with a sailing history dating back to at least 1668, with the arrival of the *Nonsuch* in Hudson Bay. Lake Winnipeg, North America's fifth largest lake, has hosted numerous world class sailing events, including the Pan Am Games in 1967 and upcoming in 1999. Most of the lake is considered by many to be remote wilderness, and portions of it are being examined as a potential National Park.

The objective of this study was to identify opportunities for, and constraints to, maritime based tourism on Lake Winnipeg. Preliminary work has shown the presence of numerous secluded beaches, wilderness anchorages, islands, and abundant, approachable wildlife. The central region in particular has ample opportunities for people to enjoy easily accessible, relatively safe, maritime wilderness tourism experiences.

Although there are limited facilities on the lake, it is home to a small but active boating community. However, Lake Winnipeg is largely open, shallow, and subject to rapidly building seas. It has minimal services and most areas are far from aid.

Despite some drawbacks, Lake Winnipeg possesses abundant natural qualities which could make it feasible as a maritime wilderness tourism destination.

ACKNOWLEDGMENTS

I wish to thank my committee for their help, encouragement and understanding throughout this drawn out process. Although it was frustrating at times, their encouragement never faltered. On more than one occasion they helped me see the light at the end of the tunnel.

A special thanks must go out to the many people who responded to the interviews, surveys, and just general conversations: many took time out of their vacations to discuss the practicum with me. I found their enthusiasm most encouraging.

Finally, but most importantly, I would like to thank my family for their support, sacrifices and patience throughout both this practicum and the entire course of studies that accompanied it. You are the reason I embarked upon this path. Thank you.

CONTENTS

CHAPTER 1: INTRODUCTION

1.1 PREAMBLE

Maritime related tourism and adventure travel are growing segments of the world tourism industry. The maritime history of Manitoba extends back to at least 1668 with the arrival of the *Nonsuch* in Hudson Bay. Some consider Lake Winnipeg, the world's tenth largest freshwater lake, to hold potential as a wilderness cruising destination.

1.2 BACKGROUND

World-wide, ecotourism and adventure travel represent significant and growing sectors of the travel industry (Weaver et al, 1995). The World Travel and Tourism Council estimated that the world-wide travel and tourism market for 1994 was US$3.4 trillion (Weaver et al, 1995). Estimates of the proportion of this sum derived from ecotourism vary, from US$238 million to in excess of US$12 billion, for international nature travel expenditures by Americans (Weaver et al, 1995). There are at least 35 operators in Manitoba offering ecotourism and another dozen or so offering nature based, adventure oriented adventure travel services, such as white water canoeing (Rounds, pers. com., 1995).

In recent years there has been a growing interest in maritime related ecotourism and adventure travel. Locations such as the Caribbean, the Galapagos Islands, Antarctica and the Arctic (including Hudson Bay) are routinely visited by small cruise ships (Quest, 1998). For the more adventurous,

sailing projects include a trip from Sweden to Russia on a replica Viking long boat (Vikings of Today, 1994) and a proposed meridional (north-south) circumnavigation of the world, passing as close as possible to the North and South Poles (Expedition Arctic-Antarctic, 1995).

Charter cruising, where a client charters a boat and crew (crewed charter) or an un-crewed boat (bare-boat charter), is a growing industry world-wide (Bernon, 1993). Although mainly thought of as a "warm-water" activity, areas such as Scandinavia (Sevenius, 1995), Alaska (Spear, 1995), British Columbia (Bell, 1995), and Great Slave Lake in the Northwest Territories (Carefree Travel, 1995) have growing charter operations. As well, there is currently one small charter operation in Manitoba, and a few private boats are also available for charter (Schroeder, 1994).

Sea kayaking (utilizing stable kayaks with a relatively large cargo capacity) has also become a popular vacation pastime. Areas such as Alaska, British Columbia, the US Pacific northwest, Florida, Belize, Costa Rica, Fiji and New Zealand are some of the many sea kayaking destinations available today (Earlygrow, 1996).

Although known as a prairie province, Manitoba is also a maritime province, with sailing history dating back to 1668 with the arrival of the *Nonsuch* (Schroeder, 1994). In addition to exploration and the fur trade, many of the early settlers arrived by ship via Hudson Bay and then down Lake Winnipeg by sailing boats (most notably the York Boats),and later steamers. Fishing and freighting on the larger lakes was mostly accomplished under sail (Page, 1979). Even after the advent of steamships on the lakes, many residents of the Lake Winnipeg area continued to use sailing boats for their transportation (Leach, 1971). In more recent times, Manitoba

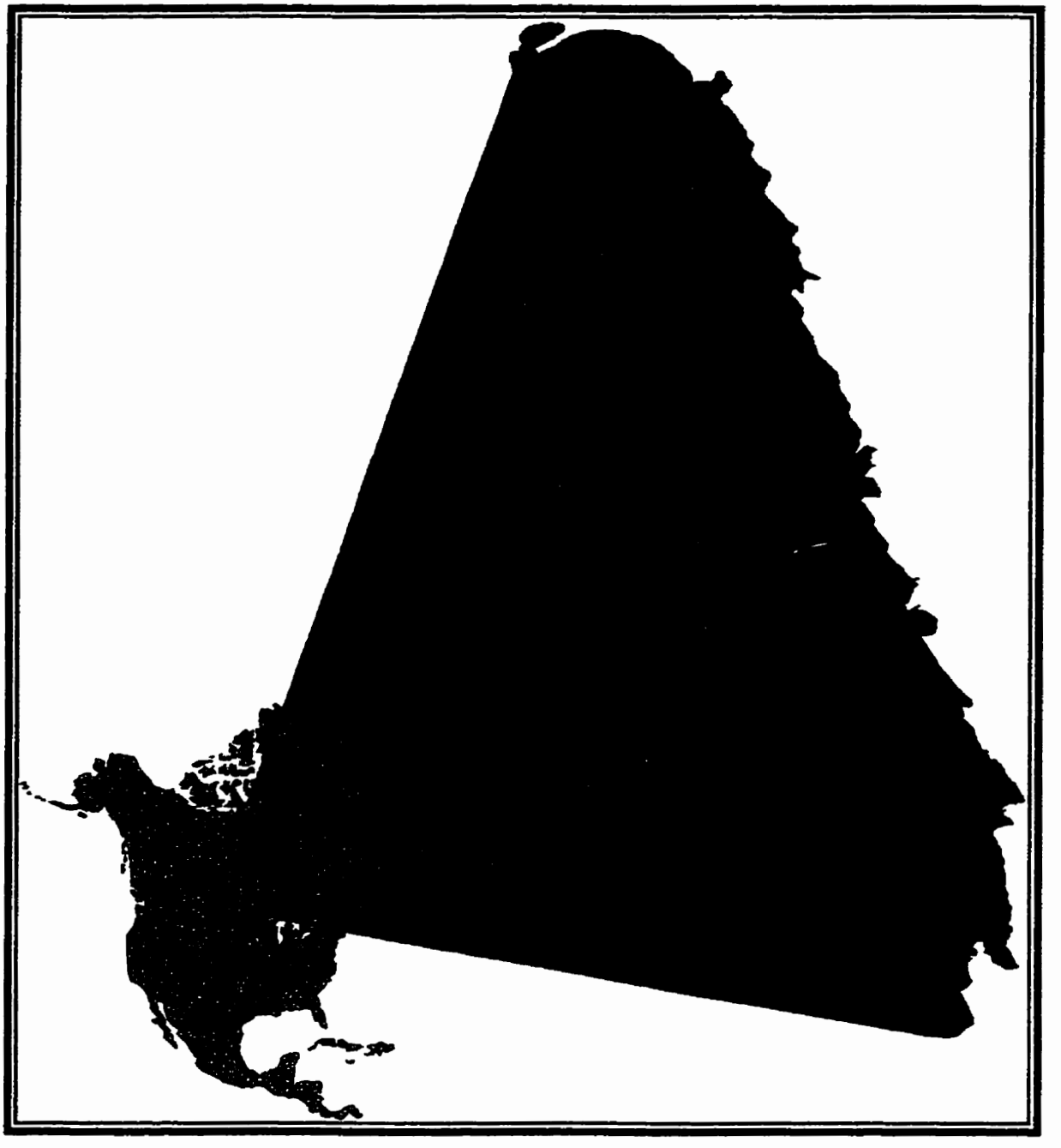
has hosted numerous world class sailing events on Lake Winnipeg (TABLE 1.1). Lake Winnipeg (MAP 1.1) is North America's fifth, and the World's tenth, largest fresh water lake (Debenham, 1983). Most of it may be considered remote wilderness (Schroeder, 1994). The northern basin of Lake Winnipeg, along with the "Narrows" between the north and south basins (MAP 1.2) in particular, hold potential as wilderness cruising destinations, both for those with their own trailerable boats, and for those desiring to charter.

> "The western side's limestone rock formations are replaced by the undulations of the 4-billion-year-old Precambrian Shield (of) the eastern shoreline ... with heavy vegetation and a mixed forest studded with ash, jack-pine, spruce, birch, tamarack and aspen... Some 260 species of birds and 25 different mammals inhabit the region. The marshes, located on North America's central flyway, attract tens of thousands of migrant wildfowl" (Schroeder, 1994).

Additionally, a section on the north-west shore has been examined as a potential national park (Jones, pers. com.,1998).

TABLE 1.1: LAKE WINNIPEG SAILING EVENTS
(from Manitoba Sailing Association, 1995)

1967	Pan Am Games
1971	Canadian Fireball Championships
1975	Canadian Youth Championships
1978	Canadian Fireball Championships
1979	Canadian Hobie Cat Championships
1980	Canadian Laser Championships
1981	Canadian Youth Championships
1986	Western Canadian Mistral Sailboard Championships Sail West Canadian Masters Laser Championships
1988	Canadian Laser II Championships Canadian Women's Championships
1989	Canadian Youth Championships
1990	Western Canadian Games
1991	Western Intermediates Championships
1992	Canadian Offshore Sailing Championships Canadian Match Racing Championships
1993	North American Laser Championships North American Laser II Championships Canadian Mistral Sailboard Championships Canadian Women's Championships Canadian Hobie Cat Championships
1994	Canadian Women's Championships Western Intermediates Championships I.Y.R.U. World Sailboarding championships
1999	Pan Am Games



MAP 1.1: Location of Lake Winnipeg in North America.

1.3 PURPOSE

To examine the feasibility of Lake Winnipeg as a viable wilderness, maritime oriented, tourist destination.

1.4 RESEARCH OBJECTIVES

The objectives of this study were:

1. to identify areas around the lake which may have maritime wilderness tourism potential;
2. to evaluate Lake Winnipeg with regards to water and climatic conditions, anchorages and navigational hazards; and
3. to propose a framework for the development of maritime wilderness tourism in the identified areas of Lake Winnipeg.

1.5 SCOPE OF THE RESEARCH

The research was limited to assessing the potential of the Lake Winnipeg area as a maritime oriented, wilderness tourism destination, and the feasibility of operating a maritime wilderness tourism business in this area. Other wilderness lakes cannot be assumed to have similar features, conditions or potential without site-specific studies. This work is therefore not intended to be a wilderness guide to Lake Winnipeg.

1.6 METHODS

The methods utilized to satisfy the objectives included a literature review, interviews, a survey and field work.

1.6.1 LITERATURE REVIEW

The literature review examined the world tourism industry, with an emphasis on ecotourism and adventure travel in selected countries. Maritime based tourism, focusing on smaller craft, was examined, both on a world-wide and a local scale. The current Canadian ecotourism and adventure travel industry was studied. Literature specific to Lake Winnipeg was examined for information regarding potential attractions for visitors, as well for dis-incentives of the lake for tourism. As weather and water conditions are an important component of the enjoyment and safety of maritime based tourism, these factors were examined. Advertisements from wilderness cruising operations in other locales provided insight into similarities and differences between those areas and Lake Winnipeg.

1.6.2 INTERVIEWS

Interviews were conducted in two phases: preliminary informal interviews during 1996, and loosely structured, informal interviews during the summer of 1997. The guiding framework for these interviews is noted in Appendix I.

Preliminary interviews helped gauge the current level of tourism interest and activity on Lake Winnipeg. This information was used as an aid in designing the survey and

in selecting the field work area. Fourteen people, including boaters, boat club representatives, Natural Resources personnel and a developer were interviewed. They were identified by a combination of telephone inquiries and visits to harbours.

The second phase of interviews, conducted during the summer of 1997, was intended to supplement and confirm information obtained from the surveys and the previous interviews. In addition to the types of people interviewed in 1996, Coast Guard officials, naturalists and campers were included. Twenty-four people were interviewed, while numerous other visitors, business people, resort personnel and area residents were engaged in casual conversations which explored one or more aspects of the loosely structured interviews.

In both rounds of interviews, the aim was to speak with individuals having personal, professional or traditional knowledge of Lake Winnipeg as a means of capturing 'local knowledge' of potential attractions which were not available from the literature review. These interviews also gave an opportunity to ascertain the current level of tourism on and around the lake. Inasmuch as the interviews were informal and only loosely structured, the responses were of a qualitative nature. A more qualitative analysis of the responses was thus undertaken, rather than a formal, statistical analysis.

1.6.3 SURVEY

The survey mailed out in June, 1997 (Appendix II), had four main objectives:

- aid in identifying areas of Lake Winnipeg which may have maritime wilderness tourism potential;
- identify negative aspects of the lake which could serve as dis-incentives for tourism;
- elicit opinions as to the types of craft suitable for use on the lake; and
- elicit opinions as to the quality of facilities on the lake.

The questions were developed, following the preliminary interviews and the literature review, as means of narrowing the area to be visited during the field work, and to help expand upon the limited literature available for this region.

Membership lists from different boating organizations whose members could be expected to have local knowledge of Lake Winnipeg were not available for the survey. Therefore, a 'snowballing' approach (where people contacted suggested more possible contacts) was used in compiling the survey list. The preliminary interviews, along with reconnaissance visits in 1996, were thus used to develop the target group for the survey. A list of 35 people thought to have detailed personal, professional or local knowledge of Lake Winnipeg was compiled from suggestions received. Of these 35, addresses could only be obtained for 22. Of the 22 surveys mailed out, five were returned as undeliverable, and ten were returned completed.

As the sample was small, a qualitative analysis of the responses was undertaken, as was done for the interviews. The respondents tended to be experienced boaters with extensive knowledge of Lake Winnipeg. The opinions expressed in the surveys were similar to those from the interviews, and proved valuable in focusing the direction of the field

work. A summary of the survey results is presented in Appendix III.

1.6.4 FIELD WORK

On the basis of the information derived from the interviews and surveys, Region 3 was selected for field work. Although Regions 4 and 5 (North Basin) also were identified as having wilderness tourism potential, the distances involved and lack of a suitable boat eliminated this area from consideration for a field visit. Sites visited are described in Chapter 3.

Within Region 3, exploration was by a combination of car and boat. The east shore was explored by car. Although good campsites were available, the shore was quite exposed. Since a small boat was to be used for the water portion of the fieldwork, it was thought that Gull Harbour was a better base location. The boat based exploration was carried out from Gull Harbour. As the car and boat trailer combination utilized were light weight, and the boat ramps of the northern portion of Region 3 were rough, the boat was not taken to Matheson Island: this area was explored from the road only.

During field visits, a number of aspects of the lake were examined for their impacts on maritime based wilderness tourism. Briefly, these were (in no particular order):

- Wildlife presence and ease of approach;
- Shorelines and approaches;
- Scenery;
- Weather and water conditions;
- Facilities; and

- Visceral impact: difficult to quantify, this refers to the inner impressions derived from a visit to an area, the feelings you take home at the end of your stay.

1.7 DEFINITIONS

The terms ecotourism, maritime, tourism, tourist and wilderness can have a variety of meanings to different people. To avoid confusion, the following definitions were followed during this research.

Adventure travel: *"an outdoor leisure activity that generally takes place in an unusual, exotic, remote or wilderness setting, involves some form of unconventional means of transportation, and tends to be associated high or low levels of physical activity"* (Tourism Canada, 1995).

Adventure travel can be further subdivided into *soft* or *hard* adventure travel, depending upon the level of risk or physical exertion required. Soft adventure travel, such as bird watching, requires only mild physical activity with little risk. Hard adventure travel, such as white water rafting or mountain climbing, entails higher exertion and risk levels. Often, training and/or physical conditioning will need to be undertaken prior to hard adventure travel (Tourism Canada, 1995).

Ecotourism: *"an enlightening nature travel experience that contributes to conservation of the ecosystem, while respecting the integrity of host communities"* (Wight, 1993;3).

This definition, formulated by participants of a 1993 Canadian Environmental Advisory Council (CEAC) meeting, recognizes the importance of both the ecosystem and the host communities. As such, it seems to point back to the origins of the term, originally introduced by Hector Caballos-Lascurain in 1983, to indicate a less consumptive, meaningful interaction between the tourist and the host environment or community. He saw several elements as being key to ecotourism, including preservation and conservation, non-consumptive travel experiences, an appreciation of nature and the host community, and an aesthetic appreciation of the area as opposed to physical accomplishment (Scace et al, 1992). Although some authors use "nature tourism" and "ecotourism" interchangeably (Boo, 1990), others (Farrell and Runyan, 1991; Koch, 1994; Weaver et al, 1995; Wight, 1993) think that ecotourism is but one type of nature tourism that ideally uses tourists to maintain or even enhance natural systems. It is in keeping with this sentiment that the CEAC definition for ecotourism is used in this work.

Maritime: *a large body of water, the size of which is sufficient to result in hazardous conditions during adverse weather.*

This definition stems, in part, from that used by Parks Canada in the Canadian National Marine Conservation Areas System Plan. In this plan, maritime refers to the seas and oceans (plus large, fresh water lakes) (Parks Canada, 1995). Although many may not think of Lake Winnipeg, fresh water lake, as maritime, the navigation conditions it can exhibit during adverse weather are the equal of many salt water 'maritime' regions.

Tourism: *the sum total of the various services, features, and facilities that interact to attract, accommodate, and care for tourists in consideration of their various wants, needs, and desires.*

This is a distillation of a number of sources which suggest that tourism:

- "derives from Latin words: 'tornare'- to turn, to round off and 'tornus'- wheel, hence circular movement pertaining to change of residence" (Mieczkowski, 1990:20). By following the evolution of the words tourism and tourist from these roots, Mieczkowski (1990) contends that the main quality of both words is the temporary nature of change of residence, which fits well with the previous discussion of tourists.
- "the relationships and phenomena arising out of the journeys and temporary stays of people traveling primarily for leisure or recreational purposes" ...and generally "is taken to include at least a one night stay away from the place of permanent residence or origin (Pearce, 1990:1);
- "the sum of the phenomena and relationships arising from the interaction of tourists, business suppliers, host governments, and host communities in the process of attracting and hosting these tourists and other visitors" (McIntosh & Goeldner, 1986:4); and
- "a multi-faceted activity and a geographically complex one as different services are sought and supplied at different stages, from the origin to the destination"(Pearce, 1990:2).

Tourist: *a tourist is a person who temporarily travels away from home for non-routine, pleasurable, reasons.*

By this definition, business and convention travelers could, in some cases, be described as tourists. This definition is derived from a number of definitions of tourist:

- a "person who travels from place to place for non-work reasons ...someone who stays for more than one night and less than a year" (McIntosh & Goeldner, 1986:529);
- a temporary visitor (minimum 24 hours, maximum one year) who travels for either pleasure, business or other reasons, such as education, health and non-pleasure reasons (Mieczkowski, 1990);
- a person who undertakes a one-way trip of at least 50 miles (McIntosh & Goeldner, 1986;
- generally includes business and convention travel but excludes military personnel, diplomats, immigrants, and resident students (McIntosh & Goeldner, 1986);
- does not include those who travel locally for shopping, work, school, or other routine activities(Gunn, 1988);
- has been described as "the adventurer, the planner, the impulse decision maker, the action-oriented person, the outdoors man, the escapist, and the self-designated opinion leader" (Mayo, 1975:29): and
- one who "seeks various psychic and physical experiences and satisfactions ... (which) will largely determine the destinations chosen and the activities enjoyed" (McIntosh & Goeldner, 1986:4).

Wilderness: *a remote, sparsely populated region with few amenities or services.*

This definition attempts to strike a balance between the non-aboriginal idea of wilderness as a remote, predominantly natural area "on which human impact is

transitory, minor and in the long run substantially unnoticeable" (Ministry of Forestry, 1989:2), and the aboriginal view that these are areas filled with human presence (Northern Resident, 1992). "Indigenous peoples ... whose cultures have evolved within wild lands based on hunting and gathering, are at home in these lands" (Klien, 1994:1).

Although it is conceded that the term 'wilderness' may be contentious to some, the implications that it may have to potential tourists are great; probably enough so to warrant its retention in this study.

Maritime wilderness tourism: *tourism for which wilderness and a maritime setting are key components of both the attractiveness of the region and the provision of the component services.*

This definition builds upon the earlier derived definitions for maritime, wilderness and tourism. Although it may encompass aspects of adventure travel, ecotourism, or both, maritime wilderness tourism, as used in this practicum, is a broad category of tourism. Although boats will likely, due to the maritime aspect, be a part of the tourism venture, they are not limited to type (power, sail or human powered) or size (single person to several hundred passengers). The boats will, however, be operating in a wilderness region. Within the constraints of maritime and wilderness, many specialized types of tourism could be offered, depending upon the preferences of the tourist or the specific operator.

1.8 SUMMARY

Ecotourism and adventure travel are significant and growing sectors of the world travel industry. In particular, maritime travel is growing in all oceans of the world.

Although primarily thought of as a prairie province, Manitoba has a long maritime history, dating back to at least 1668. Much of Lake Winnipeg, the world's tenth largest freshwater lake, is considered by some to be remote wilderness.

To examine the feasibility of establishing a wilderness, maritime related tourism industry on Lake Winnipeg, this study utilized literature reviews, interviews and field work.

1.9 ORGANIZATION

This practicum is organized into six chapters. Following the introductory chapter, a literature review of world and Canadian tourism, maritime tourism, weather and climate, and Lake Winnipeg is presented. Chapter three describes the portions of Lake Winnipeg where field work was conducted, including impressions formed regarding its potential as a wilderness, maritime oriented eco-tourism destination. This is followed by the presentation of a proposed development framework that evolved during the research. The concluding chapter summarizes the research and makes recommendations for further work in this area.

CHAPTER 2: LITERATURE REVIEW

This chapter reviews existing tourism literature, with an emphasis on ecotourism, adventure travel, and maritime tourism. Historic and recent literature relating to Lake Winnipeg was examined as a preliminary step toward determining if it has potential as a maritime wilderness tourism destination. Weather and water conditions, especially waves, can have a large impact upon both the enjoyment and safety of maritime tourism. Aspects of both weather and wave generation, as they might apply to Lake Winnipeg, were examined. Finally, representative advertising literature from existing maritime based wilderness tourism destinations elsewhere was examined for comparison with the potential of Lake Winnipeg.

2.1 WORLD TOURISM OVERVIEW

After the oil and automobile industries, tourism is the world's third largest export industry, accounting for more than 12% of the world GNP and employing more than 6% of the world's population (Azkarate, 1996). The World Travel and Tourism Council has estimated that the 1994 world market was US$ 3.4 trillion (Weaver et al, 1995). Tourism is expected to double by the turn of the century, possibly making it the world's largest employer (World Tourism Organization, 1995).

Ecotourism and adventure travel constitute a significant proportion of the tourism industry (Weaver et al, 1995). This is the "fastest growing sector in the tourism industry, estimated to have a current growth rate of 10 - 15% per annum. Britain's Economist Intelligence Unit put the worldwide ecotourism market at US$ 10 billion in

1989. Yet, according to the Canadian Wildlife Service, over US$ 200 billion was spent on ecotourism activities in 1990 ... the World Wildlife Fund ... estimated that of US$ 55 billion earned by ecotourism for developing countries in 1988, about US$ 12 billion came from ecotourism ... even remote destinations like Antarctica are starting to attract the ecotourist. In the last four years the number of visitors (to Antarctica) has increased fourfold to 8,000, with visitors paying as much as US$ 20,000 for the experience" (Panos, 1995:4).

Many countries of the world are actively pursuing the ecotourism and adventure travel markets. The United States offers similar products and services as Canada, with nature and wildlife viewing, canoeing, rafting, skiing and snowmobiling being sought by foreign visitors. Mexico, Central America, New Zealand, Australia and other countries also offer activities such as sailing, canoeing, kayaking and rafting, in addition to wildlife viewing (Tourism Canada, 1995).

2.2 MARITIME BASED TOURISM

Maritime or other water related pursuits, such as sailing and sea kayaking, are growing tourism activities world wide. In a recent survey of readers by one boating magazine, over 1500 yachts were identified as operating in the Caribbean region alone (Childress, 1997). The same survey identified 274 charter yachts in the Pacific north-west (Washington, British Columbia and Alaska), and another 227 in the Great Lakes. Of these later two groupings, 90 yachts operated out of British Columbia and 25 were in Ontario, with 20 of these operating in Lake Huron's North

Channel. As impressive as these numbers are, they are only numbers generated from the readership of one periodical: the actual numbers of charter yachts in these areas is likely higher. Areas such as the Lake of the Woods and Lake Winnipeg, which have a limited number of yachts for charter (Baker, Thorburne, pers. com., 1996) did not appear on this survey, as companies had to be mentioned by at least ten respondents to be included (Childress, 1997).

As well as sailing, sea kayaking tours are available throughout the world. North American outfitters alone offer over 100 organized kayak tours in North, Central and South America, Europe, Asia and the South Pacific (Temple, 1997).

Charter sailing operations in remote areas, such as Great Slave Lake (Carefree Travel, 1995) and Alaska (Spear, 1995; Lethcoe, 1995), often emphasize historical aspects of their areas, along with the remoteness and wildlife that can be experienced with their packages. An extreme example of historical maritime tourism (although not wilderness) was recently offered to those under 5'10'' in height; the opportunity to partake in the sea trials of a replica 170 oared Greek trireme (a sail and oar powered galley with three rows of oars on each side) in the waters of Greece (Weiskittel, 1996).

Many maritime tours offer instruction, such as the "Learn to Cruise Program" offered by Prairie Sailing Adventures on Lake Winnipeg (Baker, 1996), or the basic lessons offered as part of most kayak tour packages (Temple, 1997). Others offer escorted tours, either by providing crew on board the craft (often referred to as a 'crewed charter') or with the accompaniment of a support craft or 'mother ship' (often referred to as 'flotilla cruising'). As well, many craft are rented out without crew or escort (often referred to as a 'bare-boat charter'). In areas which are

generally referred to as 'wilderness', the crewed or flotilla types of tours seem to be more common (Temple, 1997; Aventyrsresar, 1996; Carefree Travel, 1995; Spear, 1995; Lethcoe, 1995).

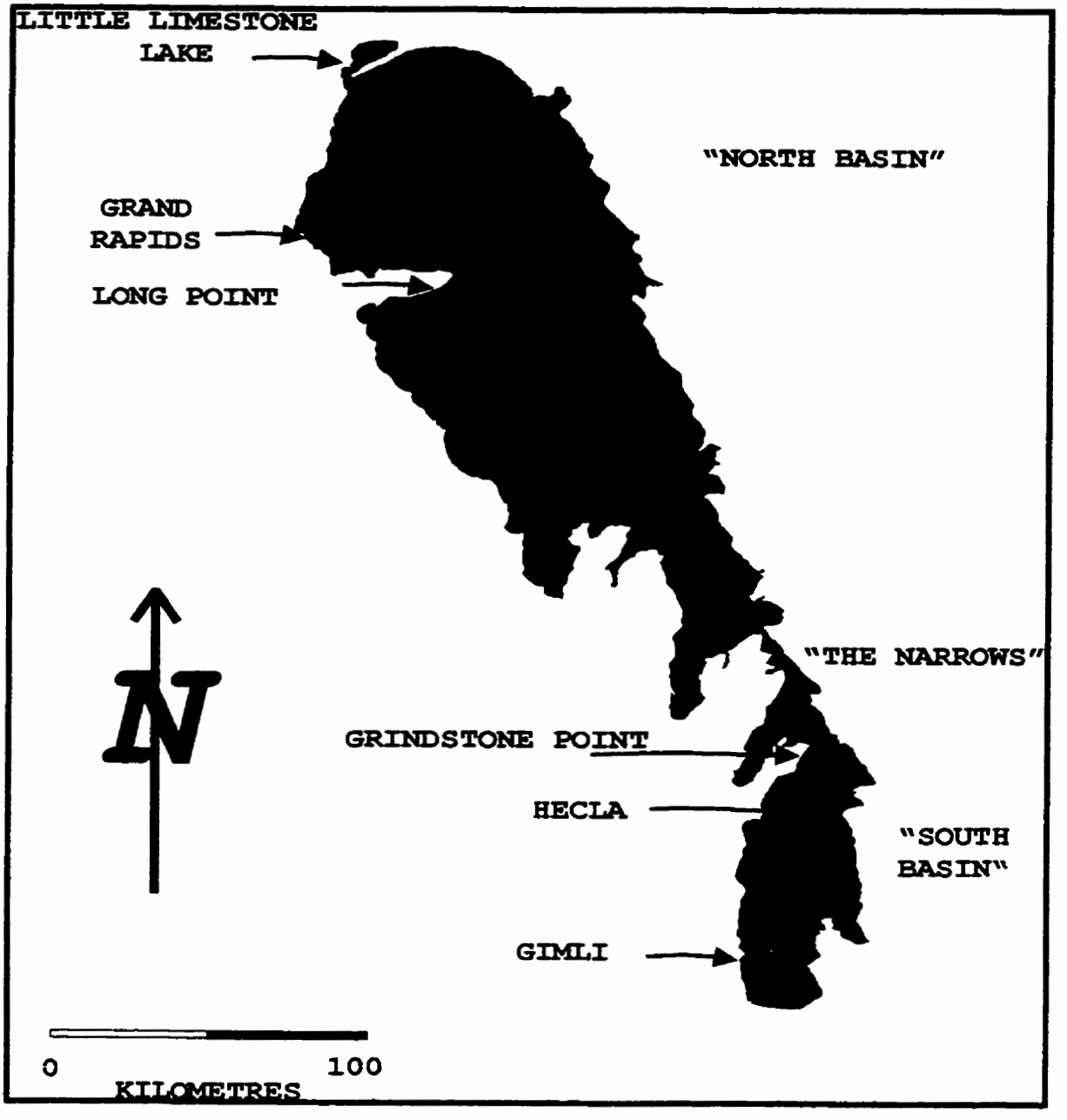
2.2.1 MARITIME TOURISM IN MANITOBA

Despite the large number of lakes within its' borders, Manitoba is poorly represented when it comes to maritime tourism. Only 12 out of 199 water adventure travel operations surveyed in Canada are located in Manitoba: eleven canoeing operations and one scuba operator. None were identified as being involved with sailing, sea kayaking, or rafting, all areas that have potential in Manitoba (Tourism Canada, 1995).

Although there are a few small sailing schools in operation, and there are boats for charter (Jaquette, 1998), maritime tourism in Manitoba is virtually non-existent (Baker, pers. com., 1996). The annual York Boat Days, held in Norway House (MAP 2.1) "celebrate(s) the historic use of the York boat as the workhorse of the northern waterways, hauling everything from furs to trading supplies and settlers" (Winnipeg Free Press, 1996). While not maritime tourism, it is an example of the maritime history of the province that could be incorporated in some tourism ventures.

2.3 ECOTOURISM AND ADVENTURE TRAVEL IN CANADA

As with most countries, ecotourism and adventure travel are growing industries in Canada. They have experienced a



MAP 2.1: Lake Winnipeg.

significant annual growth rate, which is expected to continue in the near future. Canada could easily become a world leader in both ecotourism and adventure travel, as it is known for its scenery and uncrowded back-country. However, in many areas of the country, the ecotourism and adventure travel market potentials have not yet been recognized (Tourism Canada, 1995).

In 1993, 669 tour operators in Canada had ecotourism and/or adventure travel as their primary travel activities. TABLE 2.1 summarizes the national distribution of ecotourism and adventure travel operators by activity, and TABLE 2.2 gives a breakdown of the national origins of their customers.

Travelers from within Canada make up the largest, proportion of the clients, with Americans constituting the largest foreign component of the market. A 1994 National Travel Survey indicated that more than 54 million Americans had participated in some form of outdoor or adventure travel vacation in the previous 12 months (Tourism Canada, 1995).

2.3.1 ECOTOURISM AND ADVENTURE TRAVEL IN MANITOBA

As indicated in TABLE 2.1, there were 45 operators offering primarily ecotourism or adventure travel services in Manitoba during 1993. These numbers, however, do not include foreign based operators who offer these types of packages in Manitoba. A 1993 study by Aronitz, for Industry Canada, has estimated that 104 tour operators offer nature viewing packages in Manitoba, with the majority of them being based in the United States (Weaver et al, 1995).

Although the majority of publicity on ecotourism and adventure travel concerns the Churchill region, many other

regions are considered to be prime areas by virtue of their special features or visual impact. Some of these areas include the Nelson River, Duck Mountain, Riding Mountain, Oak Lake/Broomhill, Pembina Valley, Spruce Woods/Carberry, Hecla Park, Oak Hammock and Whiteshell (Weaver et al, 1995).

2.4 LAKE WINNIPEG

In general, Lake Winnipeg is not well represented in the literature. However, the literature available serves as a good introduction to the Lake Winnipeg wilderness and its sailing potential.

2.4.1 PHYSICAL AND NATURAL OVERVIEW

The west shore of Lake Winnipeg, along with the major islands, is a part of the Boreal Plains Ecozone. This is an area of fairly level to gently rolling glacial and lacustrine deposits, with headlands that frequently expose the underlying (often fossiliferous) Ordovician dolomites and limestones. The main conifers are white and black spruce, tamarack and jack pines. Broadleaf trees, such as white birch, trembling aspen and balsam poplar are widespread. Woodland caribou, mule and white-tailed deer, moose, black bear, coyote, martin, fisher, lynx and least-chipmunk are characteristic animals of this ecozone. Representative birds include the boreal owl, great horned owl, blue jay, rose-breasted and evening grosbeaks, Franklin's gull and the brown-headed cowbird (EMAN, 1995a).

TABLE 2.1 NATIONAL DISTRIBUTION OF ADVENTURE TRAVEL OPERATORS (From Tourism Canada, 1995)

	NF	PE	NS	NB	PQ	ON	MB	SK	AB	BC	YT	NT	CANADA
Nature	**12**	**2**	**3**	**1**	**1**	**8**	**10**	**5**	**4**	**12**	**3**	**10**	**71**
Bird Watching	5	0	2	4	0	1	2	2	0	1	0	0	15
Whale Watching	16	0	9	4	2	0	1	0	0	13	0	3	48
Polar Bear	0	0	0	0	0	0	6	0	0	0	0	1	-
Seal Pup	1	3	1	1	0	0	0	0	0	0	0	0	6
Other Wildlife	1	0	0	0	0	0	1	0	0	2	1	1	6
Wildlife Viewing	**23**	**3**	**12**	**7**	**2**	**1**	**10**	**2**	**0**	**16**	**1**	**5**	**82**
Canoeing	5	1	11	7	7	28	11	3	3	10	10	0	96
Sea Kayaking	1	0	3	2	2	2	0	0	1	11	0	0	22
River Kayaking	0	0	0	1	0	2	0	0	0	2	1	0	6
Rafting	0	0	2	0	2	5	0	2	9	21	6	0	47
Sailing	0	0	1	0	0	0	0	0	0	7	0	1	9
Scuba Diving	3	1	3	3	1	5	1	0	0	2	0	0	19
Water Adventure	**9**	**2**	**20**	**13**	**12**	**42**	**12**	**5**	**13**	**53**	**17**	**1**	**199**
Hiking	2	0	2	3	2	4	3	1	7	13	6	1	44
Rock/Ice	0	0	0	1	2	2	0	0	5	3	0	0	13
Trail Riding	3	1	2	4	2	18	8	10	36	29	9	0	122
Bicycling	0	1	3	2	0	8	0	1	2	3	0	0	20
Land Adventure	**5**	**2**	**7**	**10**	**6**	**32**	**11**	**12**	**50**	**48**	**15**	**1**	**199**
Dog Sledding	0	0	0	0	9	1	0	0	1	0	5	3	19
Cross-country	0	0	1	1	2	2	0	0	2	9	2	0	19
Snowmobiling	6	0	0	0	27	6	2	0	1	6	2	2	52
Other Winter	0	0	0	0	0	0	0	0	3	5	0	0	8
Winter Adventure	**6**	**0**	**1**	**1**	**38**	**9**	**2**	**0**	**7**	**20**	**9**	**5**	**98**
Ballooning	**0**	**1**	**0**	**0**	**1**	**8**	**0**	**0**	**0**	**2**	**0**	**0**	**12**
Other Adventure	**0**	**0**	**1**	**0**	**2**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**8**
Total	**55**	**10**	**44**	**32**	**62**	**102**	**46**	**24**	**74**	**153**	**46**	**22**	**669**
% of National	**8.0**	**1.5**	**6.6**	**4.8**	**9.3**	**15.2**	**6.7**	**3.6**	**11.1**	**22.9**	**6.9**	**3.9**	**100.0**

TABLE 2.2 NATIONAL ORIGIN OF ADVENTURE TRAVELERS (From Tourism Canada, 1995)

	CANADA	FRANCE	GERMANY	JAPAN	U.K.	U.S.A.	OTHER
Nature Observation	47.9	2.3	6.1	4.9	2.0	35.9	8.9
Bird Watching	73.4	1.6	2.3	0.3	3.6	18.8	0.0
Whale Watching	53.6	2.1	7.7	1.9	2.9	29.9	1.9
Polar Bear Watching	23.1	0.7	2.1	2.1	10.3	50.5	11.2
Seal Pup Watching	60.6	2.6	2.7	0.8	2.6	27.0	3.7
Other Wildlife	55.5	4.1	10.6	1.4	3.0	23.8	1.9
Canoeing	44.7	2.2	30.9	1.3	4.2	14.1	2.6
Sea Kayaking	56.6	0.3	3.6	1.2	0.9	37.2	0.2
River Kayaking	81.5	0.8	0.1	0.8	1.2	12.0	3.6
Rafting	65.9	1.8	6.3	2.3	3.2	19.0	1.5
Sailing	72.9	0.3	5.4	0.0	0.6	19.7	1.1
Scuba Diving	68.9	0.3	0.5	0.6	0.8	28.6	0.3
Hiking	71.9	2.4	6.7	1.0	2.2	11.9	3.9
Rock/Ice Climbing	84.0	0.1	0.6	1.3	0.8	12.7	0.5
Trail Riding	65.9	3.4	9.2	1.1	2.3	14.7	3.4
Bicycling	83.1	0.2	0.4	0.5	1.6	15.0	0.2
Dog Sledding	16.3	25.1	6.8	41.4	0.7	8.2	1.5
Cross-country	75.8	2.8	1.1	3.5	0.7	15.7	3.4
Snowmobiling	31.3	44.8	6.6	0.2	0.5	8.0	8.6
Other Winter	5.1	0.0	29.0	0.7	3.6	51.2	10.4
Ballooning	96.2	0.1	0.1	0.3	0.2	3.2	0.1
Other Adventure	65.4	0.3	0.9	19.1	0.3	5.6	9.0
Total %	**56.0**	**4.4**	**8.4**	**2.0**	**2.5**	**23.1**	**3.6**

The east shore of Lake Winnipeg and its associated near shore islands, as well as the eastern portion of Black Island, are part of the Boreal Shield Ecozone. This is a region dominated by a rolling landscape of Pre-Cambrian granitic and gneissic outcrops interspersed with glacial moraine. Conifers, generally white and black spruce, tamarack and balsam fir, are the main trees in the north, although needle-leaf trees, such as white, red and jack pines, as well as broadleaf trees (typically white birch, trembling aspen and balsam poplar) are common in the more southerly portions. Woodland caribou, white-tailed deer, moose, black bear, racoon, martin, fisher, striped skunk, lynx, bobcat and eastern chipmunk are representative animals of this ecozone. Representative birds include the boreal owl, great horned owl, blue jay and the evening grosbeak (EMAN, 1995b).

The lake in general is home to large populations of migratory birds in the summer. Pelicans, cormorants, gannets and bald eagles are just a few of the birds that were frequently encountered during the field work phase. As well, it has a large variety of fish (TABLE 2.3) which has nourished the area residents for centuries, and has been the basis of commercial fishing.

2.4.2 HISTORICAL OVERVIEW

The Lake Winnipeg area is believed to have been occupied for approximately 10,000 years, although evidence of early people is sketchy. Those people living in the region extending eastward from Lake Winnipeg have been loosely classified as 'Shield' people (early, middle and

TABLE 2.3: Fishes of Lake Winnipeg (From Franzin et al, 1996)

Scientific Name	Common Name	Scientific Name	Common Name
Acipenser fulvescens	Lake Sturgeon	*Catostomus catostomus*	Longnose Sucker
Salvelinus namaycush	Lake Trout	*C. commersoni*	White Sucker
Coregonus artedii	Lake Cisco	*Moxostoma anisurum*	Silver Redhorse
C. clupeaformis	Lake Whitefish	*M. erythurum*	Golden Redhorse
Esox Lucius	Northern Pike	*M. macrolepidotum*	Shorthead Redhorse
Perca flavescens	Yellow Perch	*Carpiodes cyprinus*	Quillback
Stizostedion vitreum	Walleye	*Percopsis omiscomaycus*	Trout-perch
S. canadense	Sauger	*Culaea inconstans*	Brook Stickleback
Etheostoma nigrum	Johnny Darter	*Pugnitius pugnitius*	Ninespine Stickleback
E. exile	Iowa Darter	*Ambloplites rupestris*	Rock Bass
Percina Caprodes	Logperch	*Micropterus dolomieui*	Smallmouth Bass
p. maculata	Blackside Darter	*Pomoxis nigromaculatus*	Black Crappie
P. shumardi	River Darter	*Ichthyomyzon castanaeus*	Chestnut Lamprey
Lota lota	Burbot	*I. unicuspis*	Silver Lamprey
Ameiurus melas	Black Bullhead	*Aplodinotus grunniens*	Freshwater Drum
Ameiurus nebulosus	Brown Bullhead	*Umbra limi*	Central Mudminnow
Ictarus punctatus	Channel Catfish	*Osmerus mordax*	Rainbow Smelt
Notorus gyrinus	Tadpole Madtom	*Morone chrysops*	White Bass
Cyprinus carpio	Carp	*Pimephalas promelas*	Flathead Minnow
Notropis atherinoides	Emerald Shiner	*Rhinuchthys cataractae*	Blacknose Dace
N. volucellus	Mimic Shiner	*Macrhybopsis storeriana*	Silver Chub
N. heterolepis	Blacknose Shiner	*Couesius plumbeus*	Lake Chub
N. hudsonius	Spottail Shiner	*Platygbio gracilis*	Flathead Chub
N. texanus	Weed Shiner	*N. heterodon*	Blackchin Shiner

late), while those living to the west have been loosely classified as 'Plains' people (early, middle and late). Although little is known about these earlier cultures, both Shield' and 'Plains' groups are postulated to have existed along the Lake Winnipeg shores and to have shared a major cultural contact zone around the area of the Winnipeg River (Wright, 1995).

By the time Europeans began arriving in the region, the Cree and Ojibway were firmly established around Lake Winnipeg. Both groups lived in harmony with their environment, fishing, hunting, and gathering wild rice and berries. (McMillan, 1995).

The arrival of Europeans brought numerous changes to the region. La Verandrye, in 1738, is credited with the first recorded sighting of Lake Winnipeg by Europeans, although there is speculation that Vikings may have ventured onto the lake as early as 1362 (McKillop, 1979). After La Verandrye, the fur traders were quick to follow, and the livelihood of the Aboriginal people changed to include a large commercial component. As well as trapping for fur, Aboriginal people were employed as boat men on the York boats, cutting timber, in the sawmills, as commercial fishermen and hunting to supply food for the various crews. During this time as well, the Metis (mixed blood) population expanded, and they took a social position somewhere between the Europeans and the Aboriginal people (Tough, 1996).

As well as a change in livelihood mix and cultural make-up, the arrival of the Europeans changed the transportation on the lake. Originally, birch bark canoes were used for transportation and freighting. These were gradually replaced by York boats, designed for freighting on Lake Winnipeg. These were shallow draft, wide beamed boats, capable of carrying up to 10,800 pounds of cargo. They were

propelled by teams of oarsmen, a single square rigged sail, or both (Whitley, n.d.). The York boats in turn replaced by steam powered boats, starting in about 1869. Although the adoption of steam powered boats was largely a result of technological advancements and economic efficiency, it was hastened by a mutiny at Grand Rapids in 1870. In that year, the crew of four York boats left their cargo behind and returned to Red River on three of the boats that they expropriated. (Tough, 1996).

Although most of the freighting was taken over by stream, and later diesel, powered boats, sailing craft continued to be used for both fishing and personal transportation well into the present century (Page, 1979; Leach, 1971). However, improved road and air transportation gradually made commercial shipping unprofitable. The last major passenger boat, the S.S. Keenora, was built in Montreal in 1897 as a passenger ship for the Lake of the Woods. It was later lengthened and converted to a passenger and cargo ship for Lake Winnipeg. There it operated until 1965, often carrying tourists from the United States and Europe (Marine Museum of Manitoba, 1998). In 1969, the M.S. Lord Selkirk II was launched at Selrirk as a tourist ship for Lake Winnipeg. One hundred and seventy six feet long, it carried a crew of 30, had 80 passenger cabins, and could carry 100 tons of cargo. It was in operation until 1989, when falling revenues made the tourist runs uneconomical. Other than for one commercial lake freighter which remains in operation servicing the remote communities of the east shore, fishing is the sole remaining commercial activity on the lake at the present time (Nordal, pers com, 1998).

2.4.3 EARLY LITERATURE

A detailed, early account of Lake Winnipeg (MAP 2.1), is found in the report by Henry Youle Hind of the expeditions on and around the lake during 1857 and 1858 (Hind, 1857, 1858).

The west coast of the lake, between the mouth of the Saskatchewan River at Grand Rapids and the Little Saskatchewan (Dauphin) River, is described as containing numerous deep bays and estuaries, which could be used as harbours. The prominent land form in the area is Cape Kitchi-nasi (Long Point), which extends about 24 miles out from the coast. Its shore is indented with several deep bays. The north shore is low and flat, consisting of sand beaches and swamp, while the south shore is higher, consisting of a 25 to 40 foot high escarpment of light-coloured clay. The apex of the promontory is described as a broad sandy beach strewn with large water worn boulders, which extend out for a great distance from shore, necessitating careful navigation (Hind, 1857).

South of the promontory, limestone outcrops begin to appear as ridges forming points along the coast. These outcrops are about four feet in height in the northern part of the lake, increasing in height southwards to about fourteen feet. They are wooded with aspen and other deciduous trees. Although streams and rivers in this area of the lake are not large or numerous, they are described as potential harbours for small craft (Hind, 1857). South of the Little Saskatchewan (Dauphin) River are numerous bays and islands, many of which could provide shelter from storms (as they indeed did for the expedition members upon several occasions). The majority of these bays were not investigated by the expedition due to time and supply constraints. The

limestone cliffs increase in frequency southward, often rising abruptly from the lake (Hind, 1857,1858). These cliffs often contain large caves where trappers would over-winter. The cliffs also contained numerous types of Ordovician age fossils (Hind, 1858).

Approaching Grindstone Point, the expedition crossed to the eastern side of the lake. Hind describes a shoreline of gentle knolls of granite and gneiss rising from eight to ten feet above lake level, broken by numerous deep inlets and well sheltered bays, suitable as harbours. Locals described the coast north and south to be similar, containing numerous potential harbours. The vegetation in this area consisted of Jack pine, spruce and aspen interspersed with swamps (Hind, 1857).

In addition to the natural phenomena of cliffs, beaches and islands, Hind also comments on the abundant fish and bird life, and the brilliant Aurora Borealis observed from the lake (Hind, 1857, 1858).

Geologic surveys of the shores of Lake Winnipeg were undertaken by members of the Geological Survey of Canada. Dowling (1900) reported on the west shore and islands of the lake, while Tyrrell (1900) reported on the east shore. The descriptions of the geologic features encountered are quite detailed and, although not relevant for the general tourist, would provide good regional background information for anyone operating a tourist facility. Although these reports deal mainly with the geology of the region, their descriptions of the landscape and vegetation mirror those of Hind. Additionally, they give detailed descriptions of the northern east shore, a region which Hind did not visit. As with the southern portion of the east shore, this area consists largely of gentle granitic and gneissic knolls, with deep inlets and well sheltered bays. Many of the rivers

which form the inlets are described as containing rapids and waterfalls as one moves inland.

Although the reports of Dowling, Hind and Tyrrell are a century or more old, they are among the most detailed available descriptions of Lake Winnipeg's shoreline, hinterlands and islands. Comparisons with selected descriptions in recent literature (section 2.4.3) and on-site examinations carried out during the field work phase of this study, indicate that these historic documents can be valuable references for anyone contemplating tourism in the remote regions of the lake.

2.4.4 RECENT LITERATURE

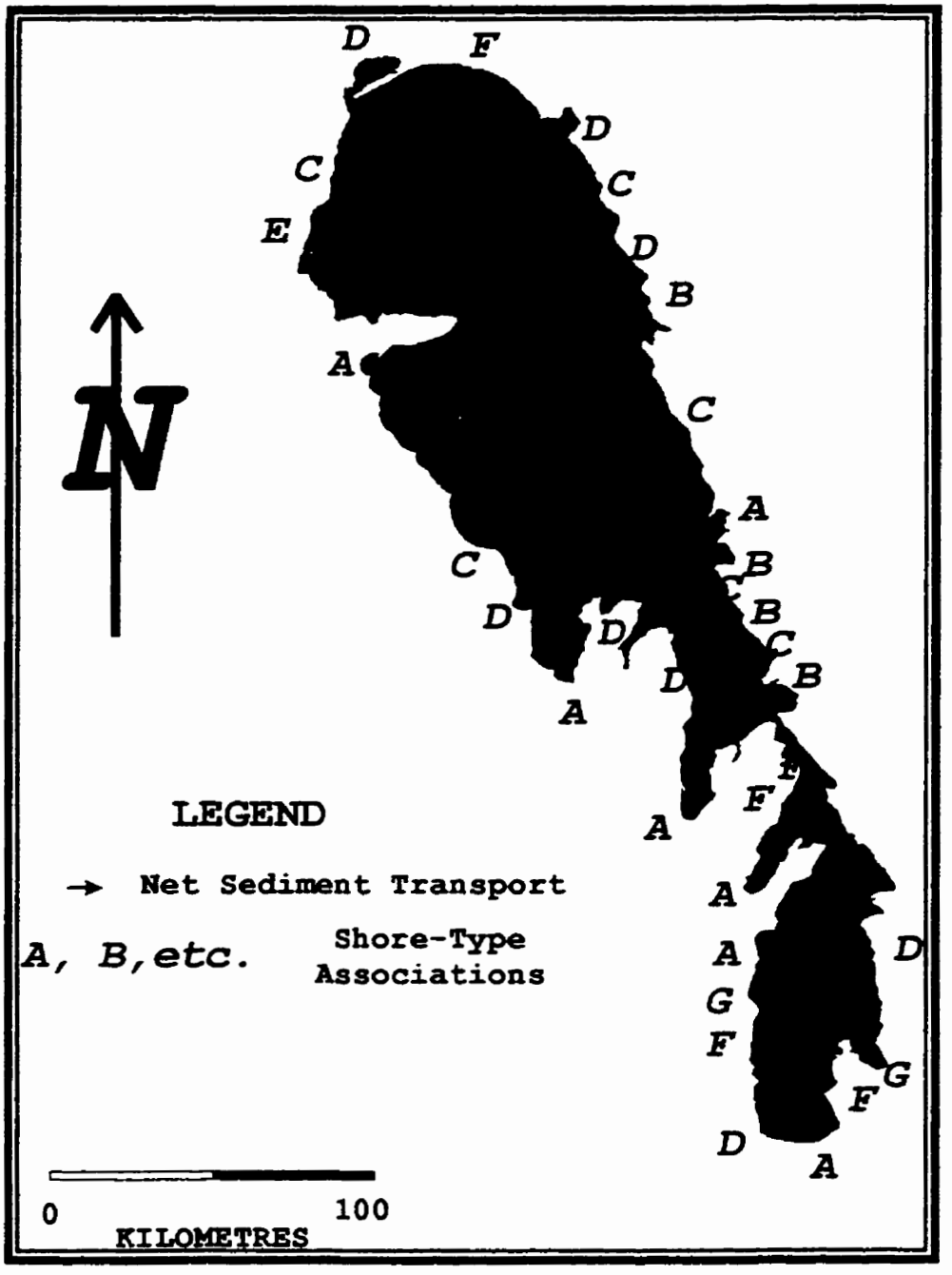
In late summer of 1994, the Geological survey of Canada, in association with Manitoba Energy and Mines, conducted an offshore survey of Lake Winnipeg to achieve a better understanding of the regional geologic history. Additionally, a comprehensive study of the lake's mainland shoreline was carried out (Todd et al, 1996). Although the survey was intended to augment existing geologic data derived from shore-based studies, it has significance for those contemplating maritime tourism on the lake. The shoreline survey, although not as comprehensive as the earlier combined works of Dowling, Hind and Tyrrell, confirms their observations. As well, this survey, concentrating as it did on the lake basin, gives insight into the shallow nature of the lake (9 m. in the south basin, 16 m. in the north basin but over 60 m. in parts of The Narrows), the extensive shallows around George Island in the North Basin and around Pearson Reef, south of Hecla

Island (both are the result of previously unknown moraines), and to the undulating lake bottom profile (complex furrows formed by the action of pressure ridges in lake ice). Further, the study was able to produce data which indicates that most of the South Basin was dry land 4000 years ago, and is gradually, but actively, migrating southward, mainly as a result of glacial uplift (Todd et al, 1996).

Although the flow of water in the lake is from south to north, much of the sediment transport (MAP 2.2) is in a more southerly direction, most likely influenced by prevailing winds (Forbes and Frobel, 1996).

During the shore-line study phase, fifteen shore types in seven associations were observed. The observed shore types were:

1. marsh;
2. delta and/or marsh with a sandy beach and barrier veneer;
3. low-relief rock outcrop with a discontinuous marsh;
4. low-relief rock controlled coast with scattered pocket beaches and marshes;
5. sandy spits and barriers with local inlets, lagoons, coastal dunes and minor amounts of gravel and boulders;
6. low-relief shores with sand beaches and near-shore bars (occasionally forming fringing barriers);
7. extensive dissipative to intermediate sand and gravel beaches (occasionally forming fringing barriers);
8. rock-controlled coast with discontinuous sandy and mixed sand-gravel beaches, and low, erosional scarps;
9. repetitive sequences of mixed sand and gravel beaches and boulder lag shoals (locally with colonizing vegetation);



Map 2.2: Net sediment transport directions observed for Lake Winnipeg, and representative locations for shore-type associations (compiled from Forbes and Frobel, 1996)

10. gravel beaches, spits and barriers, with localized small inlets and lagoons);
11. rock cliffs, commonly associated with gravel beaches and barriers;
12. steep slopes with discontinuous failures and mixed sand-gravel beaches;
13. unlithified cliffs with mixed sand-gravel and/or boulder beaches at the base;
14. unlithified cliffs with discontinuous sandy beaches at the base; and
15. artificial shore structures (walls, revetments, breakwaters, etc.) (Forbes and Frobel, 1996).

The above shore types were generally found to exist in seven associations (Map 2.2) or groups, which were:

A. predominantly low-energy marsh and deltaic shores, with or without a transgressive beach veneer (shore types 1 & 2);
B. low relief Precambrian outcrop, often forming complex archipelago shorelines, with marsh development in protected embayments (shore types 3 & 4);
C. sand-dominated beaches, sandy spits, barriers and fringing barriers, with local dunes, back-barrier lagoons, inlets and related structures similar to ebb- and flood-tide deltas in tidal systems (shore types 5, 6 & 7);
D. A mixed group of repetitive sequences of sandy or gravelly beaches, low erosional scarps, and low-relief headlands, rock outcrops or boulder-lag shoals (shore types 8 & 9);
E. Gravel beaches sourced mainly from rock cliffs (shore types 10 & 11);

F. Erosional shores in unconsolidated deposits of glacial, glacio-fluvial or glacio-lacustrine origin, with or without basal sand or gravel beaches (shore types 12, 13 & 14): and

G. Shores artificially modified by construction of protective features (shore type 15) (Forbes and Frobel, 1996).

In December of 1994, an article in Sail magazine (Schroeder, 1994) echoes many of the observations of Hind from 1857/58. This article describes a brief tour of the 40 mile section between the north and south basins of Lake Winnipeg, often referred to as "the Narrows". This area contains numerous islands and bays in a relatively undeveloped wilderness. Schroeder describes many of the same features as Hind, such as the limestone cliffs of the western shore and the granites and gneisses of the east. He was impressed with the white silica sand beaches and wilderness anchorages. As did Hind, he expounds upon the beauty of the northern lights.

> "As beautiful as this scene was by day, it took on a more awesome quality at night. Around midnight the heavens suddenly shimmered with tinted streams of color. Flickers of light wavered momentarily in narrow bands like wisps of cloud, only to disappear and then appear again seconds later with different hues. The northern lights, interpreted by the Inuit as the dancing of departed spirits, shot out long billowy streaks from the northern sky before fading like muted lightning into a distant horizon" (Schroeder, 1994:68).

As with Hind, Schroeder describes the potential fury of the lake and the need for vigilance regarding the weather and navigation. These sentiments are reiterated in a more recent issue of Cruising World magazine, in which the need for constant vigilance is again noted (Jaquette, 1998).

Although the Sail article concentrates on the Narrows, Schroeder refers to "the blue waters of Lake Winnipeg's upper basin (the lower basin in brownish, colored by its fine sand-silt bottom). This is the true wilderness, reserved for those who can survive on their own resources" (Schroeder, 1994:68).

Two cruising guides for Lake Winnipeg, which are currently available, give fairly good coverage of anchorages in the South Basin and The Narrows. The "Lake Winnipeg Coastal Directory" (Thorkelsson, 1995), contains numerous good quality aerial photographs of many of the harbours, some information on local amenities and services, and basic sketch maps of the areas. However, information concerning physical characteristics, anchoring conditions, weather protection, and approach details are generally lacking. "Sail Lake Winnipeg" (Whitley, nd), although an older publication, gives fairly detailed information concerning the physical, navigational, and safety aspects for each harbour. Additionally, this publication contains good background information on the lake's history, weather and water conditions, as well as safety related topics.

Currently, Parks Canada is evaluating a portion of Lake Winnipeg as a potential national park. The areas under study include Little Limestone Lake, at the northwest end of Lake Winnipeg, Long Point, just south of Grand Rapids, and Hecla-Grindstone, at "the Narrows" of the lake. Three of the aspects that make these regions candidates for national park status are interpretation and promotion of the region's

heritage, ecotourism growth opportunities and the presentation of Aboriginal culture and history (Manitoba Natural Resources, 1996).

2.5 WEATHER AND WATER CONDITIONS

The weather and water conditions are a key component of the enjoyment and safety of a maritime vacation. Aside from the temperature and precipitation, changes in the weather have a large influence on wave generation. Although gentle waves can be relaxing, large, often steep or breaking waves can be dangerous. A basic understanding of how weather and water interact is useful to anyone contemplating operating, or overseeing the operation of, boats in remote regions. This section reviews some basic relationships between the two, especially in regards to maritime weather.

2.5.1 WEATHER SYSTEMS

Three weather systems in particular have the potential to cause severe weather in the study area. These are fronts, low pressure cells, and thunder storms.

Fronts are sloping zones of convergence between two air masses having different densities. Cold fronts, along which colder air replaces warmer air, are often associated with some of the most violent frontal weather (FIGURE 2.1, TABLE 2.4). A warm front, along which less dense warmer air replaces denser, colder air, follows a receding cold front, often forming an extensive band of clouds (FIGURE 2.2, TABLE 2.5). If a cold front overtakes a warm front and the warm

air is forced aloft, the front is called an occluded front. Depending on whether the cold air behind the cold front is colder or warmer than the cold air ahead of the warm front, either the cold or the warm front will be forced off the ground (FIGURE 2.3). The resultant weather is a combination of both cold and warm front weather, although cold-front occlusions tend to be more violent than warm-front occlusions. Stationary fronts occur when one air mass does not replace another; rather they oscillate back and forth, making forecasting difficult. The associated weather conditions tend to be similar to, but milder than, warm front weather.

Low pressure cells, which tend to form along fronts, may be accompanied by strong winds that spiral into the centre of the cell in a counter-clockwise direction. They are usually accompanied by stormy weather; the more concentrated the low, the more violent the associated weather can be (FIGURE 2.4).

Thunderstorms common over the prairies during summer, are violent local disturbances, characterized by squalls, turbulence, strong wind gusts, heavy rain showers, lightning and thunder, often accompanied by hail (FIGURE 2.5). Visibility is usually poor, and cloud ceilings are low, although they tend to be relatively short lived.

As these systems have the potential to adversely affect the conditions upon the water, those contemplating or responsible for travel on or near the water must monitor the weather wisely.

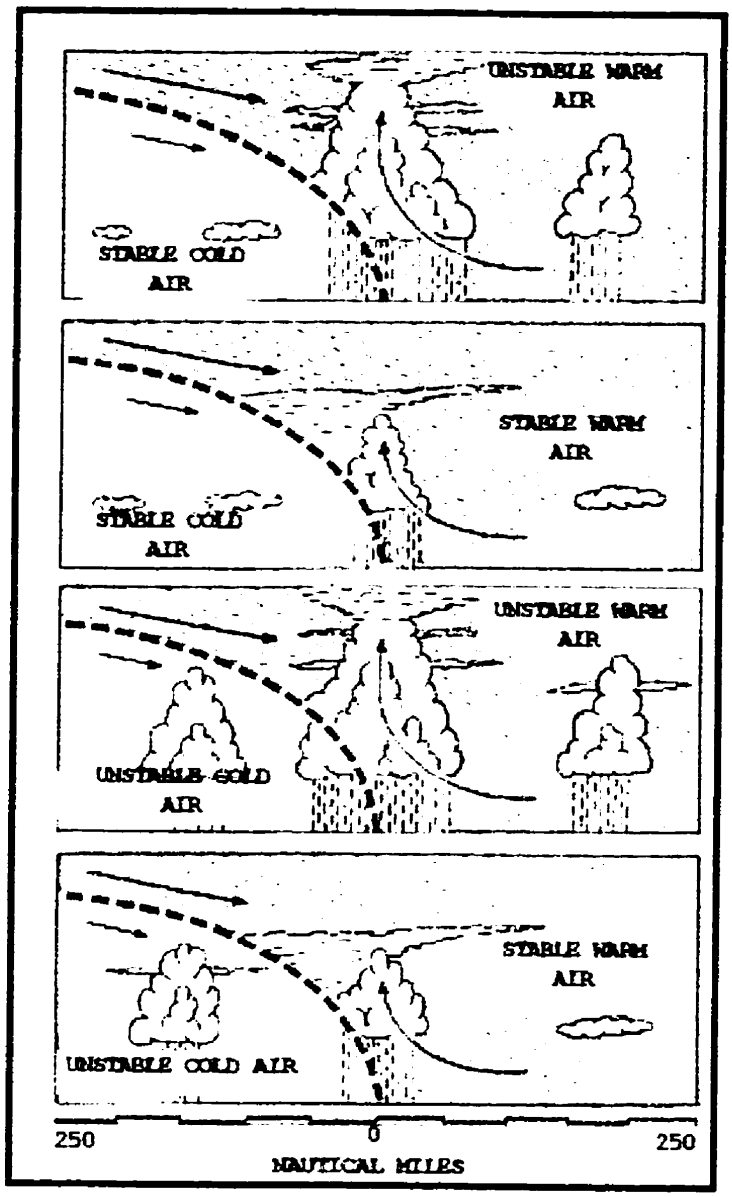


FIGURE 2.1: Vertical cross sections of a cold front under various conditions of air mass stability. Note that the cold front is moving from left to right (from Kotsch, 1983:129).

TABLE 2.4: Summary of weather sequences at a cold front (adapted from Kotsch, 1983:130).

ELEMENT	BEFORE	DURING PASSAGE	AFTER
WEATHER	Usually some rain; some thunder	Heavy rain; perhaps thunder and hail	Heavy rain for a short period, then fair. Perhaps scattered showers
CLOUDS	Altocumulus or Altostratus and Nimbostratus, followed by Cumulonimbus	Cumulonimbus with scud	Lifting rapidly, followed by Altocumulus or Altostratus; perhaps Cumulus later
WINDS	Increasing and becoming squally	Sudden clock-wise shift; very squally	Gusty
PRESSURE	Moderate to rapid fall	Sudden rise	Rise continues more slowly
TEMPERATURE	Fairly steady; may drop a bit in pre-frontal rain	Sudden drop	Continued slow drop
VISIBILITY	Usually poor	Temporarily poor, followed by rapid improvement	Usually very good, except in scattered showers

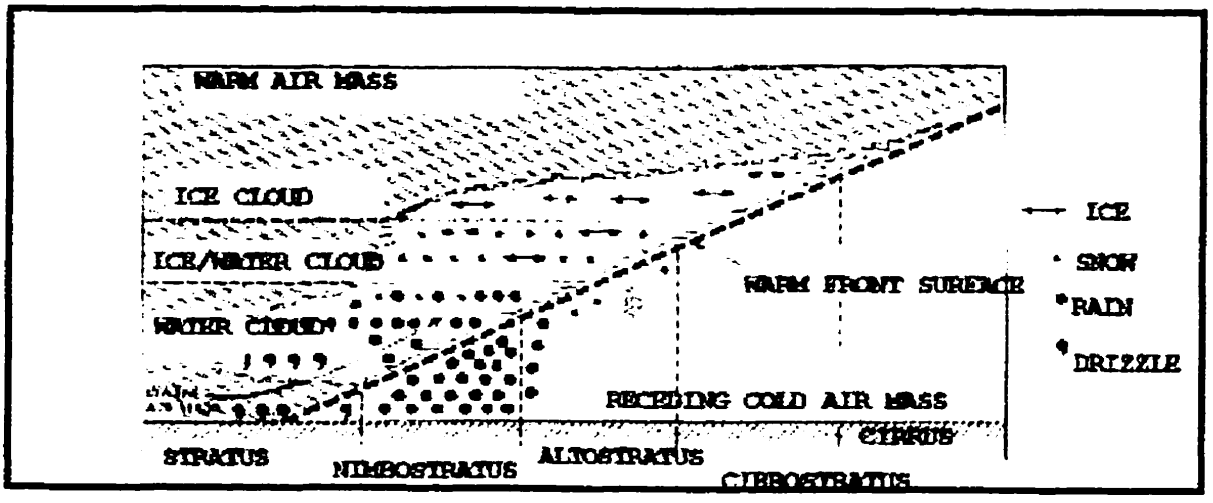


FIGURE 2.2: Vertical cross sections of a warm front. Note that the warm front is moving from left to right (from Kotsch, 1983:131).

TABLE 2.5: Summary of weather sequences at a warm front (adapted from Kotsch, 1983:132).

ELEMENT	BEFORE	DURING PASSAGE	AFTER
WEATHER	Continuous rain or snow	precipitation usually stops	Sometimes a light drizzle or fine rain
CLOUDS	In succession: Cirrus, Cirrostratus, Altostratus, Nimbostratus; sometimes Cumulonimbus	Low Nimbostratus and scud	Stratus or Stratocumulus, sometimes Cumulus
WINDS	Increasing	Clock-wise shift, sometimes decreasing	Steady direction
PRESSURE	Steady fall	Levels off	Little change or slight rise followed by slight fall
TEMPERATURE	Steady or slow rise	Steady rise, usually not sudden	Little change or very slow rise
VISIBILITY	Fairly good except in precipitation	Poor; often mist or fog	Fair or poor: mist or fog may persist

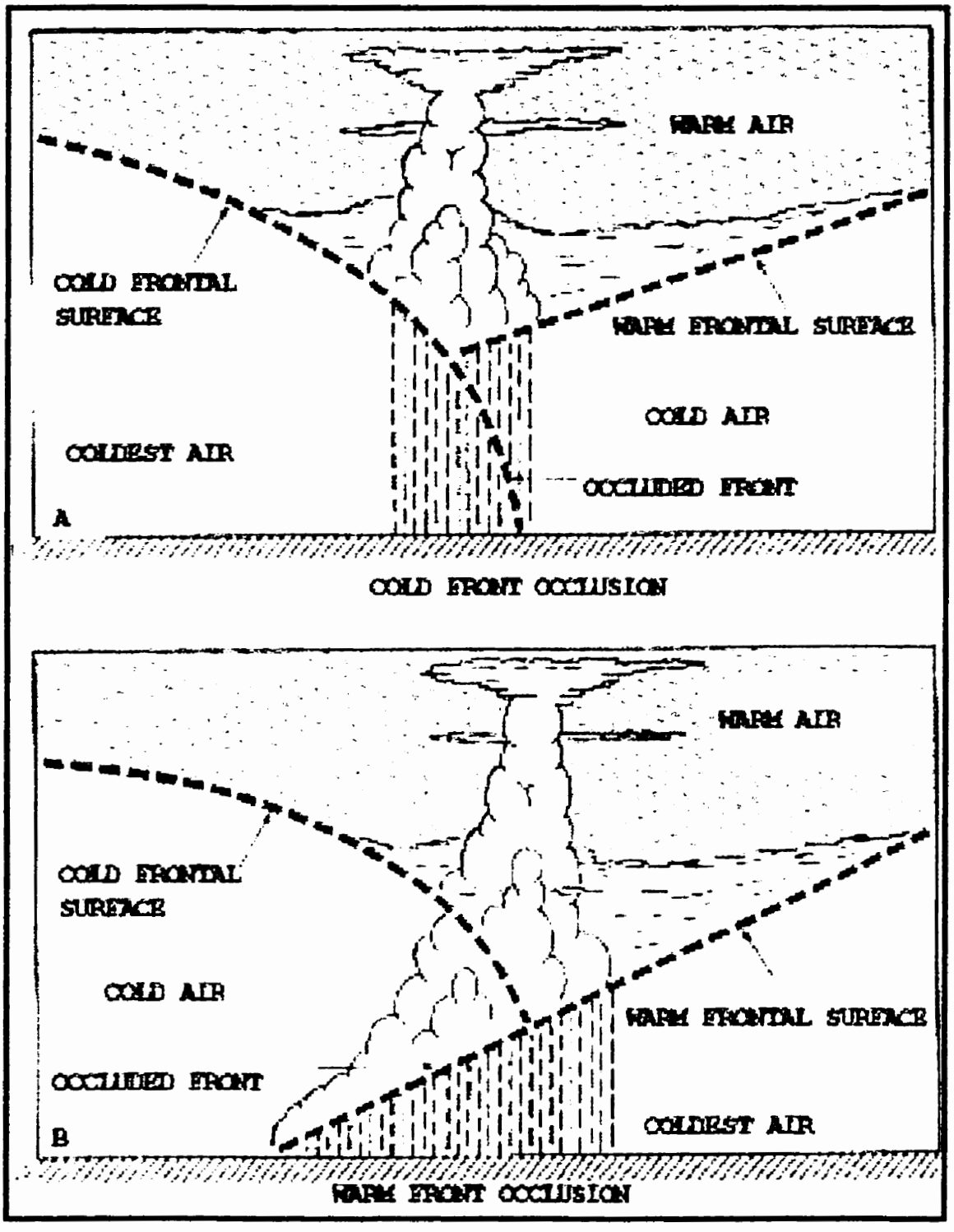


FIGURE 2.3: Vertical cross sections of cold- and warm-front occlusions. Note that the systems are moving from left to right (Kotsch, 1983:133).

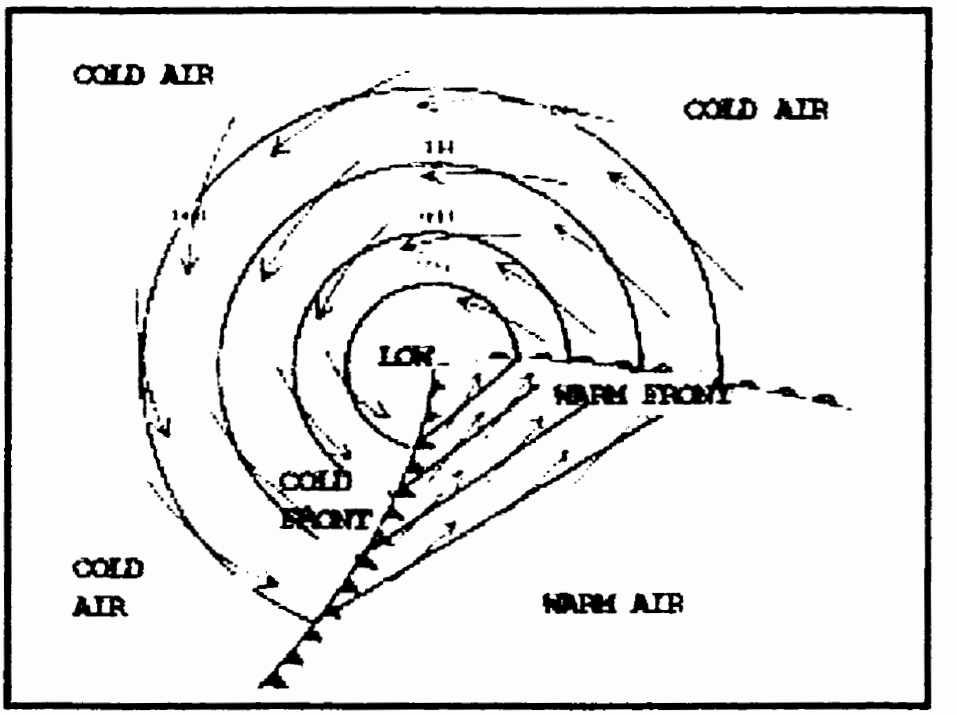


FIGURE 2.4: Plan view of a developing low-pressure cell (Kotsch, 1983:98).

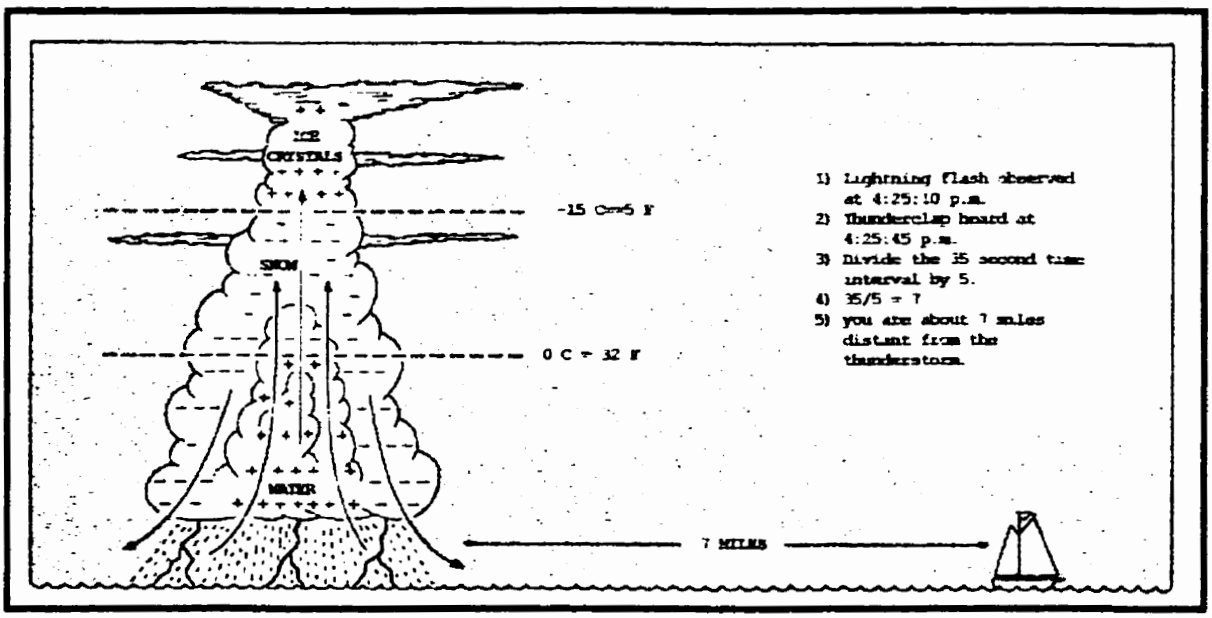


FIGURE 2.5: Cross-section of a thunderstorm (Kotsch, 1983:173).

2.5.2 WAVES

The fundamental measurements of waves are wavelength (the horizontal distance between successive crests of a wave), wave height (the vertical distance between a wave's crest and trough), and wave period (the time interval between two successive wave crests passing a fixed point of observation. Fetch (the stretch of water over which the wind blows) and duration (the length of time that the wind has blown) are also important concepts in the understanding of waves. Swells are wind generated waves that have left their area of origin and moved to areas of weaker winds or calms, or diminishing waves that remain after a storm has passed. Bearing in mind the above terms, a number of generalized observations about their interrelations can be made (summarized from Kotsch, 1983):

- **Maximum wave height and fetch:** for a given wind velocity, the wave height increases (to a theoretical maximum of 1/7 of the wave length) as the fetch increases;
- **Wave speed and fetch:** for a given wind speed, the wave speed increases with increasing fetch;
- **Wave height and wind speed:** the generally observed maximum wave height, in feet, is 0.8 times the wind speed in knots. However, as noted above, the maximum wave height is 1/7 times the wave length. Also, shallow depths will cause premature wave decay;
- **Wave height and duration of the wind:** with high winds, high waves develop in less than 12 hours;
- **Decrease in swell height:** the height of the swell decreases as it advances (or as the weather system retreats); and

- **Increase in period of swell:** the period of the swell increases as it advances (or as the weather system retreats).

If waves were free to move without obstruction, prediction of their behaviour could be fairly simple. However, there are many barriers, such as shorelines, islands, or even shallower water, to complicate matters. Upon encountering barriers, waves can be reflected, refracted or diffracted. Reflection involves a change in direction, but no change in energy. Refraction involves a change in energy, with waves slowing down, curving toward the shallower water (e.g. beach) and becoming steeper. Diffraction occurs when waves encounter a steep, narrow promontory or breakwater and some of the energy bleeds into the shadow zone behind the obstruction. Reflection, refraction, and diffraction can occur on their own, or in association with each other, resulting in very confused seas. FIGURE 2.6 shows such a situation. Although the example is from California, the same situation was experienced first hand while sailing to the north-north-east of Punk Island (MAP 3.2) with a 25 knot (~50 kilometre per hour) wind. The effect in a small, light weight boat can best be described as exciting.

Additionally, many large harbours and enclosed basins, such as Lake Winnipeg, are affected by long-period oscillations which cause standing waves or seiches. They can be initiated by gusty winds or ground swell, or by the passage of pressure systems. Although generally low in height, they can affect local water levels and can cause temporary currents, as illustrated in FIGURE 2.7. These currents are most noticeable in the channels at either end of Black Island.

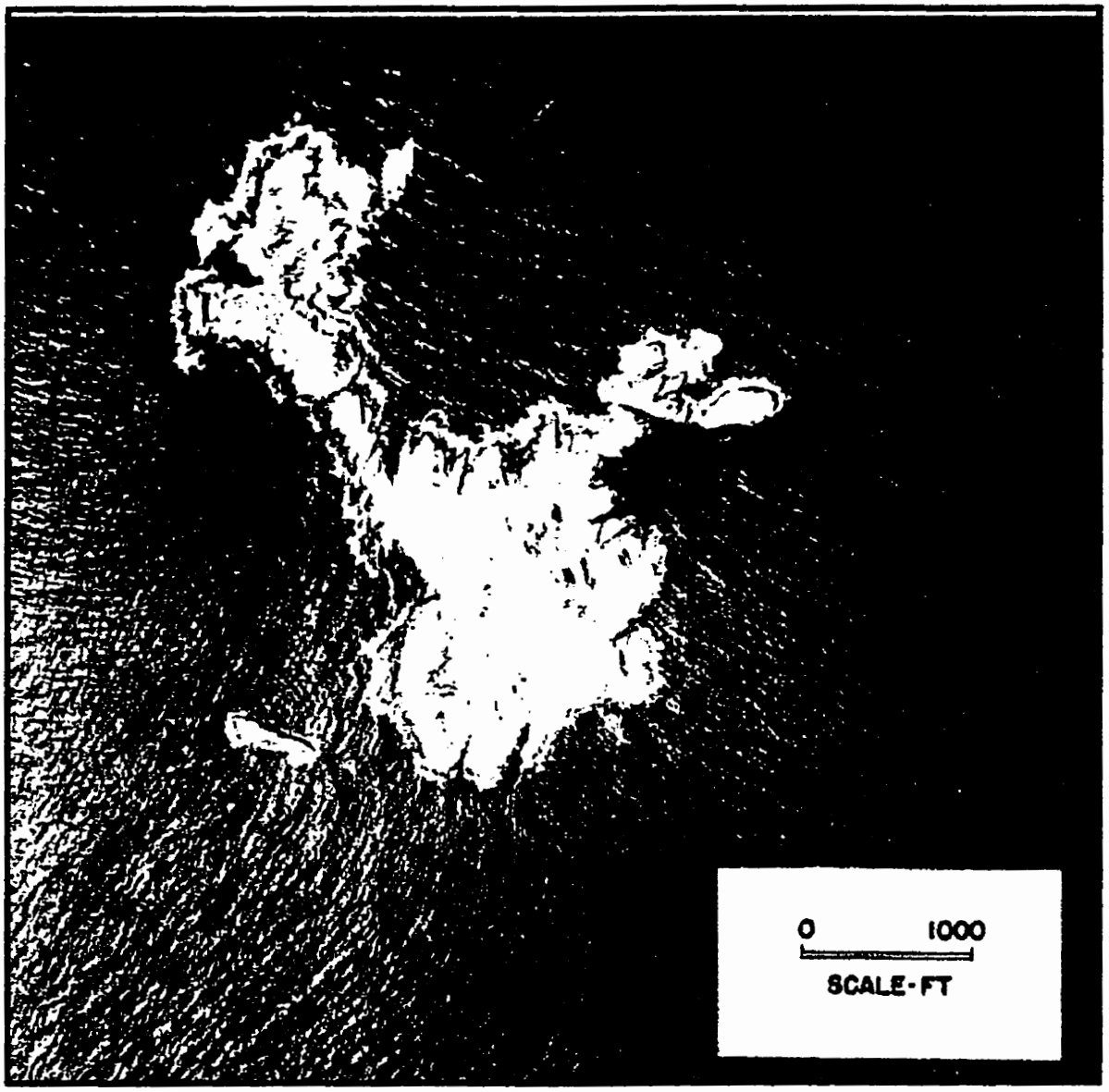


FIGURE 2.6: Wave refraction and diffraction around Farallon Island, California, with wave reflection from the small island to the lower left (Van Dorn, 1974).

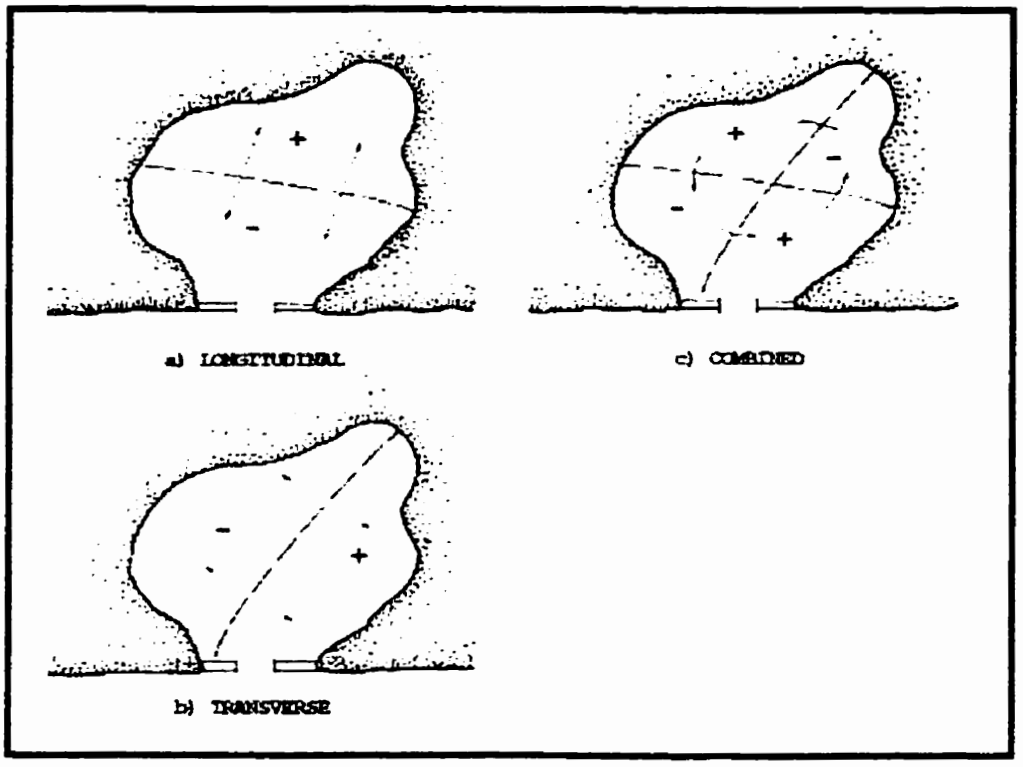


FIGURE 2.7: Common nodes of oscillation in a basin, caused by seiches. Water-level anomalies, indicated by plus and minus signs, reverse sign every half-period, as do the current arrows (Van Dorn, 1974).

2.6 ADVERTISING

Advertising literature for companies offering wilderness cruising all extol the beauty of their areas.

> "The North is Canada's last frontier, an adventure, a wilderness experience... retrace the routes of Franklin, Samuel Hearne, Captain Black and Hood and Dr. John Rae. Experience the lands and sites where Canada's aboriginal people

> continue to use their skills and knowledge of their ancestors. You'll explore hundreds of uncharted bays ... in the East Arm of Great Slave Lake, the third largest lake in North America. This is the North - a land of harsh ruggedness and pastoral beauty" (Carefree Travel, 1995).

Similar imagery is used to promote wilderness cruising in British Columbia (Bell, 1995), Alaska (Spear, 1995), Scandinavia (Sevenius, 1995), Russia (Vikings of Today, 1994) and in the Arctic and Antarctic (Quest, 1995).

The majority of sea-kayak tour operators incorporate ecotourism and the uniqueness of their areas as components of their advertising. An example from Sweden states;

> The uninhabited skerries (islands) were not made for invasions by large numbers of people ... we paddle to the outer skerries, explored by few ... we sleep under the stars or in self-supporting tents which allow us to camp on naked rock ... we may enjoy some delicious fresh fish as well. At this latitude, summer nights are brief and more like twilight. The tranquillity among the islets may sometimes seem mysterious, even supernatural. This is where you'll always want to return" (Aventyrseror, 1996).

A Financial Post article (Evans, 1996) describes highlights of an Alaskan cruise on a major cruise ship. Historical aspects of "the last frontier", wildlife and scenery all contribute to experience of the wilderness cruise.

Many tours are aimed at broadening knowledge. "Growing numbers of mature people seem to be attracted to the idea of combining a holiday with a modest, not too taxing form of non-credit study. Typically, these are people who have respectable attainments in education, as well as serious experience in business or the professions " (Egan, 1996). A typical travel experience allows patrons to "walk the tundra high above the ocean, look for rare and beautiful Arctic wildflowers, or follow Sir John Franklin's course in quest of the Northwest Passage" (Egan, 1996).

Within Manitoba, although maritime tourism as such is not directly advertised, there are in excess of 50 lodges and/or outfitters within the province, some of whom offer ecotourism or other non-consumptive activities in addition to their regular fishing or hunting packages (Spectacular Places, 1998). Additionally, approximately 25 operators offer canoe and kayak tours with an ecotourism or adventure travel theme. Many of these operators indicate that they speak German, in recognition of the large percentage of Germans who partake in these types of activities in Canada (Table 2.2; Great Outdoor, 1998). As well, much of the advertising plays upon images of wilderness:

> "Fertile farmland gives way to forests and lakes in the rugged, red Precambrian rock. Rivers churn and tumble over rocks (and) then glide into clear lakes surrounded by aspen, fir and jack pine. A loon calls, moose feed in the shadows, black bears patrol ridges above the shoreline. An immense ancient lake laps powdery-sand beaches.
>
> In the half-light of wilderness, sense a land shaped by wind, water and time. Step along mossy, rock-strewn park trails. Challenge steep rock cliffs. Fish in solitary satisfaction amid hushed forest and still

waters. Listen for the distant, lonely howl of a wolf from the comfort of a secluded cabin" (Manitoba Explorer's Guide, 1998:75).

At least one operator in Manitoba is actively promoting Aboriginal culture in its advertising (Hall, 1998), while others are investigating this aspect (Aboriginal Tourism, 1996; Parker, 1996; Wilson, pers com, 1995).

2.7 SUMMARY

Tourism is the world's third largest industry and, by the turn of the century, may be the largest employer in the world. Ecotourism and adventure travel represent the fastest growing sectors of this industry, involving most countries of the world.

Maritime based wilderness tourism, often encompassing some historical aspect, is becoming more common. The educational aspect of wilderness tours is also often put forward in the advertising literature.

As in the rest of Canada, ecotourism and adventure travel are growth industries. Although poorly represented in the literature, Lake Winnipeg appears to offer potential as a wilderness tourism destination. However, the shallow nature of the lake, coupled with the possibility of rapidly changing, occasionally violent weather, leads to a situation where dangerous boating conditions can occur. An appreciation of interactions between weather and water is thus vital to those venturing onto this lake.

CHAPTER 3: LAKE WINNIPEG AS A MARITIME WILDERNESS TOURISM DESTINATION

This chapter draws upon the information gleaned from the literature review, interviews and surveys, supplemented with direct observations made during field work, to evaluate Lake Winnipeg as a potential maritime wilderness tourism destination.

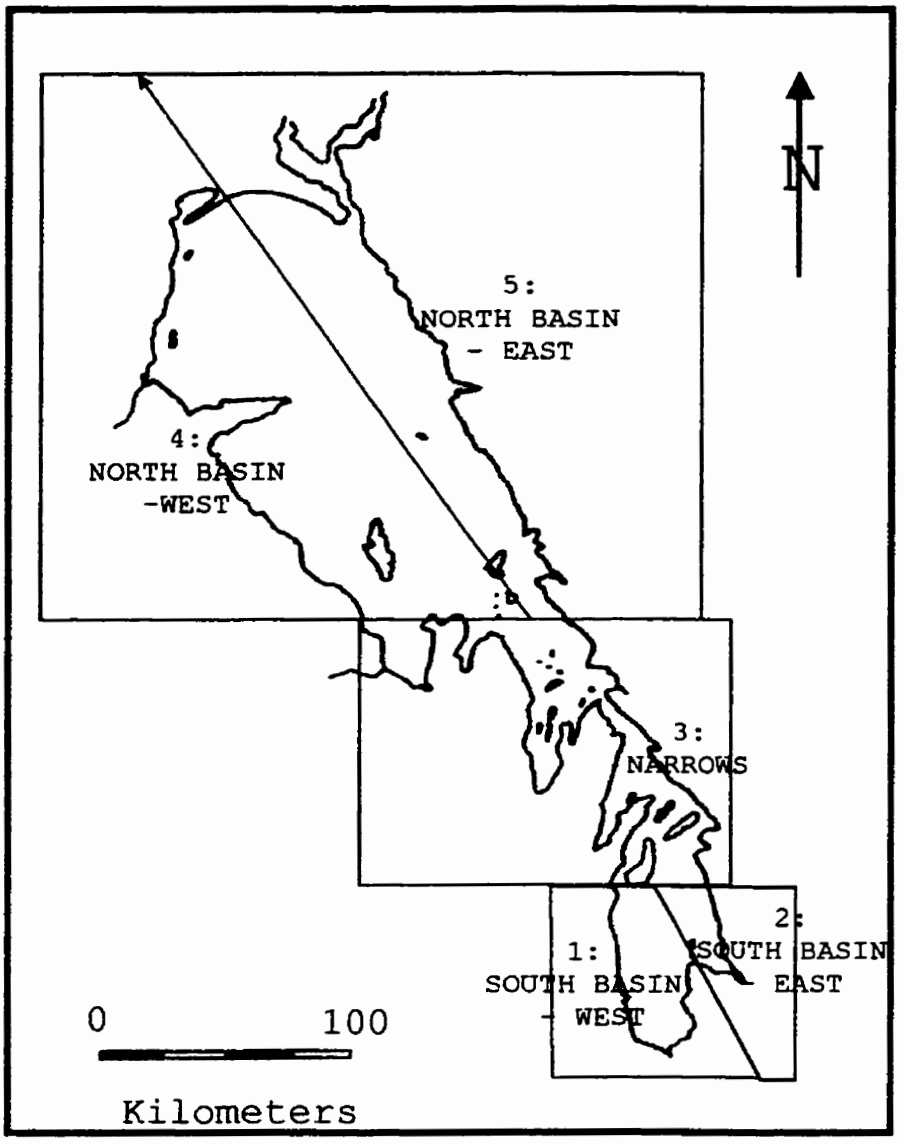
3.1 POTENTIAL REGION FOR MARITIME TOURISM

Surveys (Appendix I) mailed in June, 1997 suggested that Region 3 ("Narrows", MAP 3.1) had the greatest potential for maritime wilderness tourism, ahead of Regions 4 and 5 (North Basin, -West and -East). (A summary of the survey responses is presented in Appendix II.) The opinions expressed during the interviews corroborated the survey results. In consideration of these findings, Region 3 was selected for further interviews and field work. However, this is not a rejection of Regions 1 and 2 (South Basin) or of Regions 4 and 5 (North Basin): rather the selection of Region 3 is an investigation of the opinions expressed by the majority of survey and interview respondents.

Regions 1, 2, 4 and 5 are briefly examined below as a way of introduction to their potential.

3.1.1 REGION 1: "SOUTH BASIN - WEST"

This region, which encompasses the western portion of the South Basin from the southern tip of Hecla Island to the



MAP 3.1: Lake Winnipeg, as presented in the survey.

mouth of the Winnipeg River, generated the least interest from both the survey and interviews. However, it was felt to be a good location for private boats to sail. Interview respondents expressed the opinion that this was a good training, racing and day-trip area. Most likely because of the popular beaches and large number of cottage developments in this region, no respondents felt that this was a

wilderness destination. However, locations such as Gimli and Silver Harbour (Arnes) were felt to be good departure points for all points on the lake, largely due to the good facilities of the region.

3.1.2 REGION 2: "SOUTH BASIN - EAST"

Region 1 extends north from the mouth of the Winnipeg River to approximately opposite the southern tip of Hecla Island, and back to the Winnipeg River. As with Region 1, this area was felt to be a good learning and day-sailing destination. The lack of facilities was commented upon by many interviewees as being a drawback to this region being a departure point.

Unlike Region 1, however, Region 2 was considered by those interviewed to be the beginning of the wilderness area. Wilderness experiences were felt to be close by and easily accessible.

3.1.3 REGION 4: "NORTH BASIN - WEST"

Region 4 contains the west shore of Lake Winnipeg south from the east side of Limestone Bay to a line connecting Pigeon River, Commissioner Island and McBeth Point. Despite the lack of facilities, the majority of interview and survey respondents indicated that this region had wilderness tourism potential. Beaches, headlands and solitude were commonly mentioned. The abundant wildlife and rugged beauty of both Long Point and Limestone Bay were two features of this region that were often mentioned in the interviews. Spectacular views of the Northern lights and the stars were

also noted.

Although many respondents indicated a desire to utilize private boats in this region, others indicated that, due to the remoteness, they would consider chartered boats or flotillas here. It was also mentioned by some interviewees that this region would be more suited to those with 'a sense of adventure' than those looking for a comfortable cruise.

3.1.4 REGION 5: "NORTH BASIN - EAST"

This region covers the east shore of Lake Winnipeg south from the east side of Limestone Bay to a line connecting Pigeon River, Commissioner Island and McBeth Point. The views expressed during interviews and on the surveys as to the wilderness tourism potential for Region 5 were virtually the same as expressed for Region 4.

Additional attractions mentioned in the interviews included the beaches to the east of Limestone Bay and at various locations along the east shore, and the wilderness river anchorages.

3.1.5 REGION 1, 2, 4 and 5 SUMMARY

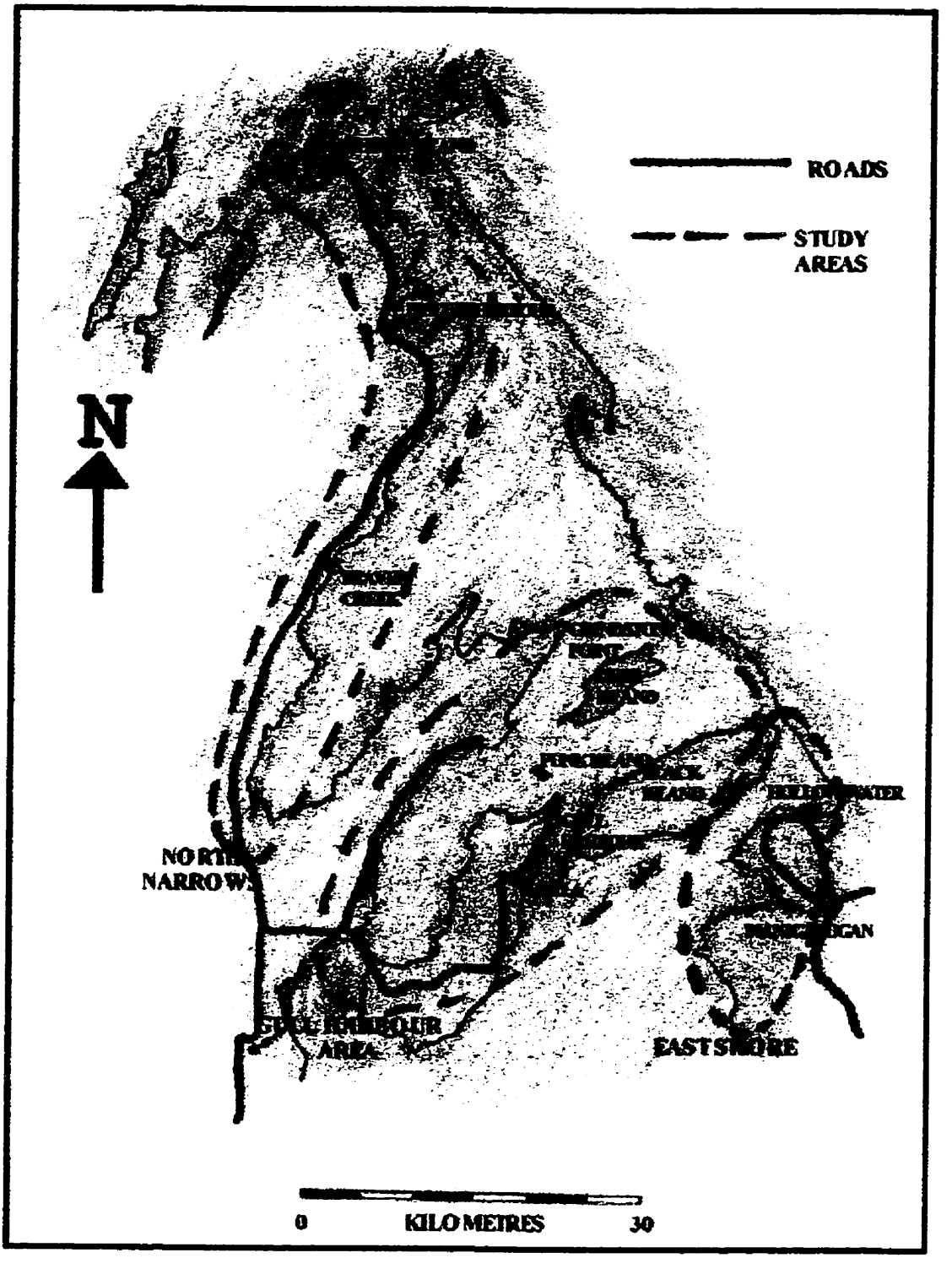
Although Region 1 was not felt to have potential as a maritime wilderness tourism destination, other than as a departure point, it, in common with Region 2, was felt to be a good training, racing, and general short trip destination. It is possible that the target market for both Region 1 and 2 would be day rentals, instruction, and possibly short-term cruises within the region. Longer term cruises, departing from the Gimli area, may also be a possibility.

Regions 4 and 5 were thought by all respondents to be wilderness destinations. Although the Gimli or Gull Harbour areas could serve as departure points, the distances involved, coupled with the potential for weather induced delays, might restrict the use of these as bases. As an alternative, a base at Grand Rapids would allow easy access to Long Point, Limestone Bay and the beaches to the east. As well, there may be potential for a 'fly-in' base along the north or east shore of the lake. Either of these could offer sail or sea-kayak tours, but power boat tours would likely be restricted to a base at Grand Rapids (or possibly Norway House) due to logistical problems with fuel supply.

3.2 REGION 3 "THE NARROWS"

For field work, Region 3 was divided into three divisions, based on the availability of maintained provincial roads. These are described below under the headings "East Shore", "Gull Harbour Area" and "North Narrows". Their locations are indicated on MAP 3.2. The three areas are described with regard to shore-line topography, vegetation, wildlife witnessed (or reported) and water conditions encountered.

Numerous anchorages and natural harbours exist in this region, providing ample opportunities for shore visits and shelter. However, these are not described in this work, as good descriptions of many of these sites can be found in Thorkelsson (1995) and Whitley (n.d.). Reference to these guides, as well as to relevant charts and topographic maps is recommended prior to exploration of this area. A list of charts and topographic maps used in this study is given in Appendix III.



MAP 3.2: Region 3 and the associated areas visited during field work.

A series of photo plates (Figures 3.1 through 3.31) are included throughout the following sections of this chapter to illustrate the beauty, diversity, hazards and facilities of this region.

3.2.1 EAST SHORE

The "East Shore" of Region 3 is dominated by two shore-type associations:

- the southern area is dominated by a mixed group of repetitive sequences of sandy or gravelly beaches, low erosional scarps, and low-relief headlands, rock outcrops or boulder-lag shoals (type "D" of Forbes and Forbel, 1996); and
- moving north, the shore-line changes to predominantly low-relief Pre-Cambrian outcrop that gradually forms a complex archipelago shoreline (Kasakeemeemisekak Islands). As well, there is abundant marsh development in the protected embayments (type "B" of Forbes and Forbel, 1996).

These shore types lead to a rugged, often inaccessible shoreline, (FIGURE 3.1) that is interspersed with numerous secluded beaches (FIGURE 3.2). Off-shore rocks and small islands are home to countless birds (FIGURE 3.3), while other large, near-shore rocks can make approach from the water difficult (FIGURE 3.4).

Off-shore from the Manigatogan-Hollow water area, Black Island dominates the western horizon, rising to nearly 50 metres above the lake. There are several secure natural harbours around the eastern end of the island, as described in the cruising guides of Thorkelsson and Whitley. One of

these, BIE-8 in Whitley's guide, is shown in FIGURE 3.5. A small archipelago of granitic islands (The Cairine Islands) to the north-east (FIGURES 3.6 and 3.7) provides stark, rugged beauty. At the same time, it provides shelter for beaches along Black Island's northern shore (FIGURE 3.8). This area is used by members of the Hollow Water First Nation as the site of their annual Black Island Days.

This region is becoming better known with overseas tourists (most notably Germans), in part due to the efforts of two local entrepreneurs: a real estate developer who has been actively (and successfully) targeting Germany for land sales, and a German born campground owner who has been using ties from his homeland to attract customers.

FIGURE 3.1: Typical shoreline of the east shore.

FIGURE 3.2: Isolated beach of the east shore.

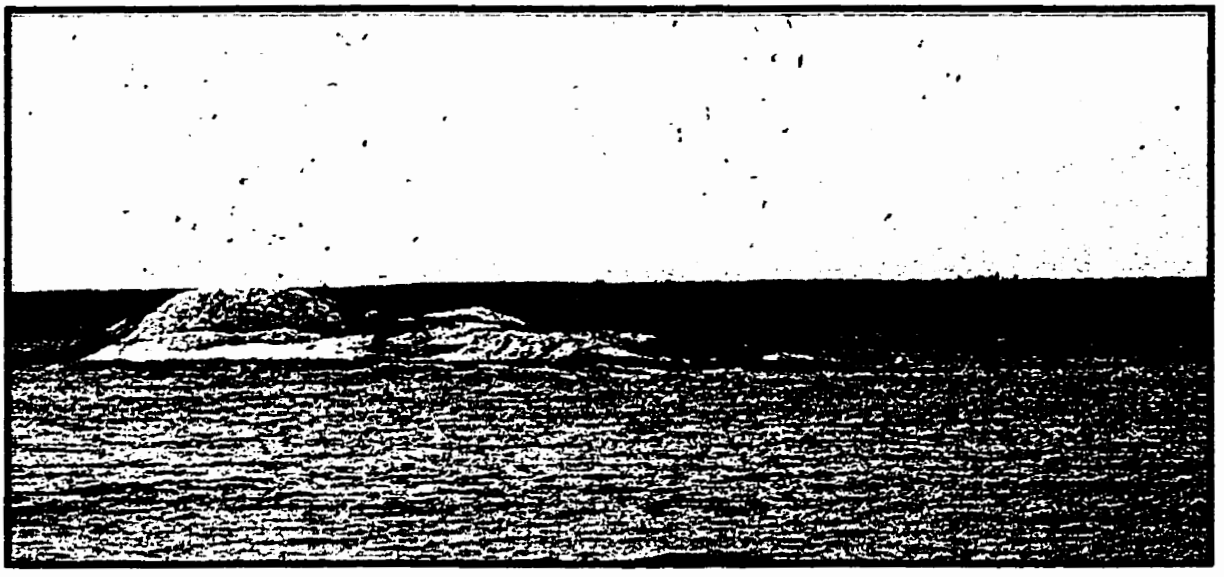


FIGURE 3.3: Nesting birds disturbed from small rock island by sea-kayakers. Black Island is in the background.

FIGURE 3.4: Boulder strewn shoreline of the east shore.

FIGURE 3.5: Secluded harbour (BIE-8) on Black Island.

FIGURE 3.6: Granite islands immediately north-east of Black Island.

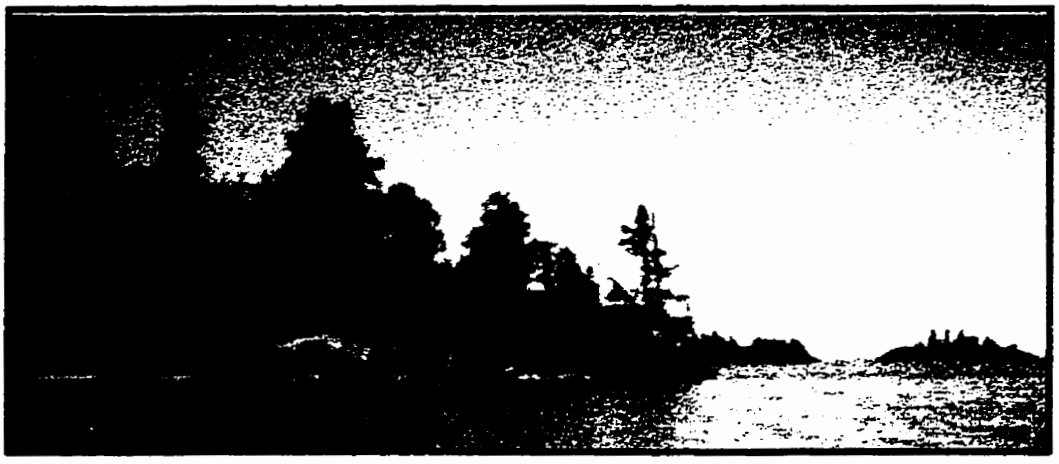


FIGURE 3.7: Granite islands immediately north-east of Black Island.

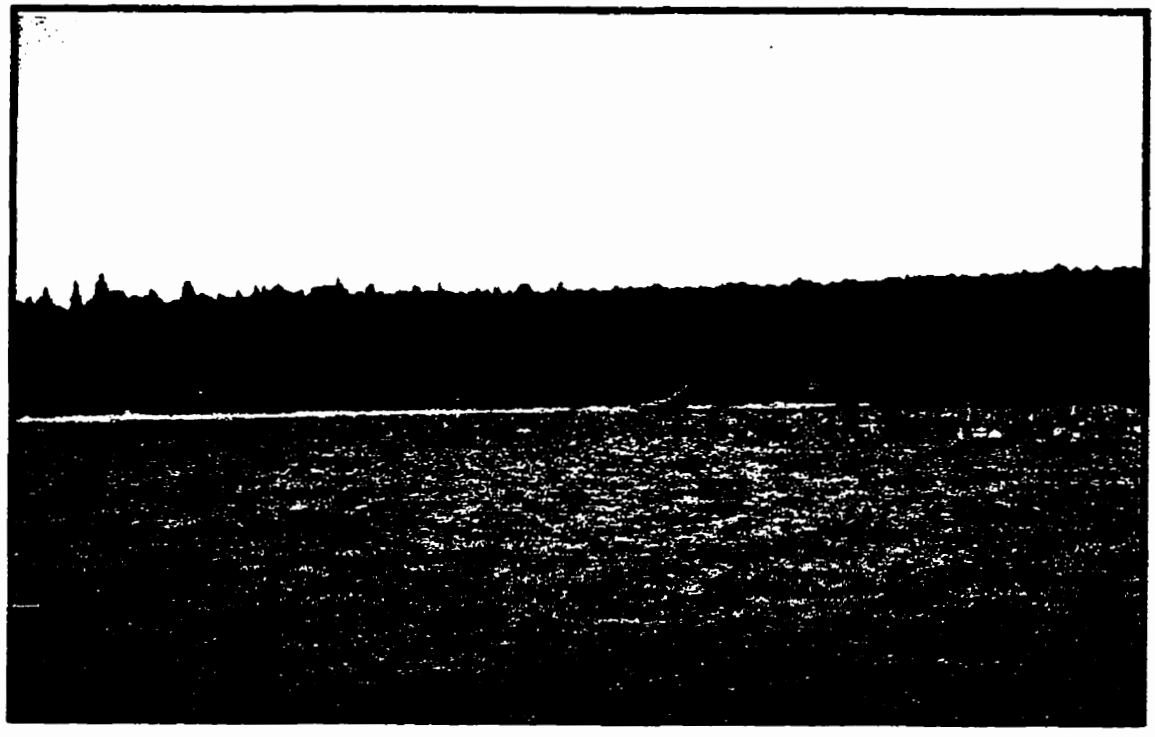


FIGURE 3.8: Sand beach on the north-east of Black Island. Site of 'Black Island Days'.

3.2.2 GULL HARBOUR AREA

The "Gull Harbour Area" of Region 3 is dominated by a mixture of three shore-type associations:

- a mixed group of repetitive sequences of sandy or gravelly beaches, low erosional scarps, and low-relief headlands, rock outcrops or boulder-lag shoals (type "D" of Forbes and Forbel, 1996);
- gravel beaches sourced mainly from rock cliffs (type "E" of Forbes and Forbel, 1996). Additionally, the shores of some of the islands exhibit low-relief sand beaches; and
- some of the larger bays exhibit type "A" low energy marsh and deltaic shores.

Gull Harbour (FIGURE 3.9), on the north-eastern end of Hecla Island, serves as a convenient base for exploration of the Region 3, whether by road or boat. Good road access and boat ramps are available in this region, and there are some services available, although these are more suited to a week-end visitor than as a provisioning stop for extended travel.

Numerous sand beaches on the islands (FIGURE 3.10) are only a short boat trip away, and provide convenient destinations for day trips. The islands of this region are within easy reach for day or week-end trips (FIGURES 3.11 and 3.12). Many of the beaches along the lake's west shore tend to be composed of a coarse limestone shingle, with numerous boulders off-shore, but with care they can provide good camping and picnicking sites (FIGURES 3.13 and 3.14). The shingle beaches of the west shore and associated islands are often sourced from inter-bedded Ordovician limestone (often fossiliferous), dolomite and siltstone, which locally forms low cliffs and headlands (FIGURE 3.15). A good example of this type of feature is easily accessible at the tip of Gull Harbour Point (FIGURE 3.16).

As a key component of Hecla Provincial Park, and the adjoining Grindstone Provincial Recreation Park, the Gull Harbour area is the best known part of Region 3. Although the provisioning and harbour facilities could be improved, it is easily accessible and has good camping, hotel and dining facilities. Large numbers of visitors are attracted here, including growing numbers of foreign tourists. Locally, there are efforts underway to increase this, especially among the Asian market.

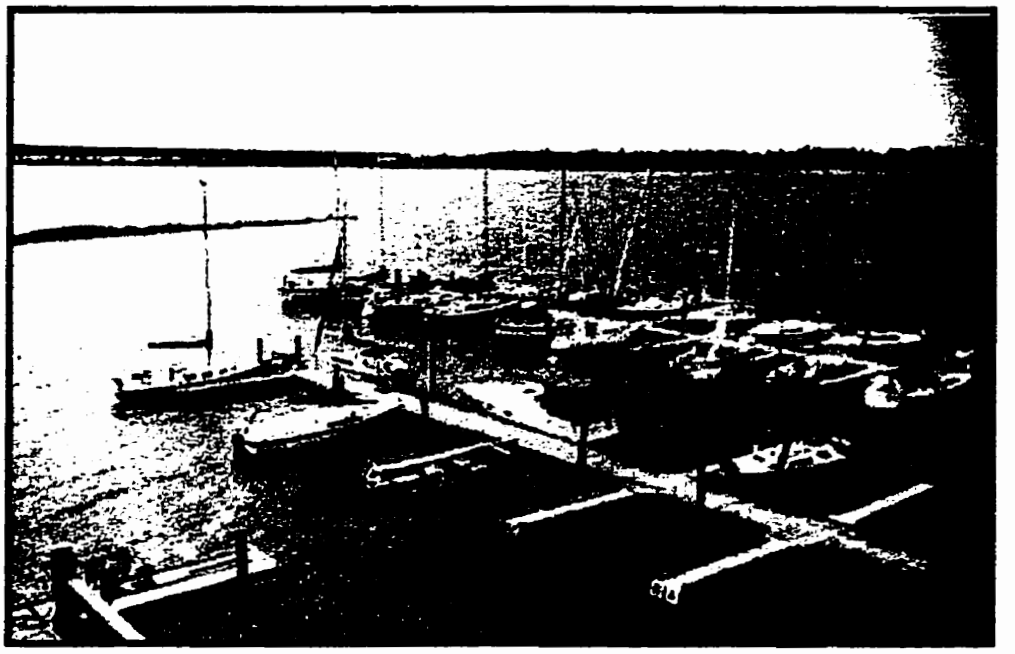


FIGURE 3.9: Gull Harbour marina.

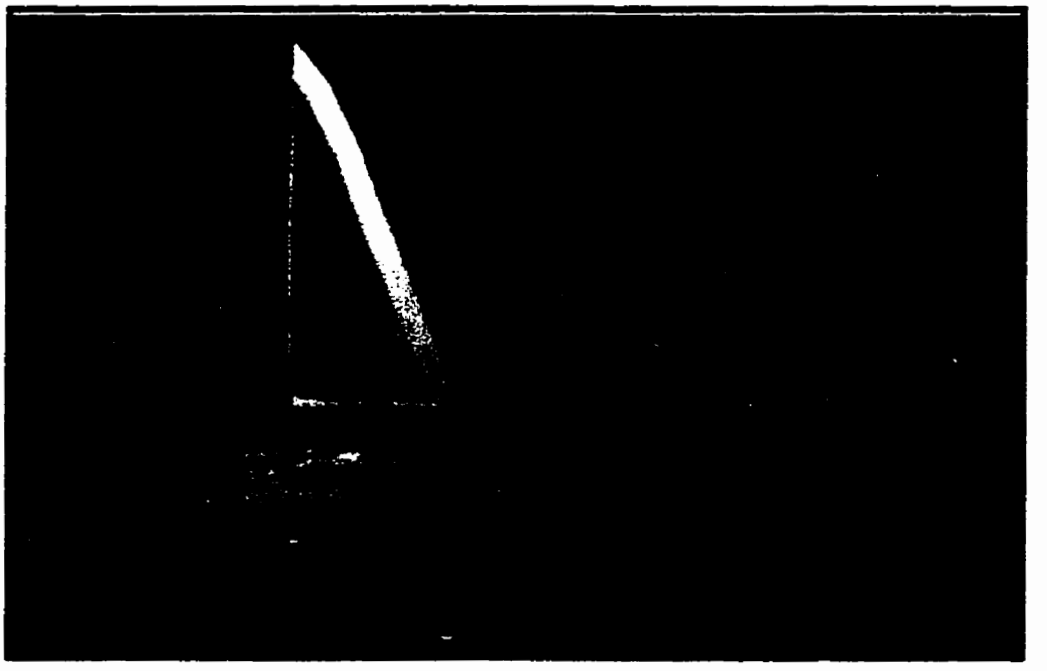


FIGURE 3.10: Sand beach along the north shore of Black Island, easily accessible by boat from Gull Harbour.

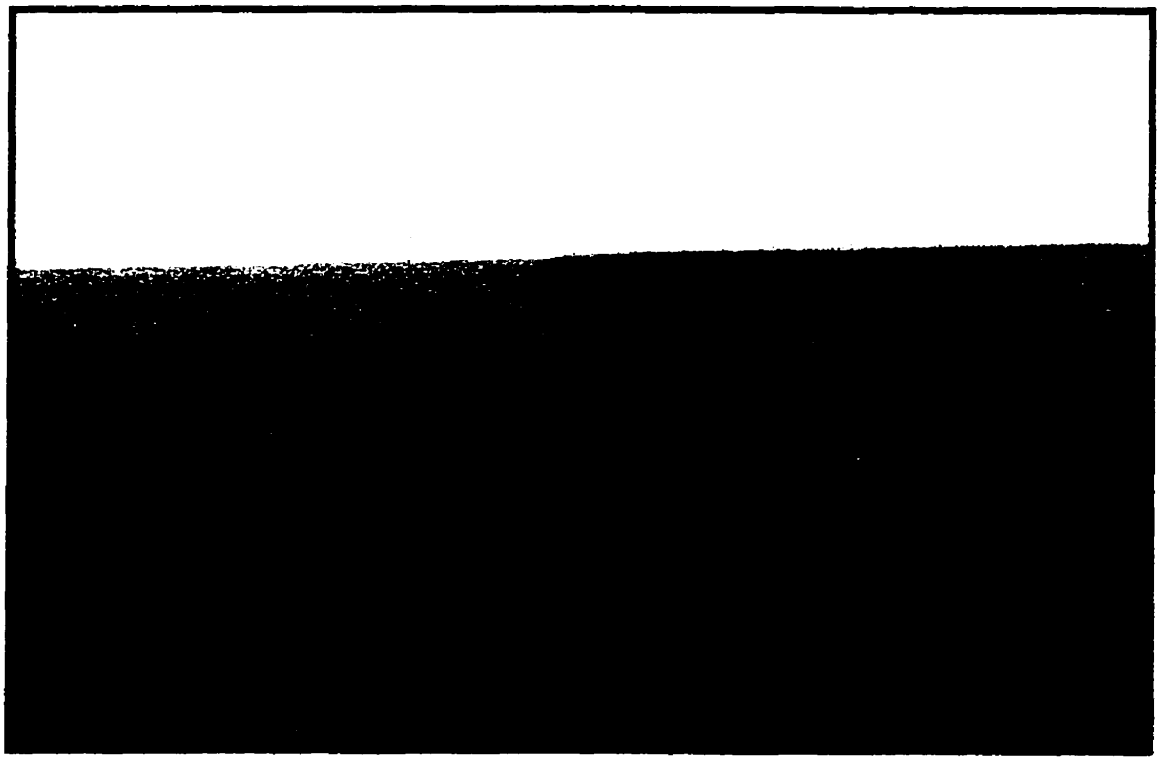


FIGURE 3.11: View to the north-east of Gull Harbour Point.

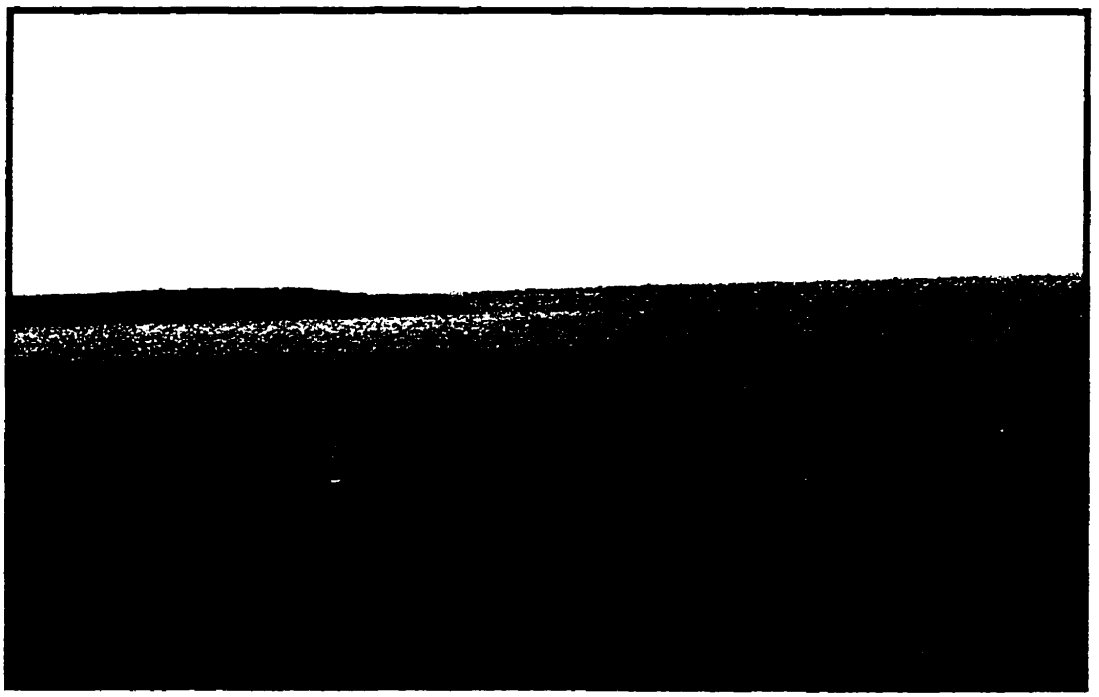


FIGURE 3.12: View to the north of Gull Harbour Point.

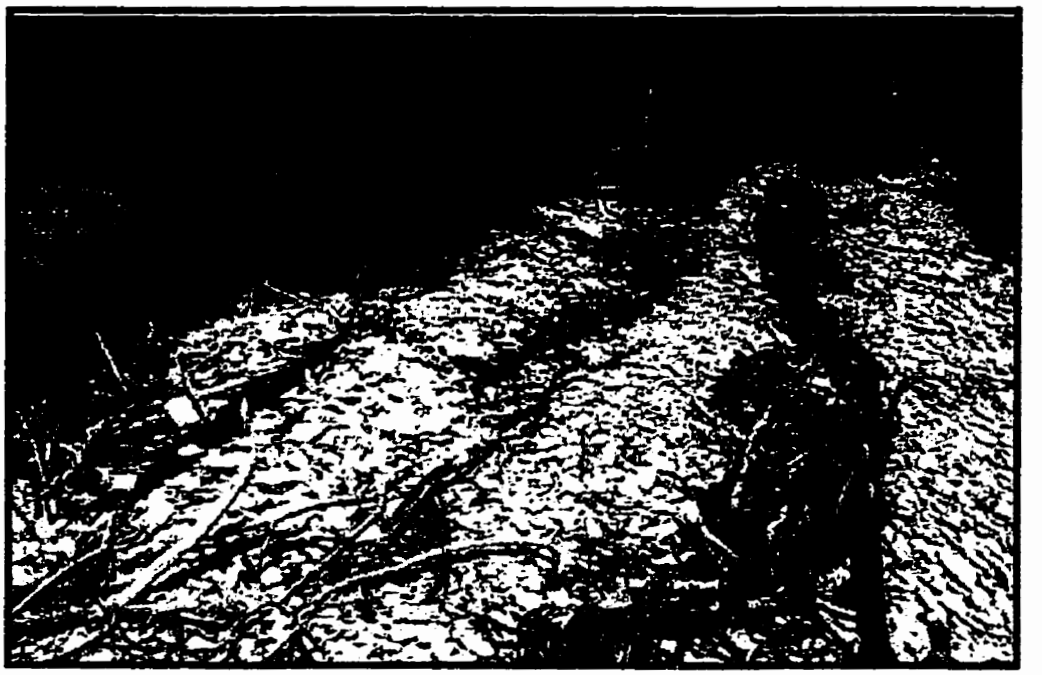


FIGURE 3.13: Shingle beach along the west shore of Lake Winnipeg.

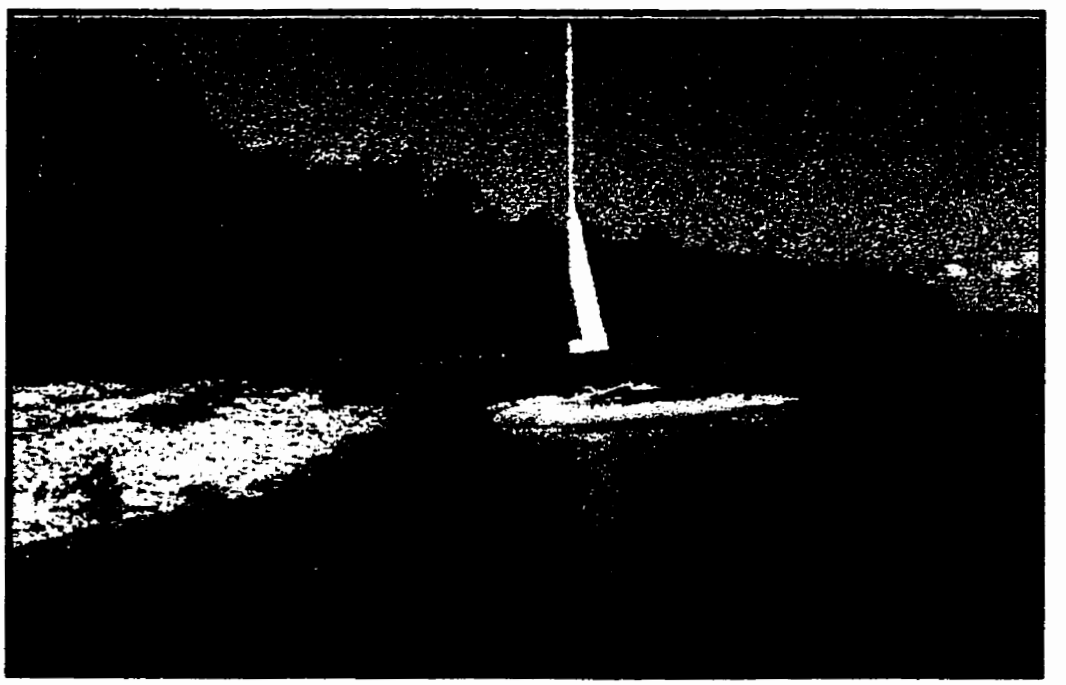


FIGURE 3.14: Shingle beach, with numerous off-shore boulders. West shore of Lake Winnipeg.

FIGURE 3.15: Low cliffs along the west shore of Lake Winnipeg.

FIGURE 3.16: Cliff at base of Gull Harbour Point.

3.2.3 NORTH NARROWS

This area is a continuation of the previous Gull Harbour Area, and as such exhibits similar shore type associations (FIGURES 3.17, 3.18 and 3.19). The east shore of the Narrows is reportedly similar to the northern regions of the "East Shore", discussed earlier. However, weather conditions prevented a direct visit for confirmation.

The economic mainstay of this region is commercial fishing (FIGURE 3.20). Docks and wharfs, originally installed for this industry, are in generally poor condition. There are few facilities for visitors at present. The sole provincial campground at Beaver Creek (FIGURE 3.17) may be closed (officials in Winnipeg, in fact, did not seem to be aware of its existence), but a float plane base at Biscuit Harbour is expanding its accommodation and is actively seeking year round tourism opportunities. As well, they may, with advance notice, provide supplies. Matheson Island, accessible by free ferry (FIGURE 3.21), also has limited supplies, but the harbour is small (FIGURE 3.22).

Black Bear Island, immediately north of Matheson, reportedly has an excellent, natural, all-weather harbour that used to be the site of a fish processing plant. It has been suggested as a potential base for exploration of the North Basin, but an evaluation visit was not possible.

Local residents and business people seemed interested in attracting tourists to the region, although little has been done to date regarding promotion. Unfortunately, road access is currently poor, and will likely remain so.

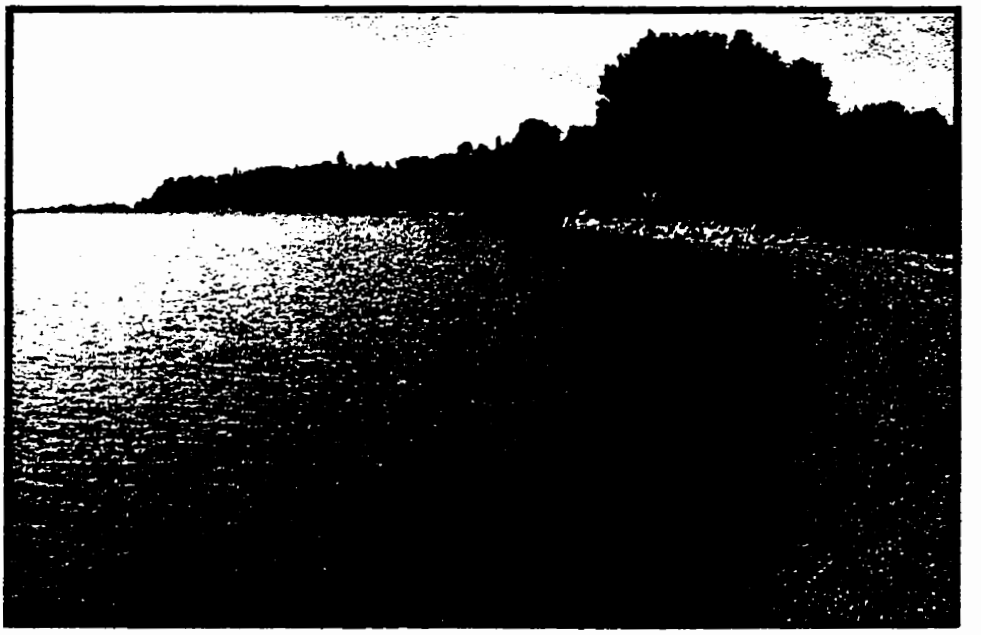


FIGURE 3.17: Beach at Beaver Creek Campground, along the west shore of Lake Winnipeg.

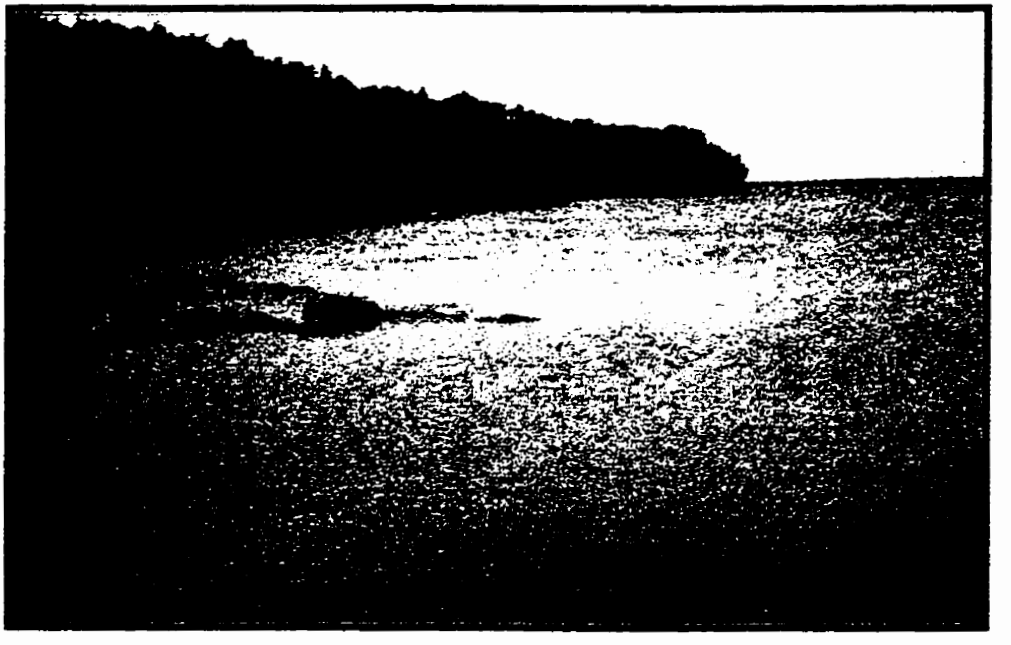


FIGURE 3.18: Shore-line along the west shore of Lake Winnipeg, approaching Matheson Island.

FIGURE 3.19: Finer grained shingle beach along the west shore of Lake Winnipeg.

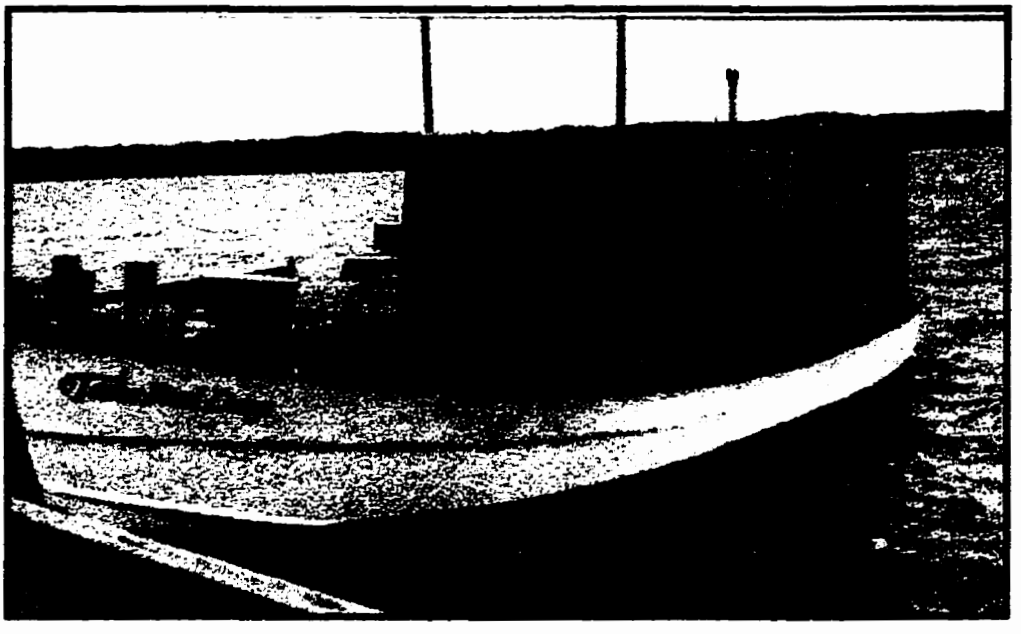


FIGURE 3.20: Whitefish boat.

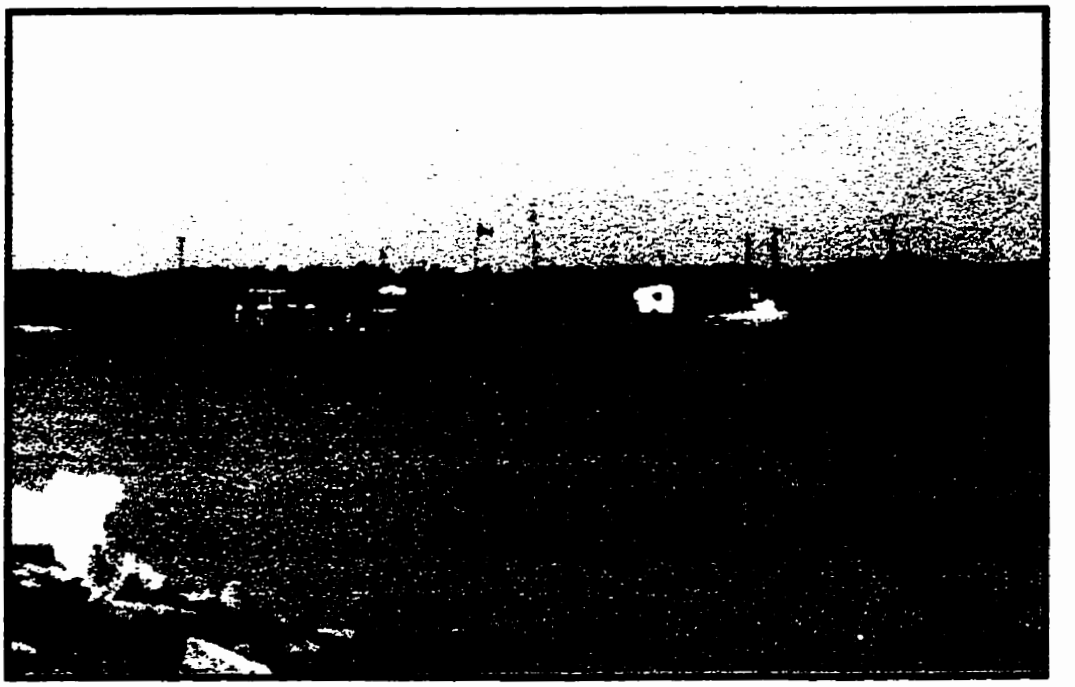


FIGURE 3.21: The free vehicular ferry to Matheson Island.

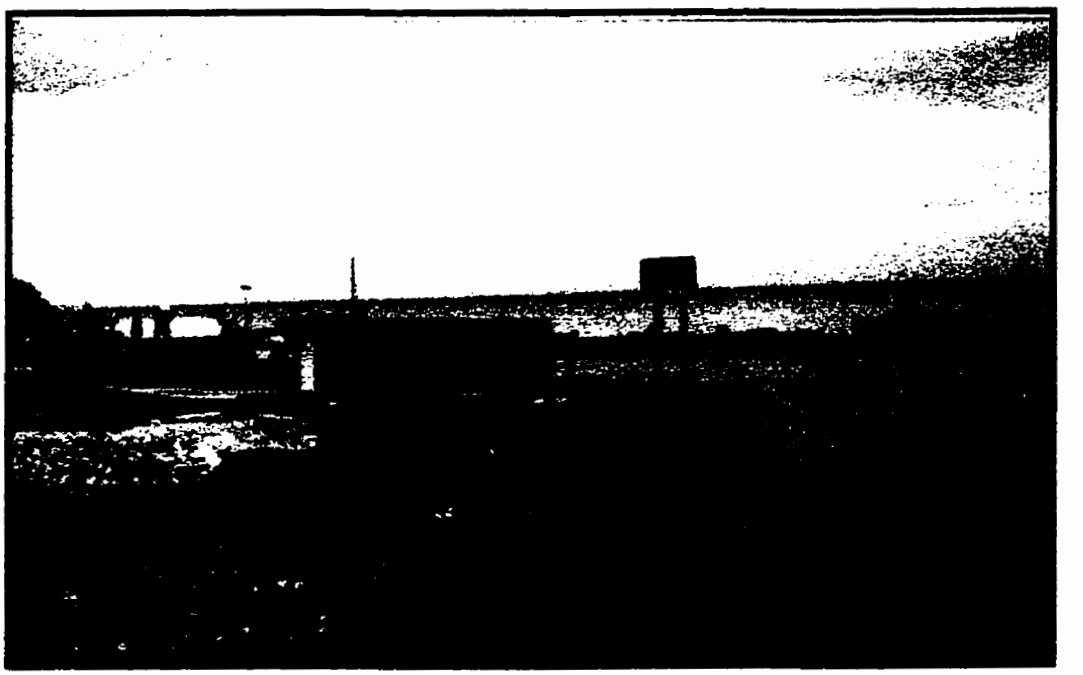


FIGURE 3.22: The harbour at Matheson Island.

3.2.4 REGION 3 SUMMARY

Interview and survey respondents indicated that Region 3 had potential as a maritime wilderness tourism destination. This was confirmed during the field visits.

This region has numerous wilderness shorelines and islands easily accessible from the Gull Harbour area. Wildlife, especially bird, viewing opportunities are common. Although the water conditions can rapidly change, the presence of nearby islands can provide handy refuge if needed. The entire region is within easy range of power, sail or human powered boats. Smaller craft can thus be utilized, as large quantities of fuel and provisions are not necessary.

The wilderness scenery, abundant wildlife, large expanses of water, sparse population and ease of access makes this area a good candidate as a maritime wilderness tourism destination.

3.3 LAKE WINNIPEG'S WEATHER AND WATER CONDITIONS

Lying at the edge of the Prairies and located near the centre of the continent, Lake Winnipeg experiences warm, relatively dry, continental summers. It is also subject to cold winters during which the lake freezes. Generally the lake is frozen over from late November to early May, leaving late May to early November as the maximum extent of the boating season. June, July, and August have the warmest temperatures, with temperatures rapidly dropping off in September and October.

As with other areas of the prairies, Lake Winnipeg is subject to sudden, violent thunderstorms. Major pressure systems track along the jet-stream, which tends to lie over,

or near, Lake Winnipeg. Summers thus have the potential for rapidly changing, occasionally dangerous weather.

With the exception of The Narrows, where currents have scoured the underlying sediments to depths exceeding 60 metres, Lake Winnipeg is a shallow lake. The North and, to a lesser degree, South basin have long, open stretches (or fetches) of water where the wind has ample opportunity to build large waves. Combining these factors with the basically north-north-west to south-south east orientation of its' long axis and the predominantly North-West winds of summer leads to situations where large, steep waves have the opportunity to form.

The weather, and therefore the water conditions, can change rapidly. FIGURE 3.23, taken on July 25, shows a calm, restful day. The previous evening, a vicious thunderstorm ripped through the area. With torrential rains, hail and high winds. The next day, June 26 (FIGURE 3.24), 25+ knot winds made small boat sailing exciting. While sailing off the north of Punk Island, a combination of wave reflection, refraction and diffraction (as previously illustrated in FIGURE 2.6) was encountered. Caused by the proximity to the island, and two slightly out of phase wave sets from the two inlets to the west, very confused, breaking seas resulted in short bursts of surfing. Although these conditions posed no problems for the small trimaran used for field work, other types of trailerable boats could have been at risk.

Although the weather and water conditions varied considerably from day to day, there were few occasions when sailing in the study region was impossible (assuming an adequate boat and experienced crew). The islands offered sheltered locations, and the waves did not normally build very high, due to the short fetches. This is not to say that hazardous conditions can not occur here. Thunderstorms can

FIGURE 3.23: Calm, warm July day between Black and Deer Islands.

FIGURE 3.24: Blustery July day, with 25+ knot winds, just north of Hecla Village.

bring locally violent winds, hail and lightning, and should be monitored carefully. Indeed, monitoring of the weather on a regular basis will help avoid most of the potentially dangerous weather and water related problems.

3.4 FACILITIES AND SERVICES OF THE STUDY REGION

The study region has no major facilities for provisions or repairs, with the possible exception of Riverton. Although most of the local communities have a small general store, quantities and selection may be limited. For those needing major repairs, provisioning or assistance in launching or retrieving larger boats, the closest major centre is Gimli. The lodge at Biscuit Harbour (FIGURE 2.25) is undergoing expansion at the present time. They are planning on offering provisioning services (subject to advance orders) and hope to be able to provide boat docking in the near future.

With the exception of Gull Harbour, boat launches and docks in the region are of marginal quality (FIGURES 3.26-3.28). Most launches are narrow and in poor repair. Those whose trail handling skills are poor, or who have a smaller tow vehicle may find them intimidating.

Coast guard services, including navigation aids, are limited. Unfortunately, with the relatively low level of use on most of the lake, and the intention of the government to further reduce the services, this situation is not likely to improve in the near future.

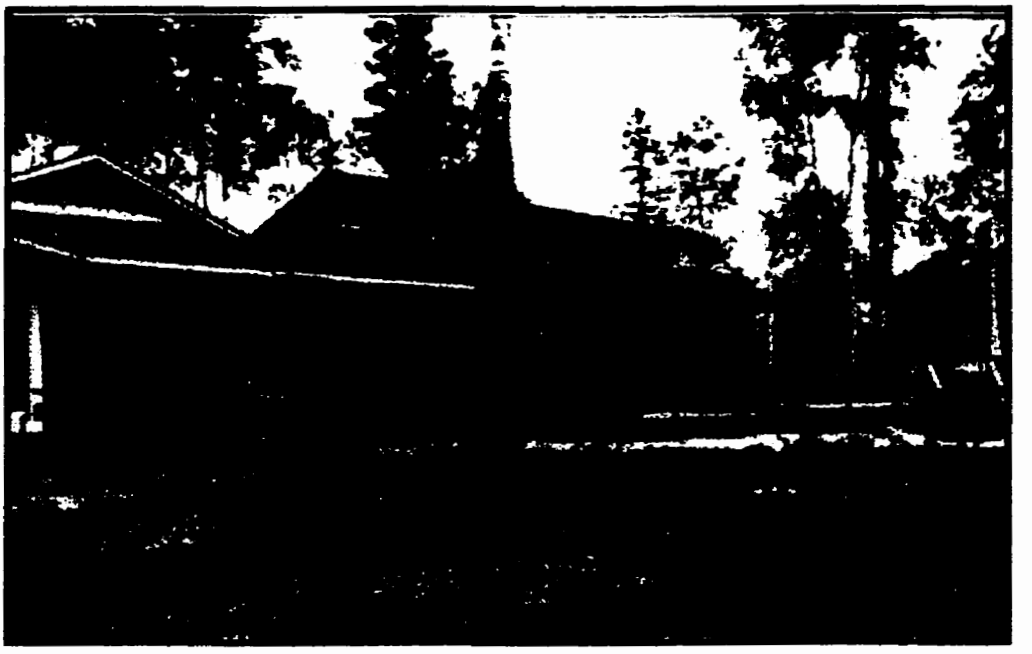


FIGURE 3.25: Expansion of the facilities at Biscuit Harbour.

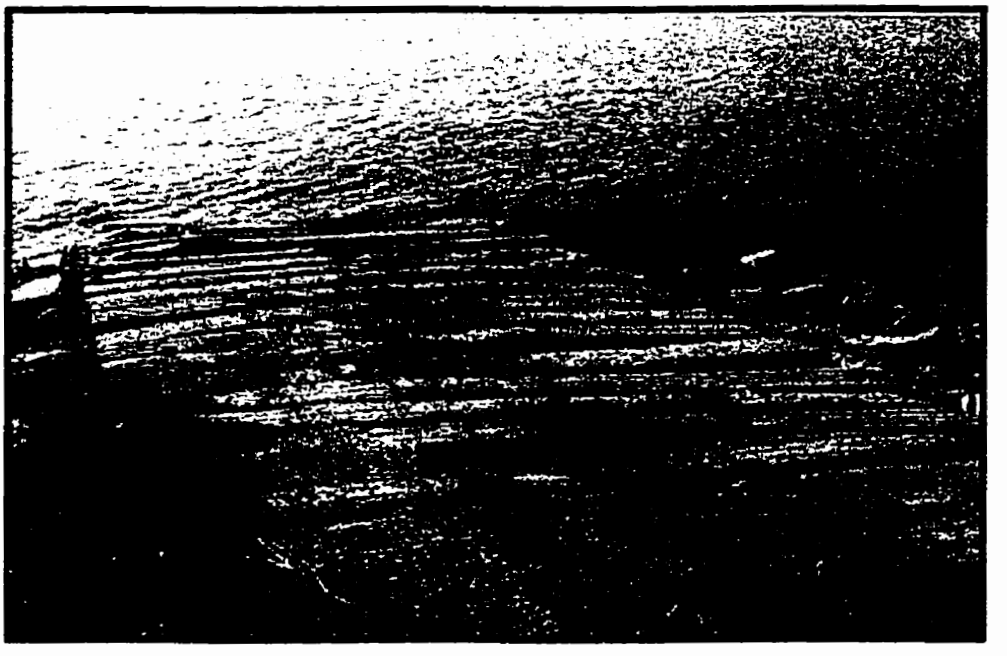


FIGURE 3.26: An example of one of the better boat ramps along the west shore of lake Winnipeg.

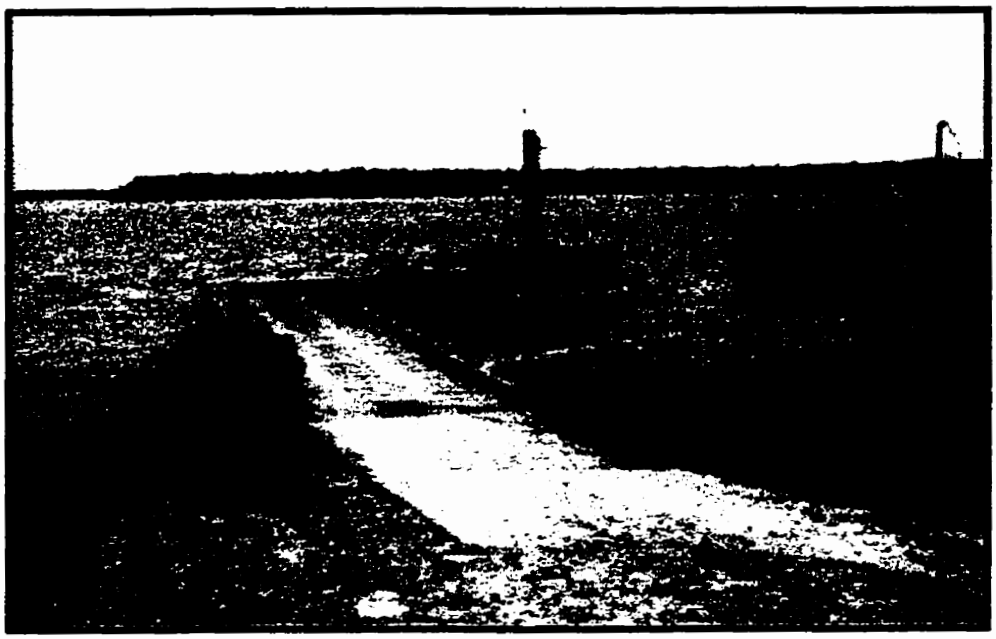


FIGURE 3.27: A typical boat dock along the west shore of Lake Winnipeg. Built to serve the whitefish fishermen.

FIGURE 3.28: A typical boat ramp along the west shore of Lake Winnipeg.

3.5 MISCELLANEOUS CONSIDERATIONS

Throughout the various phases of the research, a number of considerations for tourism in this region became apparent. In no particular order of importance, these included:

- water clarity: the water is quite murky, resulting in very poor visibility. Obstacles lying just below the surface are difficult to spot, causing problems for inshore navigation, swimming and diving into the water;
- solitude: it was rare to encounter other boats on the water. The region is uncrowded, with the possible exception of the Hecla/Gull Harbour area on holiday weekends;
- clear skies: the clear skies and lack of artificial lighting afforded the opportunities for spectacular views of the stars and Aurora Borealis (Northern Lights);
- biting insects: in common with most of northern Canada, annoying insects can make it uncomfortable for the unprepared;
- wildlife approachability: it was quite easy to approach most wildlife. This may be, to a large measure, a function of the low human population density of the region; and
- First Nations Communities: as the main residents of the remote regions of Lake Winnipeg, the First Nations' people could be positively or negatively impacted by tourism. Although these could be major concerns for local communities, they do not change the natural quality of the region. As such, these issues have not been included in the following evaluation. They could, however, impact on the types and extent of tourism in

the region. In consideration of this, Chapter 4 discusses some of the concerns and the development plan put forward in Chapter 5 attempts to accommodate them.

3.6: ATTRIBUTES OF LAKE WINNIPEG

The field work has indicated that Lake Winnipeg has a number of positive attributes which may make it attractive as a maritime wilderness tourism destination. However, there are also some negative aspects which could detract from it's potential. Both are briefly described below, beginning with the negative aspects.

3.6.1 NEGATIVE ASPECTS

- LENGTH OF SEASON. The lake is generally frozen over from late November to early May, leaving late May to early November as the maximum possible extent of the boating season. When considering air and water temperatures, this season is reduced further, leaving June through September as the realistic maximum season.
- SEVERE WEATHER. Due to Lake Winnipeg's position in the continent, it is subject to rapid variations in weather, with the potential for violent storms. It is not uncommon to go from a calm, blissful day (FIGURE 3.23) to a violent storm (FIGURE 3.24) in a matter of hours.
- SHALLOW WATER AND SHORE-LINES. Most of the lake is shallow, as are many of the shore-lines. This can make navigation difficult in many areas. As well, waves tend to build quickly in shallow waters, resulting in

rapidly deteriorating conditions. The shallow nature of the lake gives ice ample opportunity to move boulders around, changing even a familiar anchorage or passageway from one season to the next.

- LACK OF EASILY ACCESSIBLE, SAFE HARBOURS. Other than in Region 3, safe harbours can be few and far between. Even within Region 3, one must plan trips with an eye to alternate refuges should the weather forecasts be inaccurate.
- OPEN WATER. Especially in the south and north basins (Regions 1, 2, 4 and 5), there are long, open stretches of water which provide ample opportunity for the development of large, steep waves.
- WATER CLARITY. Due to the shallow nature of the lake, it tends to be very silty. Visibility in the water is poor to non-existent. This leads to problems when navigating in shallow water. As well, some people do not wish to wade and swim in murky water.
- MARGINAL QUALITY CHARTS/GUIDES. As the lake has relatively little commercial or recreational use, navigational charts for the more remote areas offer only minimal coverage. Although the two available sailing guides are a valuable supplement, they cover only the more popular areas of the lake.
- LACK OF SUPPLIES AND SERVICES. Access to supplies and services is limited. This is especially troublesome for power boats, as the difficulty in obtaining fuel can be a limiting factor.
- COAST GUARD PRESENCE. Due to cutbacks, the presence of the coast guard on the lake is limited at best, and is slated for further cut-backs (Ballantyne, Settee, pers. com., 1997).
- INSECTS. As is common throughout northern Canada,

flying, biting insects tend to be annoying during the summer.

3.6.2 POSITIVE ATTRIBUTES

- GOOD VARIETY/ BEAUTIFUL LOCATIONS/ RUGGED SCENERY. Sheltered island waters around Hecla prove numerous opportunities for exploration, both on the water and on the islands. Black Island in particular has a wide range of scenery, ranging from gentle beaches to rugged cliffs. There are numerous sand beaches for picnicking, camping or exploring. The granite islands and archipelagoes of the east side of the lake provide numerous rugged vistas, as do the contrasting east and west shores.
- WILDLIFE WATCHING. Bird life in the region was prolific, including relatively rare birds such as bald eagles (FIGURE 3.29). Use of a boat provided numerous opportunities to approach and 'interact' with others (FIGURE 3.30 & 3.31). There are currently plans underway at Biscuit Harbour and Gull Harbour to utilize boats for bird watching. Although large mammals were rarely observed during the field work (two black bear, one moose, and possibly a timber wolf), long term residents were adamant that such sightings were common.
- UNCROWDED. In a time of growing congestion in more traditional destinations, this may well be a major draw for the region. Indeed, it was very uncommon to meet, or even sight, other boats while involved in the boating phase of the field work.
- SOLITUDE. Because of the uncrowded nature of the area, it was easy to lose yourself and escape from the

outside world. It takes very little time to move from the uncrowded harbours to total solitude.

- CLEAR SKIES. The clear skies at night allow stunning views of the stars and Aurora Borealis (Northern Lights) which many from the cities never get to see.
- PROTECTED HARBOURS. As noted in the cruising guides of Thorkelsson and Whitley, there are many secure harbours in Region 3. As well, interviews suggest that there are more potential harbours in the north basin, but these are not described in either of the cruising guides.
- RELIABLE WIND CONDITIONS/ GREAT SAILING. Although storms and severe weather are a problem, most days provide good sailing conditions for suitable boats.
- OCEAN-LIKE APPEAL TO SAILORS. There can be an appeal to being on such a large body of water that is lacking on many of the smaller lakes.
- WILDERNESS SHORES IN NORTH BASIN. Although this point could not be verified, it came up a number of times both in the surveys and the interviews. The descriptions found in the literature tend to confirm this. While outside of the immediate study area, these shores are accessible from it, and thus may add to the appeal of the study area. The north basin would likely have appeal as an adventure tourism destination, according to the interviews and survey.
- CLEAN SWIMMING AREAS/ GOOD SAND BEACHES. These were commented upon, observed, and experienced on numerous occasions. Although the water was murky, and made diving overboard risky (unseen rocks), there is little problem with rubbish in the water. Although temporary currents can occur due to seiches, these were not a problem.

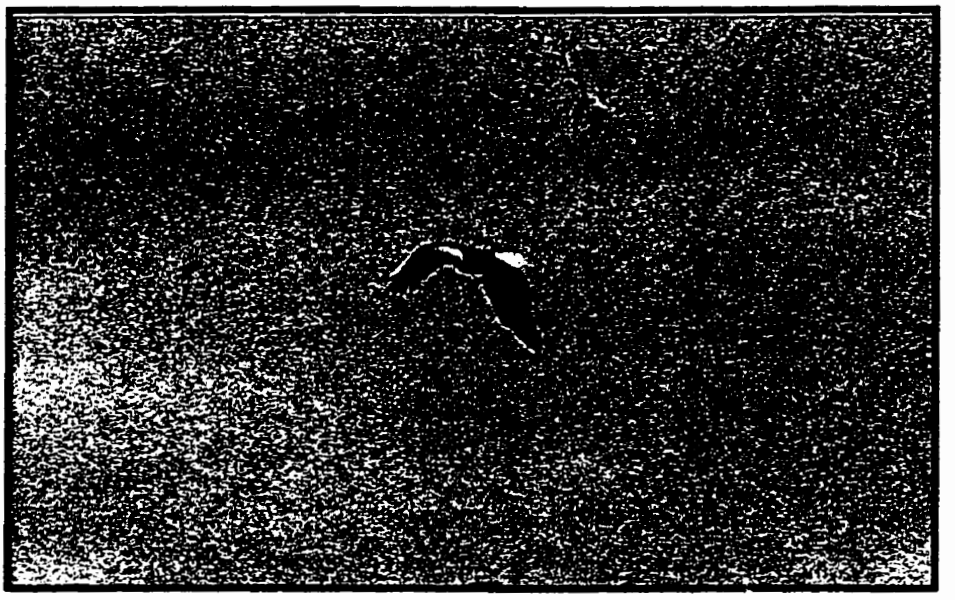


FIGURE 3.29: Bald Eagle.

FIGURE 3.30: Pelican. This particular bird was followed, at close proximity, for the better part of one hour: it never flew away.

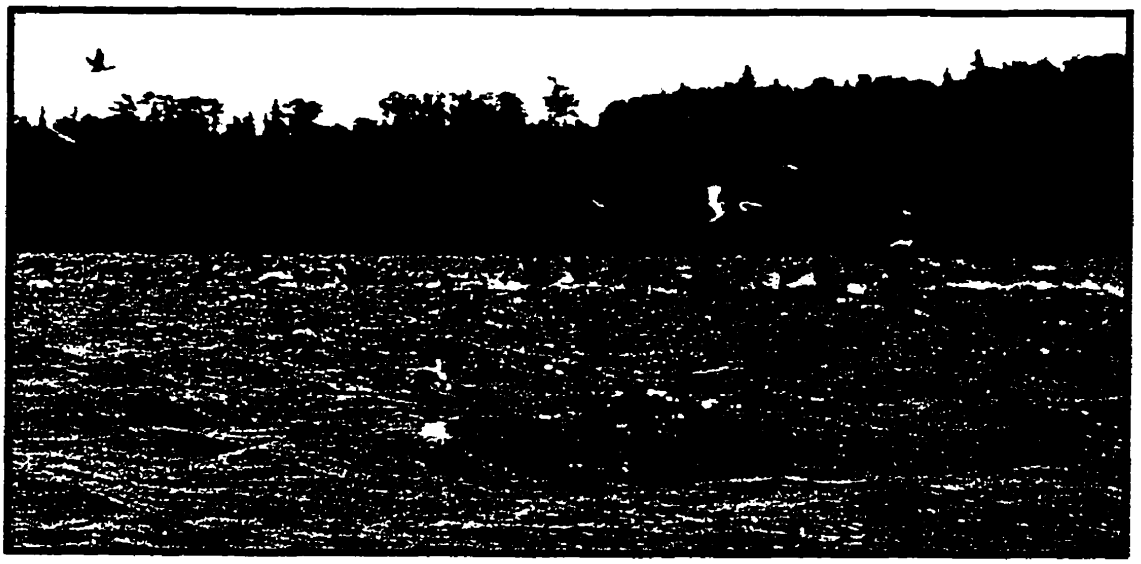


FIGURE 3.31: Mixed flock of pelicans, cormorants and others.

3.7 SUMMARY

The central portion of Lake Winnipeg, identified as Region 3 in the surveys, was selected for field work. This area proved very attractive for tourism, but did have a number of drawbacks.

The largest drawback to maritime wilderness tourism anywhere on the lake is the short season. This will severely limit the ability of a tourism operator to earn a profit, unless the venture is a side-line to another source of income, a seasonal venture (such as for fishers in the off-season), as a hobby (for example, a summer pastime for a semi-retired person) or some similar situation. The potential storms, shallow waters, rugged shores and so

forth, while hazards to boating, may not be a major drawback if preparations and contingency plans are adequately thought out. The lack of services is more of a logistical problem than a drawback to tourism, but one that could add to operating expenses. Insects are an unfortunate fact of life in the Canadian wilderness. As many people looking for a wilderness experience would likely be aware of this, the insect problem may be more of an annoyance than a drawback.

For those seeking a wilderness tourism experience, the rugged and varied scenery, abundant wildlife and the uncrowded waters and shores could outweigh the drawbacks for many potential tourists. The uncrowded locations with the attendant solitude, and the clear skies are also vital components of a wilderness experience. The central portion of the lake has numerous islands to explore and provide shelter. Wilderness harbours are within easy reach for day trips, so that the lack of navigation aids is not a major problem. The size of the lake is an attraction to some, with it's ocean-like qualities. The study area can also serve as a convenient area from which to explore the North Basin, which may be an attraction for adventure tourism.

Within this region there are a number of potential products, including, but not limited to:

- boating lessons (including sail, power and paddle craft);
- nature viewing by boat. Although this is offered to a limited degree, there may be room for more operators;
- charter base for extended 'adventure tours' to the North Basin;
- boat rentals. A virtually untapped market, campers interviewed expressed a desire for this type of service. Rentals could include small power, sail and paddle (canoes, kayaks) boats for day use, or larger

craft for longer term charter; and

- island or remote camping. Being done on a very limited scale, this would involve dropping campers at a remote location and then picking them up at a designated time. Alternatively, the campers may make their way back to the base via canoe, kayak or other small craft.

Interviewees have suggested Germans, Scandinavians and Orientals (notably Japanese and Filipinos) as current and potential visitors who may be interested in maritime wilderness tourism. Respondents suggested that the Germans and Scandinavians would tend to be interested in more adventuresome, less structured activities, while the Oriental tourists would be more likely attracted to group tours of a more structured format. Although the wilderness experience would be the main product offered, how it is presented could vary in the degree of structure and comfort offered to the specific market.

CHAPTER 4: WILDERNESS TOURISM DEVELOPMENT FRAMEWORK

4.1 INTRODUCTION

The research conducted for this practicum has indicated that the central region of Lake Winnipeg (Region 3) has the potential to be a maritime wilderness destination. However, during the course of the research, some planning concerns, including potential cross-cultural conflicts, were identified. As an aid to establishing a viable tourism venture that maximizes the potential of this area, while addressing the identified (and as yet unidentified ones) concerns, a relevant development framework is needed.

Tourism marketing models proposed by various authors were examined for guidance in developing a suitable development and marketing framework for a remote, wilderness region. Iso-Ahola (1982) deals with tourist motivations, presenting a four field matrix which can be useful when assessing the market segment(s) to target. Mill and Morrison (1992) also provide useful suggestions relating to market segmentation. Buckley and Papadopoulos (1986) present a detailed market planning framework, aimed at establishing a new venture in an established, crowded market place. In contrast, the framework presented by Gilbert (1988) deals with the introduction of tourism to a rural, previously undeveloped (with respect to tourism) region. The model proposed by Heath and Wall (1992) is a more general model, aiming at an established, but not crowded, market place.

While the various models proposed seemed pertinent to the situations they were derived for, the Lake Winnipeg region does not seem to fit them. Inasmuch as the region is relatively undeveloped in regards to tourism, with the

potential for cross-cultural misunderstandings, a different model was felt to be necessary. Drawing mainly upon the models of Gilbert (1988) and of Heath and Wall (1992), a model (FIGURE 4.1) specifically designed for the central region of Lake Winnipeg, was developed.

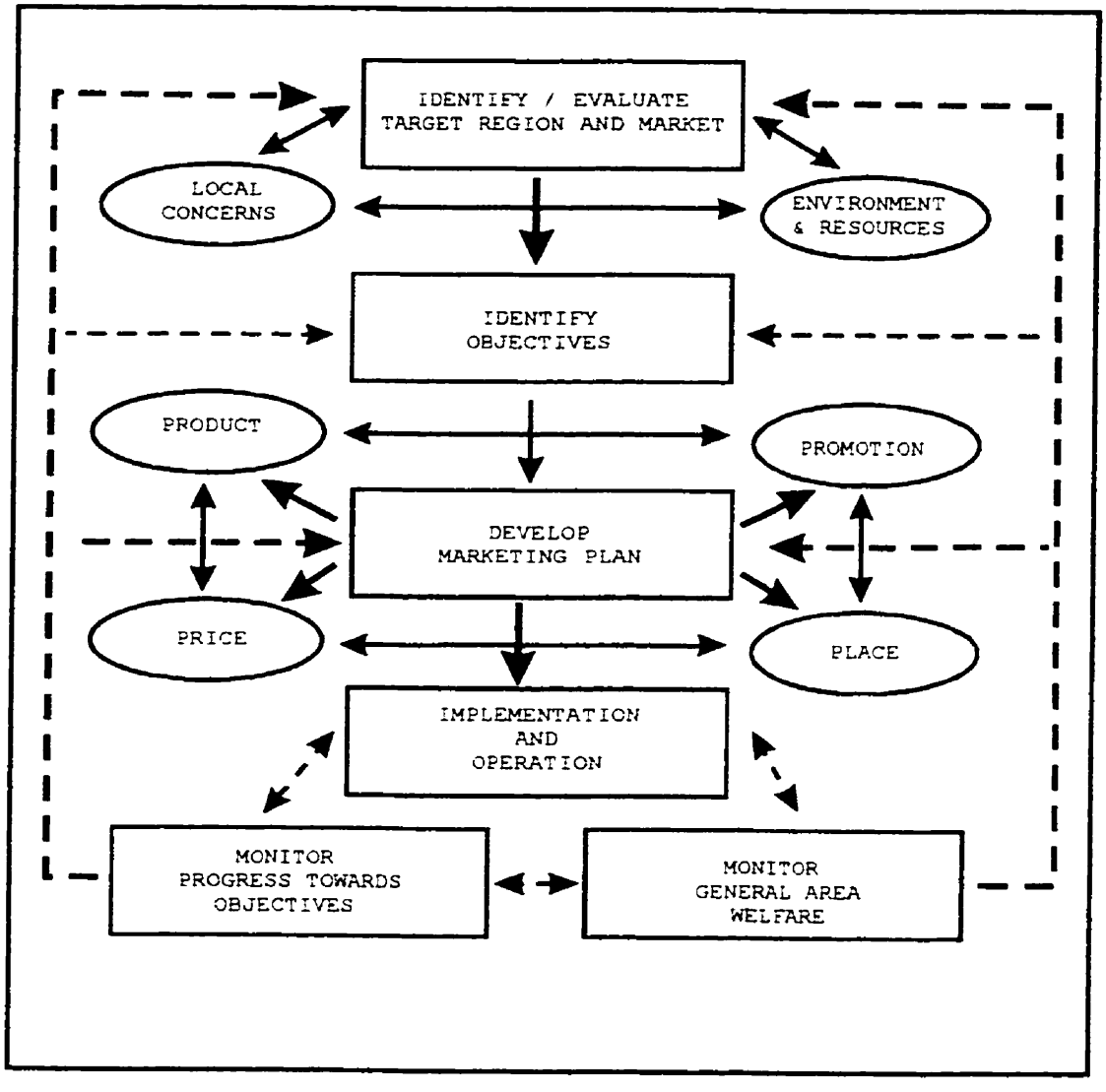


FIGURE 4.1: MARITIME TOURISM DEVELOPMENT MODEL. The solid lines show input pathways, while the broken lines show feedback pathways.

4.2 DEVELOPMENT MODEL

The Maritime Tourism Development Model, illustrated in FIGURE 4.1, is intended to provide a logical process to guide the development of a new tourism venture in the central area of Lake Winnipeg. While not attempting to illustrate all considerations or necessary decisions, it identifies five key phases in the development process:

- identification and evaluation of the target region and market;
- identification of objectives;
- development of a marketing plan
- implementation and operation; and
- monitoring of both progress toward the identified objectives and of the welfare of the area within which the venture is operating.

To allow for flexibility and adaptation in a potentially dynamic environment, input (solid lines) and feed-back (broken lines) information pathways are incorporated.

4.2.1 IDENTIFY AND EVALUATE TARGET REGION AND MARKET

The initial stage of development of a new tourism venture involves a preliminary survey of the region to identify portions of this region which may be attractive to potential tourists. Additionally at this stage, available resources and local concerns may be identified. For the central region of Lake Winnipeg, this stage involved examination of;

- water conditions, with reference to water craft

operation;

- climatic conditions and variability;
- the presence, variety, and approachability of wildlife;
- vegetation types and variety;
- land forms of the region; and
- facilities and services of the region.

This interviews, surveys and field work conducted indicated that the region has a number of features that may make it an attractive maritime wilderness tourism destination. As well, a number of negative aspects as well as potential causes for concern were identified. Potential market products for various regions of Lake Winnipeg were also identified. These were discussed in Chapter 3.

Potential target customers identified, aside from North Americans, include Scandinavian, German (Aboriginal Tourism, 1996; Ieria, 1996), Filipino and Japanese (Canadian Tourism Commission, 1995) tourists. As shown in FIGURE 2.2, Germans already constitute a significant proportion of wilderness tourism clientele.

Two main, separate (but of necessity interrelated) areas for examination occur within this region of Lake Winnipeg; the environment and resources, and the wants and needs of the local communities.

4.2.1.i ENVIRONMENT AND RESOURCES

For the central region of Lake Winnipeg, the investigation of these issues was the major focus of the research for this practicum. While evaluating Region 3 for suitability and attractiveness for tourism, attention was also given to the environment within which it is to operate,

and to the available resources (facilities and services). This should be done for Regions 1, 2, 4 or 5 as well, should any of these be targeted as tourism destinations.

A further concern that will need to be addressed prior to operation of a maritime tourism venture will be transportation of clients to and from the operation venue. This may not be a major issue for Regions 1, 2 or 3, due to their proximity to Winnipeg. However, for Regions 4 and 5 it will be important, as they are remote from major transportation centres.

4.2.1.ii CONCERNS OF LOCAL COMMUNITIES

Interview respondents and conference speakers at the recent Sacred Lands Conference (Winnipeg, Manitoba; October 24-26, 1996), suggested a number of concerns in regard to visitations to, and utilization of, the lands of the predominantly First Nations and Metis population of the Lake Winnipeg region. Tourism has the potential to affect the local communities. "The interdependence of the ecological, economic and cultural components of sustainability are particularly relevant for indigenous people" (Shelton and Barnes, 1994). Some of the concerns suggested include:

- improved facilities and employment;
- improved cross-cultural understanding;
- disturbance of fauna and flora;
- increased pressures on resources, supplies and services;
- disturbance of culturally significant artifacts and sites;
- pollution;
- cross-cultural conflicts arising from differing values

and customs; and possible resentment towards 'outsiders'.

Once potentially impacted communities are identified, they should be contacted, initially through the chief and band council. This initial contact will have several the objectives of:

- informing the community of the general purpose of the evaluation work;
- ascertaining if there is tentative support or opposition to such a venture. Should strong opposition to the plans be uncovered, it may be prudent to re-evaluate the plans and either delay further work until the opposition concerns are addressed, or abandon the current plans;
- helping to identify potential impacts (both beneficial and detrimental) to the community;
- identifying areas of natural, cultural, spiritual, or other significance which the local people would not wish subject to outside visitation, as well as those areas where visitation would be acceptable;
- identifying local socio-economic, cultural, or other wants or needs of the local people which may be met, aided, or hindered by this type of tourism; and
- identifying any other planned or proposed projects in the region which may either help or hinder the proposed venture.

4.2.2 IDENTIFY OBJECTIVES

Having established that there may be sufficient tourism potential for the region, the objectives of the venture

should be addressed. In developing the objectives, there are numerous issues that should be addressed, including:

- how large or extensive will the venture be;
- which segment(s) of the tourism market will be targeted, and what are the specific needs and desires of the targeted group;
- what is the desired profit margin;
- is this to be a short term or long term venture;
- will it be seasonal or year round; and
- will this be a stand-alone venture, or will it eventually be a component of a larger regional industry?

As the objectives become more concrete, this information should be used to help further evaluate the target region to insure compatibility. The objectives should also be examined in light of the local wants and needs, and the environment and resources of the region. The information and feed back obtained may necessitate modifications to the objectives.

4.2.3 DEVELOP A MARKETING PLAN

As the evaluation of the region and the identification of objective progress, the marketing plan can begin to be developed. This stage will typically have four major components; product, place, price and promotion. Product and place will have been largely determined at the earlier stages, but will have a large bearing on each other and upon the price and promotion. As well, developments that occur as the marketing phase proceeds may necessitate occasional adjustments to the product or the place.

Determination of prices and promotion strategies for a new venture in a new region will be challenging. Existing operations in similar environments, if any, can be studied for some guidance. In the absence of direct comparisons, dissimilar operations or locales may, by careful interpolation, provide indications of an appropriate pricing structure and promotional strategies. Referring back to the earlier performed market segmentation may give indications as to what types of promotion and pricing would appeal to the target clientele.

As with the earlier phases in the development process, feed back should be ongoing, to enable adjustments as needed.

4.2.4 IMPLEMENTATION AND OPERATION

Assuming that the marketing phase has been successful, the new tourism business will commence. As it is likely that modifications to various aspects of the business may, on occasion, be necessary, an ongoing monitoring and feed back program should be established.

Although the need for monitoring progress towards the objectives may be self-evident, a tourism venture such as this needs another type of monitoring; monitoring of the general welfare of the area.

4.2.5 MONITORING OF THE GENERAL AREA WELFARE

Monitoring of the regional welfare may be especially relevant in a remote region which has a local population not used to tourism for two main reasons:

- it is presumably the environment which is drawing the customers. If the environment suffers, the clients will not come. As well, the local population depends upon the health of this environment for their sustenance and well-being; and
- the local population should ideally benefit in some way as a result of the tourism venture: at the very least they should not be inconvenienced or disadvantaged by it.

Ecotourism (and, by extension, maritime tourism), by definition, should protect the environment and respect the indigenous population. Monitoring in this regard, at all phases of the project can help insure that this happens. However, this type of monitoring could be difficult and potentially costly to undertake. Important issues in this regard will likely include;

- Who pays for the monitoring program?
- What indicators will be relevant? and
- How much and what type of change is acceptable?

These are all questions which will need to be researched. However, a few suggestions can be made in regard to the question of payment for the monitoring;

- if both the operator and the local community are deriving some benefit, they could consider sharing the costs of monitoring. If properly set up with consideration of the host community's long-term goals, information gathered can be utilized for more than one purpose;
- if only the operator is benefitting, that is who should pay, if only to protect his/her assets.

Monitoring need not be prohibitively expensive. On-going surveys of new and (hopefully) repeat customers, if carefully designed, can provide valuable information as to the quality of the impacted environment. In some cases this may be all that is needed, while in others it can serve as a starting point.

4.3 SUMMARY

The tourism industry can be complex. Examination of some of the differing views about tourists, tourism, motivations and marketing aids in focusing thoughts regarding the interplay of these considerations in the tourism industry. As well, an understanding of the issues, potentials, and perils inherent in the maritime and ecotourism industries can prove important for development of a maritime based tourism venture in a new, remote, and largely untraveled region such as Lake Winnipeg.

In consideration of the various facets inherent in tourism, and in an attempt to provide a step-by-step development process to aid in the development of a fledgling maritime tourism industry, the Maritime Tourism Development Model has been proposed. Its use during the preliminary phases of development research, the focus of this practicum, enhanced the efficiency of the work and helped identify potential concerns.

Although any model likely cannot capture all of the issues relevant to the development of maritime wilderness tourism on Lake Winnipeg, this model is an attempt to aid in realizing the potential of the region. At the same time, it is an effort to avoid harming the environment within which it is located, while also benefitting the local inhabitants.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Lake Winnipeg has numerous secluded beaches, wilderness anchorages, islands, diverse shorelines and abundant wildlife. It is an uncrowded destination, with many opportunities to find solitude, interact with nature or just enjoy the surroundings at your leisure. Although the weather can cause uncomfortable and even dangerous boating conditions, the attractions of the lake may outweigh these disadvantages. As such, Lake Winnipeg may make a viable seasonal maritime wilderness tourism destination, provided its drawbacks are planned for. The short season makes it unlikely, however, that maritime wilderness tourism could be viable as a stand-alone venture; it would likely be most successful as a component of another activity, or as a side-line. Examples include:

- fishers could use their boats as support vessels for flotilla cruises, for wildlife viewing, or as support vessels for wilderness camping during the fishing off-season (July and August);
- local businesses could offer boat rentals, tours, provisioning or other services to supplement their current activities; and
- retired, part-time or shift workers could use their boats for wildlife viewing, for lessons, as charter boats or as tour boats. These types of activity could partially offset the ownership costs of the boats, as well as providing tax benefits as business expenses. This option could be especially attractive to retired people who winter in southern regions; if they have a trailerable boat, they could live on it while they explore the Caribbean during the winter, and use it to

generate income on Lake Winnipeg during the summer.

Although many areas of Lake Winnipeg have potential for maritime wilderness tourism, the central portion (Region 3 or the Narrows) was thought by most interview respondents to be the primary target for this type of development. It has abundant natural attractions, coupled with relatively easy access to shelter, should the weather turn bad. Although services and facilities are limited, this problem is more one of logistics than a dis-incentive to visit.

During research for this practicum, several aspects of the central portion of Lake Winnipeg were examined for their impacts on maritime wilderness tourism. These included:

- Wildlife presence and ease of approach: although larger mammals were spotted only a few times, birds were common and easily approached under sail or paddle. Approaches under power were less successful;
- Shorelines and approaches: the water near shore is generally shallow and murky, with numerous boulders necessitating cautious approaches. The sandy beaches, however, were generally easy to approach and land upon;
- Scenery: although the region has a generally low topographic relief when seen from the water, there are numerous low headlands and cliffs, as well as the imposing south side of Black Island. The shores tend to be well wooded and rugged. The sand beaches, as well as many of the limestone shingle beaches, are inviting;
- Weather and water conditions: generally, the weather was pleasant, providing good conditions on the water. However, it was not uncommon to go from relatively benign to stormy conditions in a short period of time;
- Facilities: facilities and services were generally poor. Other than at the major harbours, use of the

ramps is not recommended. The lack of facilities and services may be a positive aspect with regard to the 'wilderness' component of tourism in this region, as crowds are non-existent and solitude is close at hand;

- Visceral impact: the clear skies, brilliant stars and Aurora Borealis, coupled with open expanses of water, inviting beaches, bays, inlets and islands combined to form a lingering sense of peace.

Potential products for this region include:

- boating lessons;
- boat based wildlife viewing;
- boat rentals and charters, both bare boat and crewed;
- charter base for extended adventure tours of the North Basin; and
- island or wilderness shore line camping.

A key component of any of these products is the wilderness itself. Indeed the accessible wilderness is likely to be the main product: without it, the other products may not be as attractive to potential customers.

The South Basin (Regions 1 and 2) was thought of by interview respondents as more of a day trip area, with access to wilderness if desired. Potential products for the South Basin include:

- boat rentals;
- instruction;
- day cruises; and
- longer term cruises to the Narrows or the North Basin.

All interview and survey respondents thought of the North Basin (Regions 4 and 5) as remote wilderness. Difficult access, exposed shorelines and lack of facilities

were thought likely to be the largest detriments to development in this area. Although the Gimli or Gull Harbour areas are potential starting points for charters to the North Basin, Grand Rapids, and possibly Norway House, may have potential as maritime wilderness tourism bases for this area. Potential products include;

- sail, powerboat or sea-kayak tours;
- "Fly-in" bases for smaller, suitable craft, along remote shores, similar to fishing and hunting lodges, but with maritime based tourism as the focus; and
- wilderness shore line camping could be offered.

In regards to identifying markets for the various products noted above, the Canadian Tourism Commission, as well as various other agencies, regularly conducts market research which may be accessed by developers to aid in their market segmentation. Previous market research has identified North Americans, Germans, Scandinavians, Japanese and Filipinos as people who may be attracted to wilderness regions of Canada (Aboriginal Tourism, 1996; Ieria, 1996; Canadian Tourism Commission, 1995). Germans in particular are established customers of both maritime and wilderness tourism products in Canada (TABLE 2.2). The presence of the German Army training base at Shilo, in south-western Manitoba, could present tourism developers on Lake Winnipeg (South, Central and Northern regions) with a unique foreign market that already has had its major transportation paid for, greatly reducing costs for these customers. A satisfying tourism experience for visiting military personnel could provide beneficial public relations once these people return home.

The summer weather of Lake Winnipeg is generally pleasant, but subject to sudden changes. As the lake is

shallow, this can result in the rapidly changing water conditions. Waves can become potentially dangerous in a relatively short period of time. In the central portion of the lake, however, the islands reduce the fetch of water that the wind can act upon, thereby reducing the potential size of the waves. As well, the islands provide shelter, as do a number of secure, natural harbours, although numerous rocks, coupled with a lack of navigation aids, can make some approaches tricky.

The main year-round residents of the wilderness areas of Lake Winnipeg are First Nations Peoples and Metis who depend upon the existing ecosystem for much of their cultural identity, livelihood and sustenance. As such, they could be negatively impacted by poorly executed tourism development. Recognition of the concerns of local communities is a component of the proposed wilderness tourism development framework. This framework is intended to provide a logical development planning aid toward the establishment of a wilderness, maritime oriented tourism venture in the relatively undeveloped central portion of Lake Winnipeg.

The evaluation of the environment and resources, the subject of this practicum, has indicated that Lake Winnipeg has potential as a wilderness, maritime oriented tourism destination. However, as the development framework indicates, more work must be done before a business catering to this type of tourism can be established. Included among the issues to be addressed are:

- determination of the wants and needs of potentially impacted communities. This will involve consultations with various community members, including the chief and band council;
- identification of objectives. What will the venture

offer, to whom, for how long and for what desired level of profit;

- further identification and segmentation of markets. Which particular segment of an identified market will be most interested in the product(s), at what time(s) of the year, and for what duration;
- development of the marketing plan. As the central region of Lake Winnipeg (and Lake Winnipeg in general) is relatively unknown on the world tourism stage, the marketing plan will have to be carefully thought out to stand the best chance of attracting the target market to it; and
- development of a monitoring protocol. As the natural environment is key to attracting customers to such a location, it is vital that the environment not be degraded. A relevant monitoring protocol will help to maintain the integrity and long term viability of both the project and the host region.

Providing that the above mentioned planning work is properly done, and expectations are in line with the seasonal limitations of the region, the central portion of Lake Winnipeg may be a feasible wilderness, maritime oriented tourism destination.

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APPENDIX I: INTERVIEWS

I.1: PRELIMINARY INTERVIEWS

A preliminary round of interviews, conducted during the late summer and early fall of 1996, was used to gauge tourism interest and activity on Lake Winnipeg, to aid in designing the survey and to help with the selection of the field work area. These interviews were informal, generally taking the form of casual conversations, with Lake Winnipeg as the focus. Issues explored included:

- interviewees knowledge of, and experience on, Lake Winnipeg;
- interviewees boating experience in general;
- tourism activity on and around the lake (past, present and future);
- overall impressions of the lake regarding attractiveness as a tourism destination; and
- problems or concerns regarding boating on Lake Winnipeg.

The people interviewed were:

- a Department of Natural Resources employee in Winnipeg;
- a real estate developer on the east shore of Lake Winnipeg;
- an executive member of the Manitoba Sailing Association;
- an executive member of the Gimli Yacht Club;
- seven boat owners at the Gimli, Silver Harbour, Gull Harbour and Royal Manitoba Yacht Clubs; and
- three campers at Hecla Provincial Park.

I.2: SECOND PHASE INTERVIEWS

A second round of interviews was conducted during the summer of 1997. These interviews followed the general format of the mail survey described in Appendix II. These interviews were intended to supplement and confirm responses from the surveys and the interviews of the previous year. As with the preliminary interviews, these were informal, casual conversations, with Lake Winnipeg as the focus.

The people interviewed were:

- a Department of Natural Resources employee from Gimli;
- two coast guard officials at Selkirk;
- a campground developer on the east shore of Lake Winnipeg;
- two tourism developers along the west shore of Lake Winnipeg;
- three employees of tourism facilities;
- three residents of the Matheson Island area;
- an executive member of the Manitoba Sailing Association;
- an executive member of the Gimli Yacht Club;
- six boat owners at Gimli and Gull Harbour Clubs;
- two participants from Black Island Days; and
- two campers at Beaver Creek campground.

APPENDIX II: SURVEY

NATURAL RESOURCES INSTITUTE
UNIVERSITY OF MANITOBA
WINNIPEG, MANITOBA, R3T 2N2
(204)474-8373
June 15, 1997

NAME _____
ADDRESS_____
CITY _____
PROVINCE _____

Dear _____,

Ecotourism and adventure travel are growing segments of the world travel industry. Maritime (water-based) and wilderness travel are vital components of this industry. Although Manitoba has a small but growing ecotourism and adventure travel industry, the maritime component is negligible. This survey is meant to obtain your opinions regarding the potential of Lake Winnipeg as a maritime wilderness tourism destination.

The results of the attached questionnaire will be utilized as part of the research necessary to complete a Master's practicum for the Natural Resources Institute, University of Manitoba. As well, the analysis of this survey, and the completed practicum, may be used to promote ecotourism in Manitoba. Your assistance with this would be appreciated and will help identify potential and needs for maritime tourism in Manitoba.

For your convenience, a stamped, self-addressed envelope is enclosed. It would be appreciated if you would return the questionnaire, whether completed or not, by July 15, 1997. Your answers will be held in strict confidence.

If you require further information, please contact either Dr. John Sinclair at (204)474-8374 or Mr. Don Bachinski at (204)753-2328, or by mailing your queries to either at the above address. This research has been approved by the Natural Resources Institute Research and Ethics Approval Committee, University of Manitoba, (204)474-8373.

Thank you for your assistance.

Yours Sincerely,

Donald B. Bachinski

THE FEASIBILITY OF MARITIME WILDERNESS TOURISM ON LAKE WINNIPEG

For the purposes of this study, the following definitions are used:
Wilderness is a remote, sparsely populated region;
Maritime refers to a large body of water; and
Tourism is travel for holiday or recreational purposes.

1: How many years have you been boating? Please check (✔).

Less than 1	1-3	4-6	7-10	More than 10

2: Have you taken any boating courses? (Circle) **YES NO**
If **Yes**, please list the courses below. (Add extra sheets if needed.)

COURSE	YEAR	LOCATION

3: How many years have you been boating on Lake Winnipeg? Please check (✔).

Less than 1	1-3	4-6	7-10	More than 10

4: What type(s)/model(s) of boat(s) have you used on Lake Winnipeg? Please list all, and give your opinion as to their suitability regarding the water conditions typically encountered on the lake. (Add extra sheets if needed.)

TYPE/MODEL	OPINION

5: For 5a, 5b, and 5c on the following pages, forms are provided for the evaluation of the services or facilities that you have utilized in recent years.

5a: Indicate the name of the harbour, marina or anchorage that you use most frequently in the box labeled **'LOCATION'**. Please check (✔) your ratings of the listed services or facilities on a scale of **0** to **5**, where '**0**' indicates that the service or facility is absent, '**1**' indicates that it is poor, and '**5**' indicates that it is very good.

LOCATION:	0	1	2	3	4	5	COMMENTS
DOCKING							
ANCHORING							
FUEL							
PUMP-OUT							
FOOD (PROVISIONS)							
WATER (POTABLE)							
REPAIRS							
DINING							
ENTERTAINMENT							
ADDITIONAL COMMENTS:							

5b: Indicate the name of the harbour, marina or anchorage that you use the second most frequently in the box labeled **'LOCATION'**. Please check (✔) your ratings of the listed services or facilities on a scale of **0** to **5**, where **'0'** indicates that the service or facility is absent, **'1'** indicates that it is poor, and **'5'** indicates that it is very good.

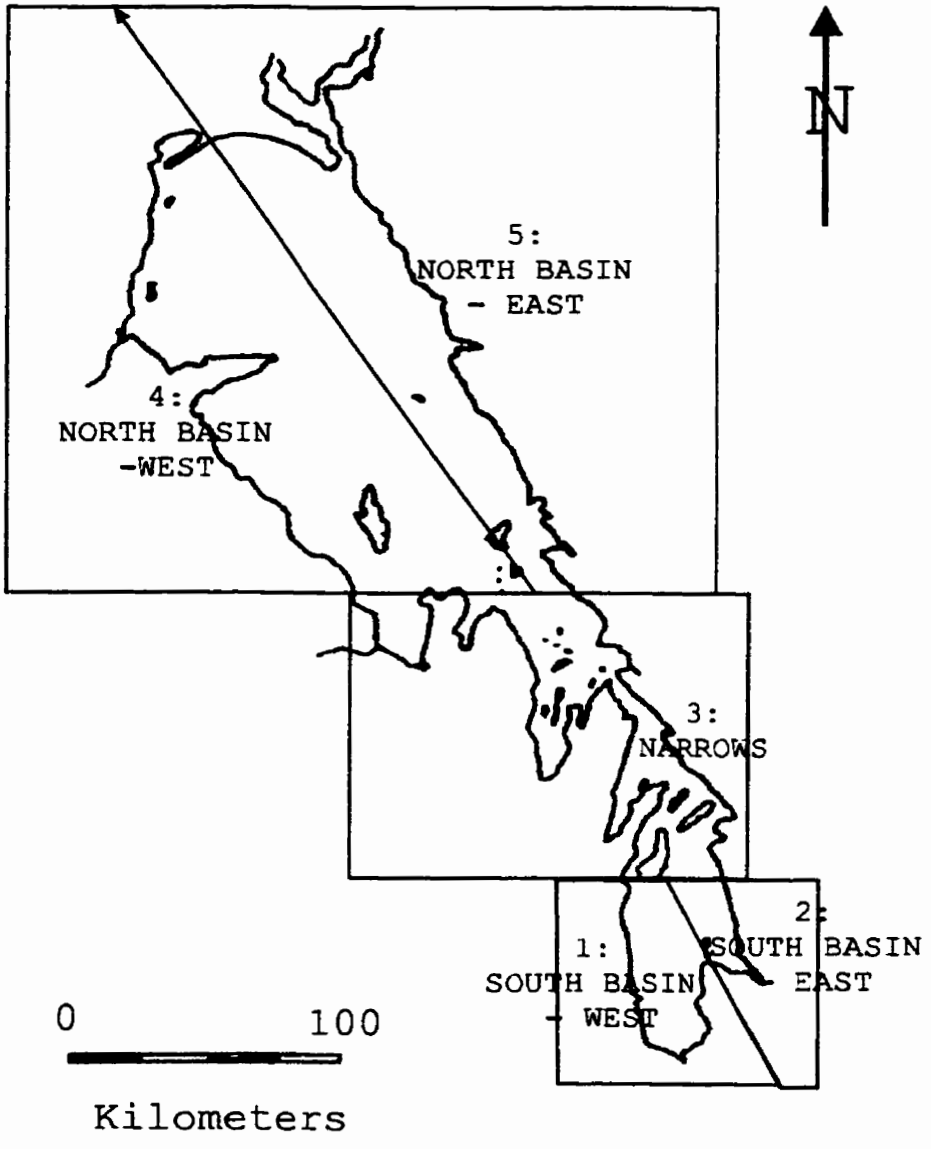
LOCATION:	0	1	2	3	4	5	COMMENTS
DOCKING							
ANCHORING							
FUEL							
POMP-OUT							
FOOD (PROVISIONS)							
WATER (POTABLE)							
REPAIRS							
DINING							
ENTERTAINMENT							
ADDITIONAL COMMENTS:							

5c: Indicate the name of the harbour, marina or anchorage that you use the third most frequently in the box labeled **'LOCATION'**. Please check (✔) your ratings of the listed services or facilities on a scale of **0** to **5**, where **'0'** indicates that the service or facility is absent, **'1'** indicates that it is poor, and **'5'** indicates that it is very good.

LOCATION:	**0**	**1**	**2**	**3**	**4**	**5**	**COMMENTS**
DOCKING							
ANCHORING							
FUEL							
PUMP-OUT							
FOOD (PROVISIONS)							
WATER (POTABLE)							
REPAIRS							
DINING							
ENTERTAINMENT							
ADDITIONAL COMMENTS:							

For question 6, Lake Winnipeg has been divided into five (5) regions;

1: SOUTH BASIN - WEST;
2: SOUTH BASIN - EAST;
3: NARROWS;
4: NORTH BASIN - WEST;
5: NORTH BASIN - EAST.



6: Which of the following would you be interested to utilize for experiencing the wilderness / remote regions of Lake Winnipeg? Please check (✔) all that apply, and specify the region(s) by number.

	POWER	SAIL	PADDLE OR ROW	REGION(S) (1,2,3,4,5)
PRIVATE CRAFT				
BE-CREWED CHARTER / RENTAL				
CREWED CHARTER				
FLOTILLA				
FLOTILLA WITH MOTHER SHIP				
CHARTER FROM A REMOTE BASE				

COMMENTS:

7: In the space below, please briefly describe the top three (3) highlights of boating on Lake Winnipeg.

8: In the space below, please briefly indicate the top three (3) problems you have had, or could anticipate having, while boating on Lake Winnipeg.

9: Please use the space below for any additional comments you may have regarding boating on Lake Winnipeg.

Thank you for the time you have taken to complete this questionnaire. Please forward it, by July 15, 1997, using the enclosed, stamped and addressed envelope.

If you wish to receive a summary of the results of this questionnaire (available in late Fall, 1997), please complete the following section. It will be removed prior to compilation of the information, to ensure confidentiality.

.....
.....

NAME			
ADDRESS			
CITY			
PROVINCE		POSTAL CODE	

APPENDIX III: SURVEY RESULTS SUMMARY

Limited, preliminary interviews were conducted in August of 1996. These helped to shape the survey (APPENDIX II) that was sent out in June, 1997. This survey targeted known boat owners active on Lake Winnipeg, as well as tourism or boating facility operators. Informal interviews conducted concurrently with the field work in the summer of 1997 followed the same format as the survey, with a similar range of results.

The majority of respondents (90%) had 10 or more years of boating experience, and of these, 78% had 10 or more years experience on Lake Winnipeg. Safety would seem to be a priority with the respondents, as 70% of respondents had taken some boating courses, a further 57% of whom had taken advanced training.

Respondents had exposure to a broad variety of boats, from canoes to lake freighters, and most had experience on a number of sizes and types of water-craft. A summary of the responses to boat type and suitability is given on the next page.

TYPE	TYPICAL COMMENTS	%
keel sailboats, various types 20' and larger	"good in most weather"	21%
power boats, 16-21'	"good to moderate weather boats, excellent when used within capabilities"	17%
Kayak, canoe, row-boat	"good in calm to moderate weather"	17%
50',65' & 90' fishing and/or freighting boats	"they are built to handle the lake, but require seasoned captains and a large measure of good judgement, even at this size"	13%
wind-surfers and dinghies	"suitable in up to moderate wind and waves or sheltered waters"	13%
Zodiac™ or similar	"good handling and stability"	8%
sail: 16-20'	"excellent in good weather"	8%
Personal Water Craft	"toy"	4%

Gimli was used by 37% of respondents, Gull Harbour by 21%, and Silver Harbour by 16%. Winnipeg Beach, Manigatogan, Alexander Docks (Winnipeg), Mantago Bay and Victoria Beach were each mentioned once as having a minimum of facilities. Wells Harbour, Ayres Cove, Rice River, B15, B16, B17, B18, Granite Quarry, Biscuit Harbour, Pine Dock, Matheson Island, Black Bear Island and Princess Harbour were noted as wilderness anchorages regularly visited.

The facilities at Gimli generally received very good ratings, although a few respondents felt it was too crowded and the docks were too small.

Gull Harbour and Silver Harbour were both rated as only moderate as far as facilities were concerned. Silver Harbour was felt to be a safe harbour, whereas Gull Harbour was generally felt to be in poor repair and not as secure. Gull

Harbour was, however, felt to be a good stepping off place for wilderness boating.
Except at Gimli, provisioning, fuel, water and pump-out facilities on the lake were rated as very poor.

A summary of comments relating to harbours is given below for Gimli, Gull Harbour and Silver Harbour:

Comments - GIMLI: "severe shortage of developed harbours e.g. Gimli, Arnes, Gull Harbour on west are only real harbours: I feel this great lake is not being used to even 5% of its potential"

"Good vacation destination, but lacks shelter on the lake (no islands) and recreational anchorages away from the town site"

"over crowded"

"there are many benefits here, but this is not a private site"

"excellent base for sailing/cruising; site for the 1999 Pan Am Games sailing (and many other world class competitions); pump out facilities are very important for cruising sail/power boats"

Comments - GULL HARBOUR: "nice harbour - big advantage is its proximity to islands, shelter, wilderness getaways"

" the docks are small, not suitable for all boats; the breakwater has been left to deteriorate to a point where boats are being damaged in the harbour; a car is needed to stock up on provisions; showers are a kilometer away; the pump out is frequently broken; this is the most beautiful populated harbour on the lake. It is unfortunate that it has been left to deteriorate to the state it is in now. If not maintained, soon it will not be a viable place to keep my boat"

"exposed to wave action"

Comment - SILVER HARBOUR: "well protected harbour with haul out facilities"

Area 3 (The Narrows) was the region that most respondents indicated a desire to boat in. This held for

power, sail and human powered boating. Areas 3,4 & 5 (the Narrows and the North Basin) were the favourites when chartering or flotilla cruising were mentioned.

The stated highlights of boating on Lake Winnipeg (in no particular order) were given as:

"wilderness shores in north basin";
"ocean-like appeal to sailors - great sailing";
"good variety if you are prepared to travel - several great beaches to the north, and sheltered island waters around Hecla";
"bird viewing";
"Black Island and Loon Straights Archipelago";
"uncrowded";
"beautiful locations";
"protected harbours";
"clean swimming areas";
"solitude";
"diverse east side scenery/shoreline/harbours";
"beaches - west side of north basin";
"relatively low cost, uncrowded cruising";
"reliable wind conditions";
"good sand beaches"; and
"rugged scenery".

The main problems anticipated for Lake Winnipeg boating (in no particular order) were given as:

"a lack of safe harbours";
"shallow shore-lines";
"severe weather";
"sudden squalls";
"breakdowns off-shore (big water)";

"captain not well enough trained";
"boat too small for weather diversity"; and
"bugs, bugs, bugs".

Additional comments regarding boating on Lake Winnipeg included:

"more education needed for boaters using the lake";
stronger visual presence of the coastguard needed";
"recreational boats need to know and respect the commercial aspects i.e. fishing, barge traffic, etc.";
"A good place to boat for the cautious boater - not a place for the novice or risk taker";
"Region 3 is a phenomenally great area like Lake of the Woods, but with absolutely excellent birding and ecotourism opportunities - we have started a pilot bird ecotour";
"sailing from Gull Harbour is one of Manitoba's best kept secrets. There are many protected anchorages within 4 hours sail. It might be unfortunate if this secret is discovered";
boating on Lake Winnipeg can be very challenging, but the possibilities are unlimited. With proper care, it can be a very rewarding experience";
"complete lack of facilities @ Grand Beach, limited @ Victoria Beach, none @ Patricia Beach"; and
"boating of any kind on Lake Winnipeg is extremely enjoyable, but should be done by people who know what they are doing and with great respect for possible rapid changes in water conditions. This would apply for all the lake, possibly more as you boat north".

APPENDIX IV: CHARTS, MAPS AND GUIDES UTILIZED DURING FIELD WORK

A number of hydrographic charts, topographic maps and sailing guides were utilized during the course of this study. They are listed below as a convenience to those who may wish to visit the region. The list is not exhaustive, but is presented as a starting point.

IV.1: HYDOGRAPHIC CHARTS

The following are produced by:

The Canadian Hydrographic Service
Department of Fisheries and Oceans
Ottawa, Ontario, K1A 0E6

6240: Red River to Berens River. 1995. Scale 1:255,994.

This chart covers the southern half of the lake, and is useful for providing a good overview. It should not be considered for inshore work.

6241: Berens River to Nelson River. 1982. Scale 1:255,723.

This chart covers the northern half of the lake. As with 6240, it is useful for providing a good overview, but should not be considered for inshore work.

6251: Red River to Gull Harbour. 1996. Scale 1:100,000.

Useful for passage making, it does not have sufficient detail for inshore work.

6249: Gull Harbour to Riverton. 1985. Scale 1:48,000.

Although providing good detail for this portion of the western shore of the lake, it only would only be necessary for those proceeding into the shallow waters around Riverton, or the west side of Hecla Island. It does not extend far enough east of Gull Harbour to be of use to most visitors.

6248: Observation Point to Grindstone Point. 1995. Scale 1:48,000.

This chart will be the most useful one for those concentrating on the southern portion of Region 3. The detail is sufficient for most uses.

6267: Grindstone Point to Berens River. 1981. Scale 1:125,000.

Although not as detailed as 6248, this chart is recommended as a companion to it. It covers the northern portion of Region 3 adequately.

IV.2 TOPOGRAPHIC MAPS

The following are produced by:

The Canadian Centre for Mapping (Ottawa)
Department of Energy, Mines and Resources
Ottawa, Ontario

62I. Selkirk River. 1994. Scale 1:250,000. This map covers the region immediately south of Region 3, including the inland areas.

62P. Hecla. 1988. Scale 1:250,000. Covering all of Region 3, including the inland areas, this map is a good planning aid.

63A. Berens River. 1992. Scale 1:250,000. This map covers the region immediately north of Region 3, including the inland areas.

Others: Numerous 1:50,000 scale maps are available for the shoreline areas, and should be considered as supplements for many of the hydrographic charts of the remote areas.

IV.3: SAILING GUIDES

Currently, only two sailing guides for Lake Winnipeg are available, both mainly for the southern half of the lake. Neither are sufficient on their own for navigation, but both provide a good reference to many of the harbours.

Thorkelsson, D., 1995. Lake Winnipeg Coastal Directory.(Third edition) Lake Agassiz Marine. Gimli, Mb.

This guide, the more recent of the two contains aerial photos (many in colour) of the harbours listed, as well as sketch maps of the approaches.

Whitley, S., nd. SAIL LAKE WINNIPEG: a cruising guide. Gimli Yacht Club, Gimli, Mb.

Although the photos of the harbours contained in this guide are of poorer quality than those in Thorkelsson, it contains more information on the individual harbours. As well, it provides a greater degree of general information, including history and weather information.

APPENDIX V: SAMPLE ECOTOURISM GUIDELINES

V.1: ECOTOURISM GUIDELINES of the ALASKA WILDERNESS RECREATION AND TOURISM ASSOCIATION (AWRTA, 1996)

1) "Businesses (should) seek environmentally sustainable economic growth while minimizing visitor impacts on wildlands, wildlife, Native Cultures, and local communities by offering literature, briefings, leading by example, taking corrective action and other appropriate means."

2) "Travel modes and facilities used (should) maintain a low impact on the natural environment: (ensure that) tour use is sustainable over time without significantly altering the resources or negatively affecting the experience."

3) "Businesses (should) provide direct benefits to the local economy and local inhabitants, thereby providing an incentive for local support and preservation of wild areas and wildlife habitat."

4) "Businesses (should) seek appropriate means to minimize their effects on the environment in all phases of operations, including office practices."

5) "Businesses (should) ensure that managers, staff and contract employees know and participate in all aspects of company policy to prevent impacts on the environment, Native cultures and local communities."

6) "There is an educational emphasis and purposeful desire for travelers to learn about the natural and cultural history of the places they visit."

7) "There is a formula for businesses and guests to contribute to local non-profit efforts for environmental protection."

8) "The travel is in the spirit of appreciation, participation and sensitivity. At some point, a tour group becomes too large to be considered 'ecotourism'."

V.2: <u>SIERRA CLUB POLICY: ECOTOURISM</u> (Anderson, 1993)

1) "Plans must reflect the rights and needs of indigenous human populations."

2) " Plans must respect the carrying capacity and biodiversity of the environment."

3) " Development of ecotourism should be integrated with broader land-use planning to avoid destruction of ecosystems."

4) "Specific fragile areas, such as ecosystems containing rare and unique species, should be set aside for complete protection."

5) "Infrastructure and other development within natural preserves and surrounding areas should be limited to basic maintenance needs and support services."

6) "Respect must be given to wildlife migration routes and to the maintenance and restoration of interconnected ecosystem structure and function."

7) "Visitor plans should be designed and implemented to include use of equitable rationing or quota systems for access to those sensitive areas where visitor access would not be a conflict."

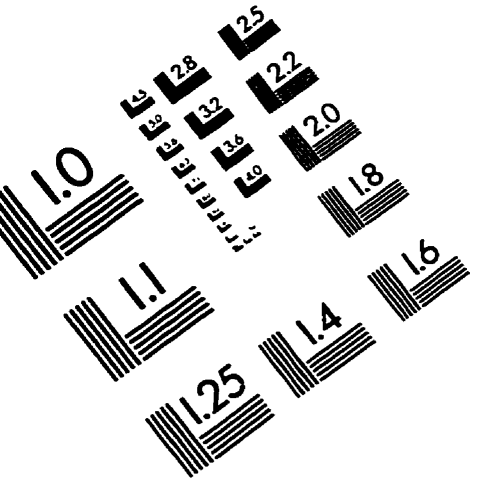
8) "Proper waste management, energy conservation, and environmental restoration should be a part of all planning."

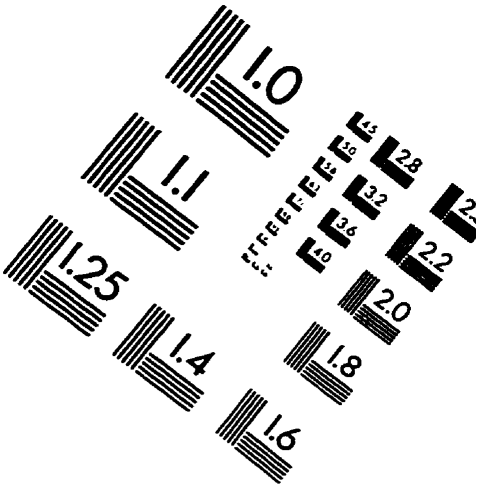
9) "All waste should be stored on-board ships and other watercraft for proper disposal in ports. Ships should have the capability to store all wastes on-board for the duration of the voyage."

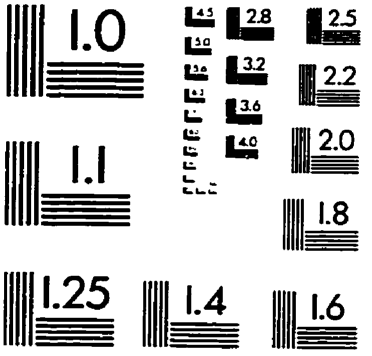
10) "Helicopters are inappropriate vehicles for many sensitive areas such as endangered species' recovery areas, certain national parks, etc., and should be eliminated or strictly controlled as to height limits."

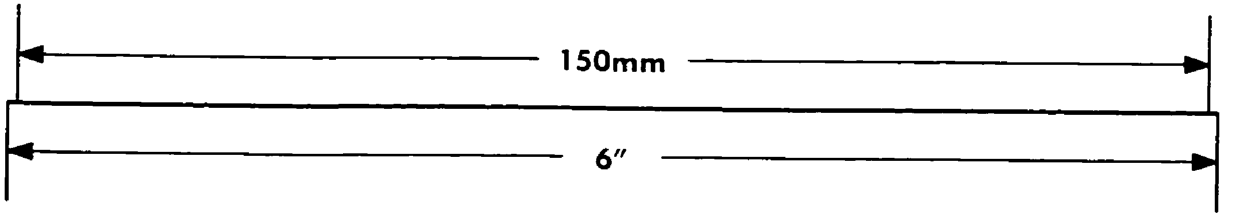
11) "Encourage and support local, national, and international conservation efforts through appropriate actions and donations."

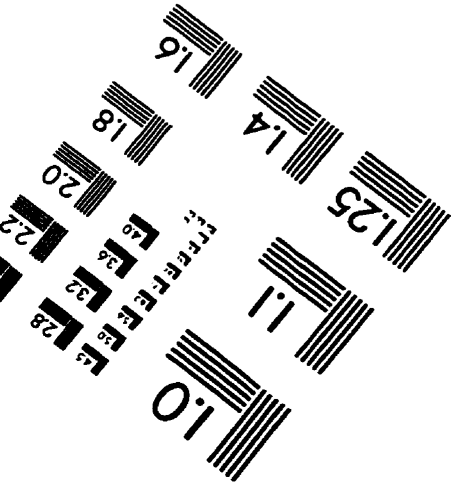
IMAGE EVALUATION
TEST TARGET (QA-3)

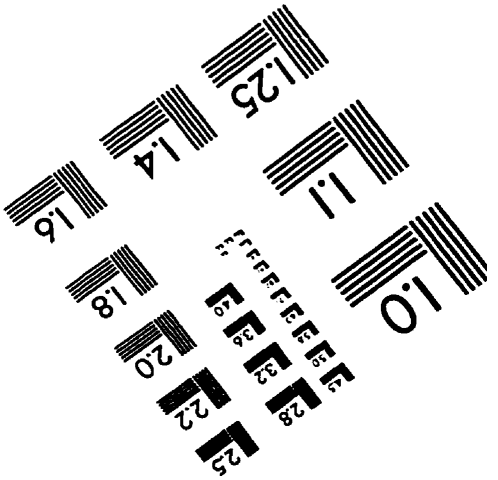












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