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lake winnipeg - traverse bay land use study

Background Report

Folio
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Background Report

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- (2) Study Terms of Reference
- (3) Resource Inventory and Analysis
- (4) Site Capability Methodology
 - Landscape Units System
 - Application
- (5) Development of Alternatives
- (6) A Suggested Plan
- (7) What Comes Next?

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LAKE WINNIPEG / TRAVERSE BAY LAND-USE STUDY

SECTION I — BACKGROUND

1.1 Background and Setting

In February 1973, the Alexander District Planning Commission requested that the Municipal Planning Branch undertake a comprehensive land-use study of the Lake Winnipeg / Traverse Bay of the Local Government District to formulate a long range plan for the area.

The Local Government District request came about as a result of heavy pressure for seasonal home development in the study area. The Planning Commission was concerned as to possible deterioration of the natural resource base and potential overcrowding of recreation facilities if development proposals were initiated without the benefit of an overall plan for the area.

The area in question lies in the western portion of the Local Government District of Alexander about 60 miles north-east of Winnipeg. Highway access from Winnipeg is provided by P.T.H. 59 while P.T.H. 11 provides connections to Pine Falls, Powerview, Lac du Bonnet, Manigotagan and Bissett.

Map I denotes the regional location of the study area while local or area distribution is denoted on various maps throughout the text.

The study area includes the small communities of Traverse Bay, Hillside Beach, Belair and Lester Beach.

There were approximately 60 permanent houses in the study area in 1974. Assuming 4 persons per household then the permanent population is estimated at 240 persons.

In 1974 there were approximately 755 seasonal homes in the study area as well as a limited number of commercial operations.

The seasonal population is estimated to be about 3000 assuming four people per cottage.

1.2 Provincial Involvement

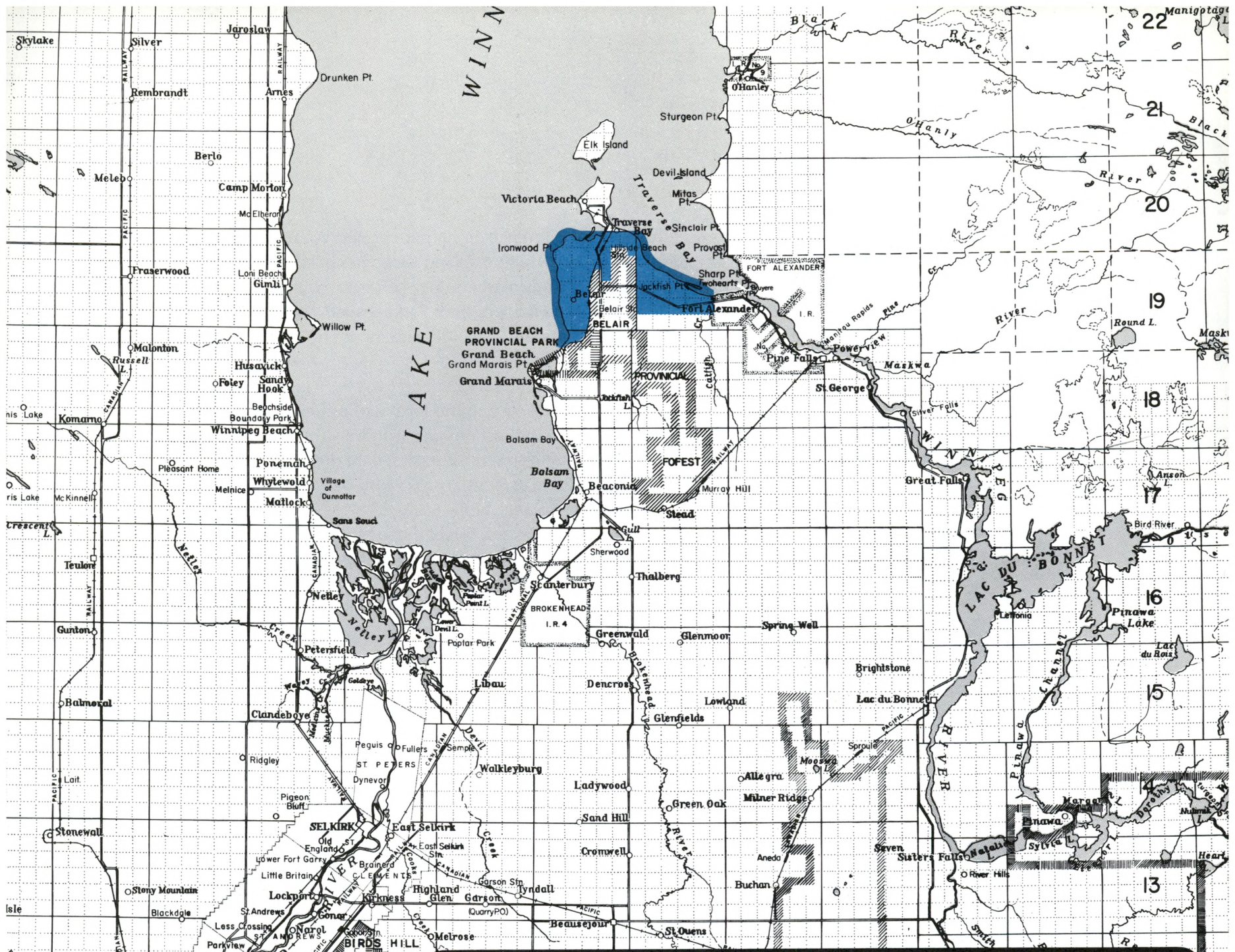
¹ The Municipal Planning Branch of the Department of Municipal Affairs, upon receiving the request for planning assistance, contacted two other provincial government departments who had concerns in the area.

Parks Branch of the Department of Tourism, Recreation and Cultural Affairs administers Provincial Park lands and has control over a large piece of Crown property known as "Ironwood Point" in the study area. The mandate of this Department involves them in the recreation planning field in all of Manitoba.

The Department of Mines, Resources and Environmental Management were also brought in because of their variety of interests in the area. This includes concerns related to waste disposal, water resources, crown lands planning, wildlife and others. Because the Department of Mines, Resources and Environmental Management is also responsible for the Alexander Resource Conservation District, representation was required from the Resource Projects Section which provides technical assistance to the Alexander Resource Conservation District.

These departments drafted a study proposal for cabinet approval which recognized the need for comprehensive land-use planning in the Lake Winnipeg / Traverse Bay study area. The mandate of this pilot project included:

- (1) The development of long-range land-use alternatives for the Lake Winnipeg / Traverse Bay area; and
- (2) The development of a resource analysis model for similar proposed studies in Manitoba.

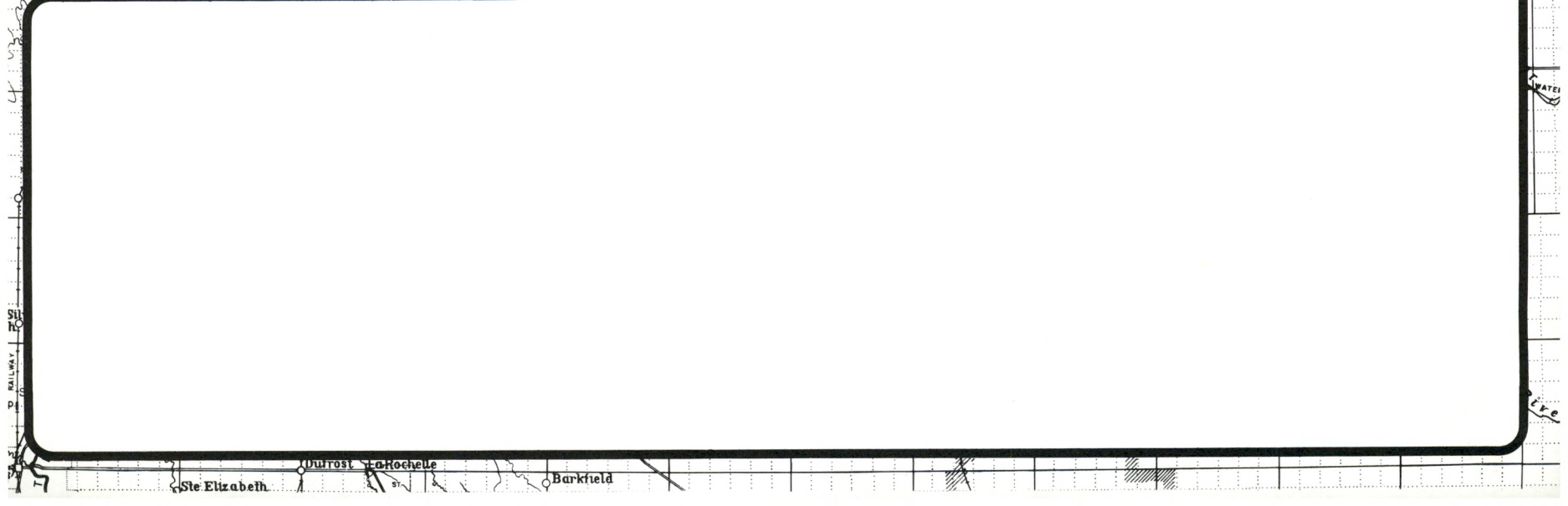
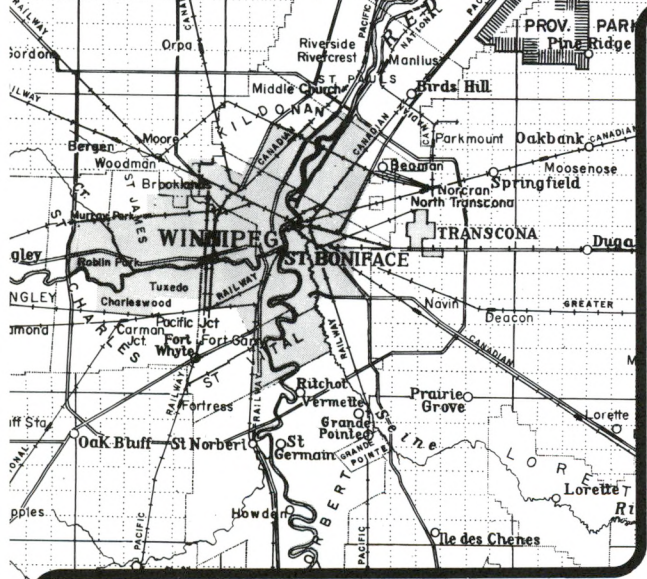


lake winnipeg - traverse bay

Map 1 land use study

setting - provincial

PROVINCE OF MANITOBA



1.3 The Study to Date

The Provincial cabinet upon review of the terms of reference of this pilot project approved funds for the study in February 1974. The consulting firm of Garry Hilderman and Associates of Winnipeg was engaged to collect background data and to formulate a study methodology consistent with provincial terms of reference. A working group comprised of representatives from Parks Branch, the Municipal Planning Branch, Resource Projects, Hilderman and Associates and the Alexander District Planning Commission was established.

Resource information was collected and analyzed over the summer and two alternative land-use concepts were formulated by the working group and presented to the local authorities in October 1974. At this point, the firm of consultants completed their obligations and withdrew from the study. The remainder of the working group and the local planning commission presented the two concepts to the public in December 1974. A further meeting was held in February 1975 with concerned interest groups including developers and a local cottage owners association.

Based on these meetings and the feedback received by written briefs, the suggested development plan for the study area evolved. This has been advertised for adoption as a planning scheme for the Lake Winnipeg / Traverse Bay area.

The proposed development plan has been given first reading by the Local Government District of Alexander. Public meetings are now in progress in order that the contents of the plan may be explained to local residents.

The following sections outline the objectives of the study, the data collected and the process for arriving at the suggested development plan.

SECTION II — STUDY TERMS OF REFERENCE

2.1 Study Objectives

To develop long term land-use alternatives that provide for orderly development of study area resources.

2.2 Study Guidelines

In order to develop long range land-use alternatives the following terms of reference guided the study team:

- (1) The land-use alternatives shall be based on the capability of physical resources to accommodate use over time.
- (2) The land-use alternatives shall promote a high quality environment for residents of the area.
- (3) The land-use alternatives shall take into account the accelerating demand for seasonal homes.
- (4) The land-use alternatives shall consider public outdoor recreational requirements.
- (5) The land-use alternatives shall seek to maintain water quality, promote soil conservation and protect existing vegetation and wildlife.
- (6) The land-use alternatives shall promote a public shoreline reserve system and access thereto.
- (7) The land-use alternatives shall protect and promote the visual attributes of the area.
- (8) The land-use alternatives shall consider existing land-use patterns in the study area.

SECTION III — RESOURCE INVENTORY AND ANALYSIS

3.1 Introduction

To meet the general study objective and the more detailed terms of reference listed in Section II, the study team examined the natural resource base of the area. Additionally, it was felt important to identify present transportation, ownership and land-use patterns that have evolved over time.

Part "A" of this section summarizes this inventory in written and map form. Part "B" presents an analysis of beach and shoreline characteristics essential in the planning process.

Analysis of soil, moisture and vegetation resources is described in more detail in Section IV with the development and application of the landscape units system.

3.2 Scale of Maps and Presentation

General inventory maps were prepared at the scale of 1 inch to ½ mile. This provides a general overview of the study area on one map of the resource or pattern under description. These maps are presented in the following pages for:

- | | |
|--|-------|
| (a) topography, surface moisture & runoff, | Map 2 |
| (b) soils | Map 3 |
| (c) vegetation, | Map 4 |
| (d) wildlife capability, | Map 5 |
| (e) shoreline type, | Map 6 |
| (f) transportation, crown lands and generalized land-use patterns. | Map 7 |

Each map is accompanied by a brief description summarizing the information collected, the source and the significance to the planning process.

Part "B" contains resource analysis maps at the same scale and in the same format for:

- | | |
|---|--------|
| (a) beaches, | Map 8 |
| (b) visual analysis of the shoreline, and | Map 9 |
| (c) shoreline access. | Map 10 |

3.3 PART A — RESOURCE INVENTORY

3.3.1 Map 2 — Topography, Surface Moisture and Runoff

(1) Summary of Information:

The study area displays considerable changes in elevation, particularly within the southwest portion where gradient changes of 200 feet occur within ½ mile. Towards the northwest and northeast the landscape is gently rolling to flat.

(2) The general topography of an area influences many factors that relate to land use. Such factors include drainage and runoff, soils and vegetation, erosion, scenic values and transportation. Steep slopes, for example, are potentially more susceptible to erosion if disturbed.

Much of the eastern side of the study area and the vicinity east of the lagoon near Hillside Beach is below 725 feet above mean sea level. Because of Water Management Division (Department of Mines, Resources and Environmental Management) restrictions of Lake Winnipeg shorelands lying below 722 feet mean sea level these lands are unsuitable for development. As shown on the map, significant portions of the study area are subject to possible Lake Winnipeg flooding.

Source — Canada Land Inventory Mapping

3.3.2 Map 2 — Surface Moisture and Runoff

(1) Summary of Information:

Poorly drained areas, as with areas of low topography, are located mainly on the eastern edge of the study area and in the vicinity of the Hillside Beach Lagoon. The water table in these areas adjacent to Lake Winnipeg as well as several inland depressions, is high with poor internal soil drainage.

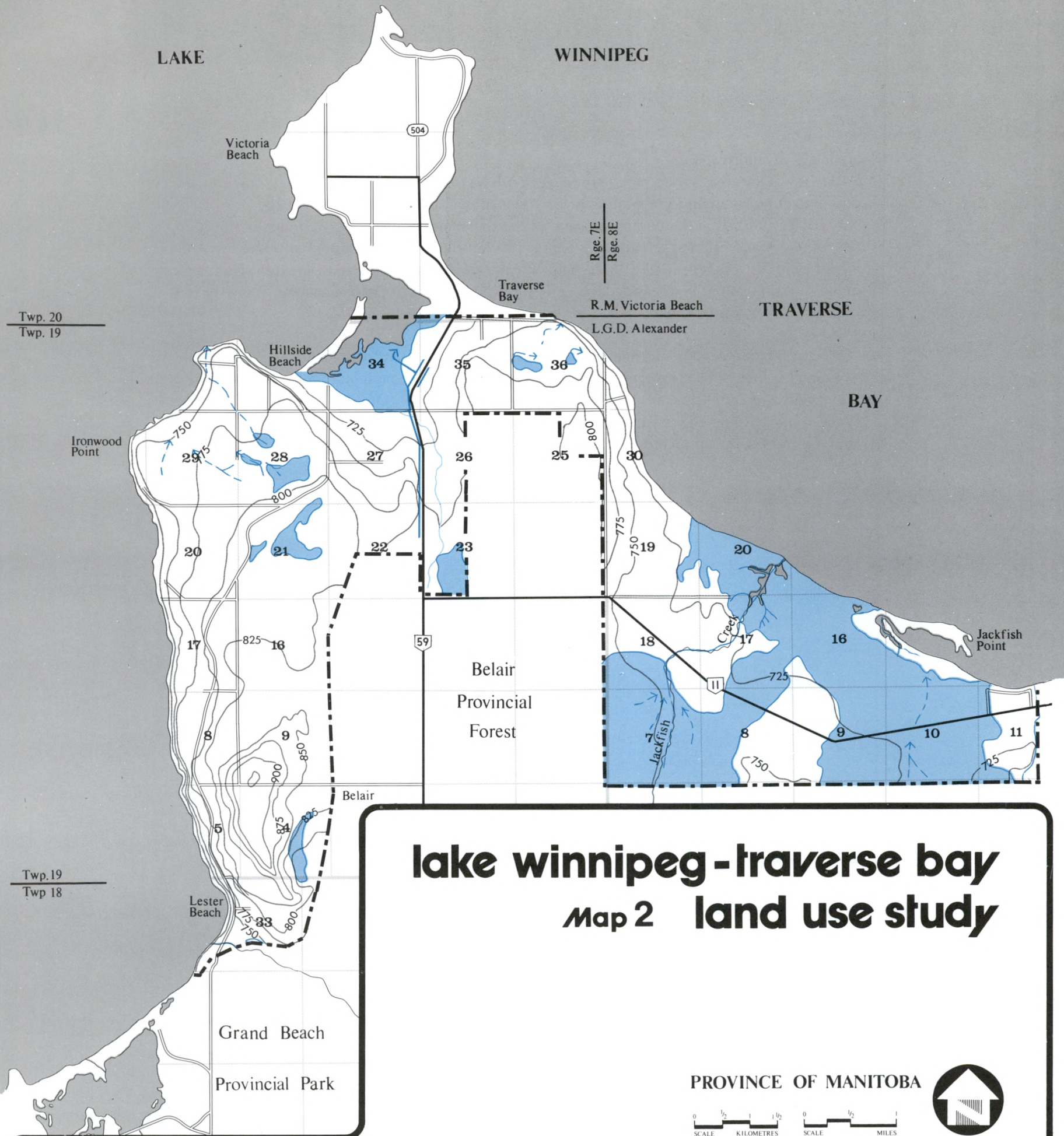
As a result of the presence of coarse textured surface and subsurface deposits in association with significant elevation changes, many areas exhibit dry surface conditions where the water table is low and internal soil drainage is rapid or excessive.

Because of coarse materials and rapid percolation, the study area displays very few surface drainage systems. The majority of such systems that exist are ephemeral or seasonal in nature.

(2) Significance:

Surface moisture and runoff is especially important as related to recreational site development and disposal of wastes by septic field systems. Septic fields are not recommended on poorly drained soils because of the inability of the soil to dispose of effluent. Wet sites are not conducive to uses such as cottaging, campgrounds and trails. On the other hand, excessively drained sites are sensitive to over development because of susceptibility to erosion.

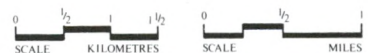
(3) Source — Air photo interpretation and field inspection.



lake winnipeg - traverse bay

Map 2 land use study

PROVINCE OF MANITOBA



surface moisture and runoff

- Streams
- Ephemeral Streams
- Artificial Drains
- Poorly Drained Areas

topography

800' Contour Elevations

3.3.3 Map 3 — Soils

(1) Summary of Information:

Within the study area, a wide range of soil types can be found. The majority of soils, however, are coarse textured sand and gravel. This is the result of glacial and wave-wash action.

The majority of soils in the western portion of the region are sandy while in the eastern portion, peat and clay soils dominate. Due to the inter-relationship of soil and topography the low-lying areas have soils which generally, have been affected by fine textured lacustrine deposits and/or organic accumulation. In low-lying areas, fine textured deposits or organic accumulations overlay the generally coarser deposits.

(2) Significance:

The interpretation of soils information is important for assessing land-use capability. For example, Number 9 — fine sandy loam over till and medium textured sediment is more capable of sustaining septic field operations than a Number 4 — clay over lacustrine clay and silty clay. Soils information can also indicate the ability of the area to support human use or sustain tree growth.

(3) Source — Smith, R. E. and Ehrlich, W. A. *Soils of the Lac du Bonnet Area*, Manitoba Department of Agriculture, 1967.

LAKE

WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach
L.G.D. Alexander

TRAVERSE

Twp. 20
Twp. 19

BAY

Ironwood Point

29

28

27

26

25

30

20

21

22

23

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18

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11

Belair
Provincial
Forest

Belair

lake winnipeg - traverse bay Map 3 land use study

Twp. 19
Twp. 18

Lester Beach

33

Grand Beach

Provincial Park

PROVINCE OF MANITOBA



0 1/2 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES

soils

- 1. Fine sand over calcareous till or clay loam
- 2. Fine sand over sandy outwash or acalion sand deposits
- 3. Sand over stratified sand and gravel deposits
- 4. Clay over lacustrine clay and silty clay
- 5. Fine sand over lacustrine clay
- 6. Stony sand over bouldery drift
- 7. Peat over undifferentiated deposits
- 8. Clay loam over fine sediment
- 9. Fine sandy loam over till and medium textured sediments
- 10. Sand over depressional sand deposits
- 11. Silty clay over till

3.3.4 Map 4 — Vegetation

(1) Summary of Information:

A wide variety of vegetation associations and tree species can be found throughout the study area. Vegetation patterns, because they are very closely associated with soil types and drainage conditions, vary greatly throughout the study area. For instance, pure scattered jackpine stands dominate the higher dry sandy sites while black spruce dominate the lower wet clay/peat soils.

(2) Significance:

Vegetation is a resource component very important in evaluating land use capability. The type and quantity of vegetation affects visual seclusion and privacy, provides buffer zones between different uses such as roads and residences, provides erosion control, influences storm damage, provides wildlife habitat and is valuable for preserving the scenic and aesthetic character of the area. A Mixed Forest type, for example, usually offers better screening for visual privacy than does a stand of pure jackpine.

(3) Source —

(1) Smith, R. E. and Ehrlich, W. A. *Soils of the Lac du Bonnet Area*, Manitoba Department of Agriculture;

(2) Field inspection and air-photo interpretation.

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WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach

TRAVERSE

L.G.D. Alexander

Twp. 20
Twp. 19

BAY

Ironwood Point

Hillside Beach

Not suitable for Development

Jackfish Point

Belair
Provincial
Forest

Belair

Twp. 19
Twp. 18

Lester Beach

Grand Beach

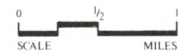
Provincial Park

lake winnipeg - traverse bay

Map 4 land use study

vegetation

PROVINCE OF MANITOBA



CONIFEROUS FOREST

- C1** Jack Pine (minor stands of paper birch, trembling aspen)
- C2** Jack Pine – Black Spruce – Tamarack
- C3** Black Spruce – Tamarack (either dominant)
- C4** Black Spruce – Balsam Fir

DECIDUOUS FOREST

- D1** Green Ash – Trembling Aspen (minor paper birch, balsam poplar, American elm)
- D2** Green Ash – American Elm
- D3** Trembling Aspen (minor paper birch)
- D4** Trembling Aspen – Green Ash
- D5** Trembling Aspen – Paper Birch (minor green ash, balsam poplar, bur oak, balsam fir)
- D9** Trembling Aspen – Bur Oak (either dominant)

MIXED FOREST

- M1** Trembling Aspen – Balsam Fir (either dominant, minor paper birch)
- M2** Trembling Aspen – Jack Pine (either dominant)
- M3** Trembling Aspen – Black Spruce (minor paper birch, jack pine, balsam fir)
- M6** Paper Birch – White Spruce – Trembling Aspen
- M7** Trembling Aspen – Green Ash – Balsam Fir (minor black spruce, paper birch)

NON-FORESTED LAND

- Bogland, Muskeg, Marsh
- Grassland
- Open, Cleared Land
- Willow of Alder
- Zone of Diseased Trembling Aspen

3.3.5 Map 5 — Wildlife Capability

(1) Summary of Information:

Much of the study area has a moderate capability for the production of white-tailed deer and moose. However, 1974 and 1975 surveys by the Manitoba Department of Mines, Resources and Environmental Management show that actual populations are very low. Some deer and moose frequent the Belair forest reserve adjacent to the study area.

Lands having moderate capability for waterfowl production exist in the lagoon east of Hillside Beach and in the eastern portion of the study area. Waterfowl are commonly observed in these areas.

(2) Significance:

The wildlife capability map indicates the natural ability of the land to support white-tailed deer, moose and waterfowl. However, because of competitive changes in the land use this natural ability is likely never to be fully realized. A variety of wildlife improves the recreational and aesthetic attraction of an area. Significant wildlife habitat sites must be considered in the planning process.

(3) Source — Canada Land Inventory.

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WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach
L.G.D. Alexander

TRAVERSE

BAY

Twp. 20
Twp. 19

Ironwood Point

Hillside Beach

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MD

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Jackfish Point

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5

Twp. 19
Twp. 18

Lester Beach

33

Grand Beach

Provincial Park

Belair
Provincial
Forest

Belair

lake winnipeg - traverse bay Map 5 land use study

wildlife capability

PROVINCE OF MANITOBA

0 1/2 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES



LIMITATIONS TO UNGULATE PRODUCTION

- 2 Class 2 very slight
- 3 Class 3 slight
- 4 Class 4 moderate
- 5 Class 5 moderately severe
- 6 Class 6 severe

LIMITATIONS

- C Climate
- G Land form
- M Soil Moisture
- T Adverse Topography
- F Fertility
- I - Inundation
- D - Deer
- M - Moose

LIMITATIONS TO WATERFOWL PRODUCTION

- 4 Class 4 moderate
- 5 Class 5 moderately severe

NOTE: All other areas are Class 6 and 7 severe

3.3.6 Map 6 — Shoreline Types

(1) Summary of Information:

About 23 miles of shoreline encompass the study area. Generally, there are relatively high backshores along Lake Winnipeg. Steep banks predominate along the southern shoreline and at Traverse Bay, while gentle and low banks generally exist throughout the remainder of the study area. Most of the shoreline is greatly exposed to wave action which washes sand and finer materials from the beach leaving cobble and boulder promontories and only small, scattered pebble beaches in the minor recesses of the shore.

The major sand beaches that exist between Grand and Victoria Beaches have been formed as a result of accumulation of eroded sand in the major protected coves. Sources of sand for Lester Beach are the banks of coarse outwash material to the immediate north. The source for Hillside Beach is the sand of the Victoria Beach peninsula.

The beaches below the cliffs at Traverse Bay have formed from sand washed south from the Victoria Beach peninsula. The same sand is the main source of beach materials along the Traverse Bay shore south to the mouth of Jackfish Creek. Sand on most of these beaches is limited to a narrow thin band overlying clay eroded out of the local banks. The beach from Jackfish Creek is low and narrow, often with willows to or near the water's edge. The backshore in this area is for the most part only a few feet above lake level, but is separated from the beach by a steep slumping bank.

In the summer of 1974, many of the beaches in the study area were reduced in size by high water.

(2) Significance:

The nature of the shoreline is an essential element in assessing the recreational capability of an area. A map of the shoreline types indicates the location and extent of beaches, erosion and potential viewing areas. Shoreline characteristics such as steep banks or wet backshores can influence access and mobility to the shoreline. Knowledge of erosion rates is valuable in identifying shorelands that should not be utilized for permanent development.

(3) Source —

- (1) McPherson, R. A., *Pleistocene Geology of the Beausejour Area*, Ph.D. Thesis, University of Manitoba, 1970;
- (2) Field inspection and air-photo interpretation.

LAKE

WINNIPEG

Victoria Beach

504

Traverse Bay

Rge. 7E
Rge. 8E

R.M. Victoria Beach

TRAVERSE

Twp. 20
Twp. 19

L.G.D. Alexander

BAY

Hillside Beach

34

35

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Ironwood Point

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Belair
Provincial
Forest

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16

15

14

5

4

Belair

59

18

17

16

15

Twp. 19
Twp. 18

2/1ED

3/2B

3/3B

3/3F

Lester Beach

33

Grand Beach

Provincial Park

lake winnipeg - traverse bay Map 6 land use study

shoreline types

PROVINCE OF MANITOBA

0 1/2 1 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES



HIGH BACKSHORES:

- 1 Erosional scarp in till. Aspen forest.
- 2/1 Steep bank in coarse materials. Jack pine forest.
- 2/2 Steep bank in till. Aspen forest.
- 3 Gentle bank in till. Aspen forest.
- 4 Gentle, slumping bank in clay. Aspen-oak-fir forest.

INTERMEDIATE BACKSHORES:

- 5/1 Low bank in till. Aspen-ash-fir forest.
- 5/2 Low bank in coarse materials. Jack pine forest.

LOW BACKSHORES:

- 6/1 Low slump scarp in clay. Black spruce forest.
- 6/2 Low bank in clay. Aspen-birch-fir forest.
- 6/3 Low bank in clay. Willow cover.
- 7 Low marshy shore. Sedge, willow cover.
- 8/1 Sand spit.
- 8/2 Sand beach backed by marshland.

Major Sand Beaches



BEACHES

- A Clay and silty clay.
- B Sand.
- C Sand with abundant boulders.
- D Gravel and silty sand.
- E Gravel and silty sand with abundant boulders.
- F Boulders and cobbles.
- M Sedge on clay.
- W Willows on sand.

SHORELINE EROSION

Zones of very minor erosion to minor accretion.

Zones of severe erosion.

- (1) Based on Lake Winnipeg Shoreline Study. Historic Shoreline Recreation Rates.
- (2) Circle size proportional to recession rate. Above circle size indicates a recession rate of 2 to 3 feet per year.
- (3) No data for shoreline at east of Study Area.

3.3.7 Map 7 — Transportation

(1) Summary of Information:

Main road access into the study area is provided by 2-lane paved highways including P.T.H. 59 from Winnipeg and the south; and P.T.H. 11 from Pine Falls and the Winnipeg River area. The two highways lie on the Great River Road tourist route. Secondary access is provided by the Belair Road running from P.T.H. 59 to Lester Beach and north to Hillside Beach. Other major access roads link P.T.H. 59 and P.T.H. 11 to the Traverse Bay area. Government road allowances in the northern third of the area are mostly improved and gravelled. The Lester Beach — Belair vicinity and the north edge of the Belair Forest Reserve are criss-crossed with unimproved trails. In addition the abandoned Canadian National Railway grade is commonly used as a vehicular trail. Only the low, wet lands in the eastern third of the study area are without significant road linkages. A few poor trails exist as well as some winter roads.

(2) Significance:

Present and potential transportation facilities provide access to and with the region, especially to residential areas and points of recreational interest such as beaches, shorelines and natural areas. Existing roads and trails provide the base for the future transportation network of the area.

(3) Source — Field inspection and air-photo interpretation.

3.3.8 Map 7 — Crown Lands

(1) Summary of Information:

Major crown land holdings are located at Ironwood Point, adjacent to Hillside Beach near the Belair Forest Reserve and in the eastern end of the study area.

(2) Significance

Crown lands are important because they should provide for activities and services that would not otherwise be accommodated by the private sector. These include natural open-space areas, trail and transportation routes, public recreation lands and buffer zones between private developments.

(3) Source — Municipal Planning Branch.

3.3.9 Map 7 — Generalized Existing Land Use

(1) Summary of Information:

In 1974, there were more than 800 cottages and permanent residences in the study region. Concentrations occur of about 350 cottages in the Lester Beach Area, 170 cottages in the Hillside Beach Area, and 160 cottages in the Traverse Bay Area. Additionally, there are concentrations in the Albert and Victoria Beach areas just north of the study region. The remainder of the area is mostly undeveloped except for a few scattered farming and commercial operations.

(2) Significance:

Land Use information is useful in determining existing resource use in particular areas. This can be evaluated against resource capability in order to assess the further recreational potential of the area.

(3) Source — Municipal Planning Branch.

LAKE

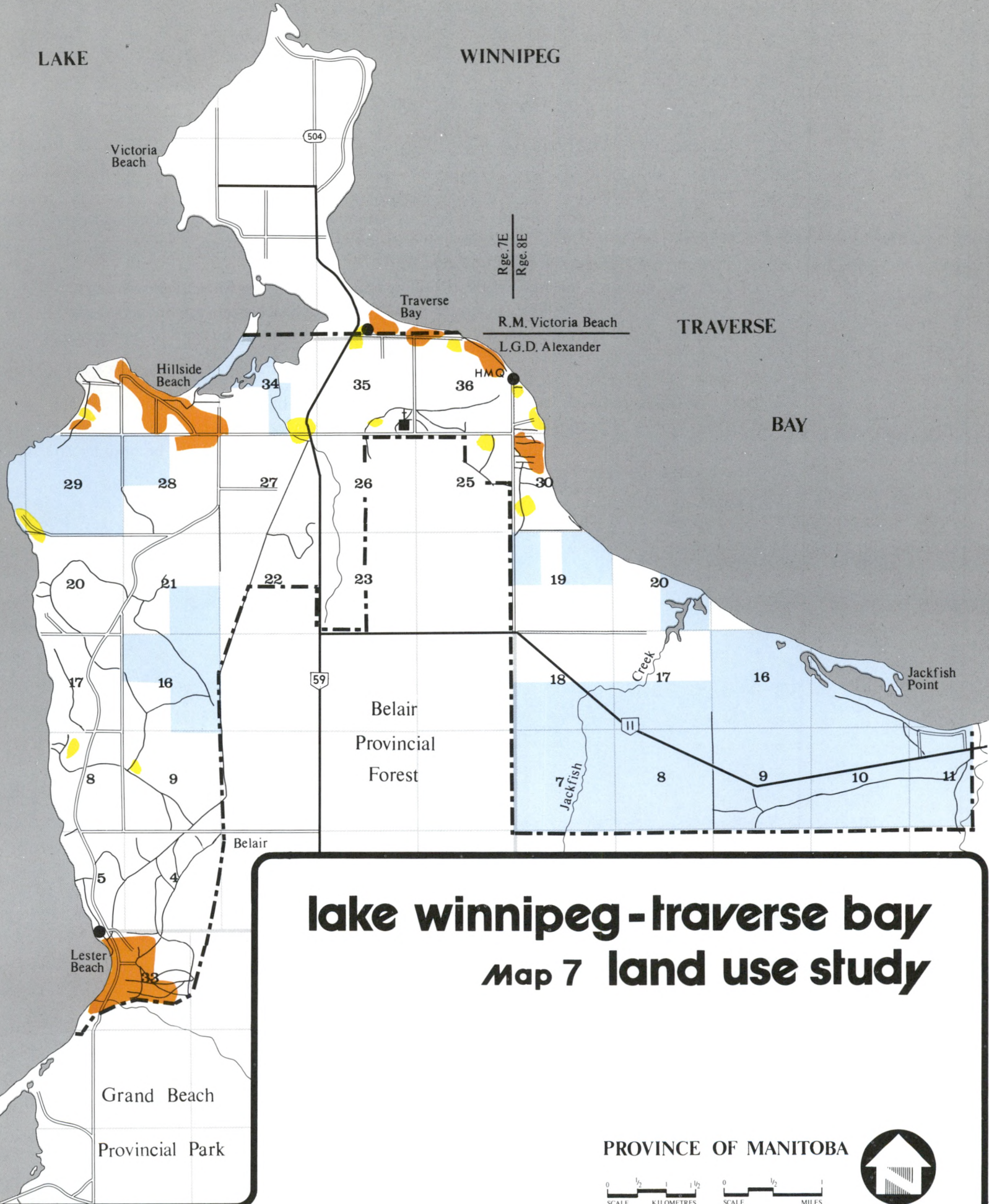
WINNIPEG

TRAVERSE

BAY

Twp. 20
Twp. 19

Twp. 19
Twp. 18



lake winnipeg - traverse bay

Map 7 land use study

PROVINCE OF MANITOBA



generalized existing land use (october 1974)

- Small residential concentrations
- Season and recreation concentrations
- Church
- Commercial
- Crown land

transportation

MAIN ROADS

- paved surface
- gravel surface

ACCESS ROADS & TRAILS

- gravel surface and unpaved trails

3.4 Part B — Resource Analysis

3.4.1 Map 8 Beaches

(1) Summary of Information:

Major beaches are ranked according to a three class system. The best beaches are located at Lester Beach, Hillside Beach and near the community of Traverse Bay. The remaining beaches are scattered along the shoreline of the study area.

Relative zones of influence for each beach are outlined on the map. These indicate the areal extent to which individual beaches are likely to attract users. The type of beaches and their quality directly affect the distance that recreationists will be willing to walk. As a result, beaches of high quality have a large zone of influence.

(2) Significance:

A detailed analysis of beach quantity and quality is warranted because of the importance of beaches for summer recreational use. To most people, a beach is the center point of recreational activity, especially for families with children. Development concentrations should be oriented to high quality beach areas.

LAKE

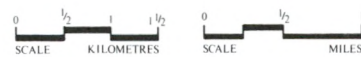
WINNIPEG

TRAVERSE

BAY

lake winnipeg - traverse bay Map 8 land use study

PROVINCE OF MANITOBA



beaches

1. Long, wide beach of fine sand with a wide, shallow offshore zone.
2. Narrow beach of fine sand, or wide beach of pebbles or sand with scattered cobbles and boulders.
3. Narrow beach of pebbles or sand with scattered cobbles and boulders.

Beaches suitable for swimming or bathing, with potential zone of influence demarcated.



Twp. 20
Twp. 19

Twp. 19
Twp. 18

Victoria Beach

Hillside Beach

Ironwood Point

Lester Beach

Grand Beach

Provincial Park

Traverse Bay

R.M. Victoria Beach

L.G.D. Alexander

Belair
Provincial
Forest

Belair

Creek

Jackfish

Jackfish Point

504

59

11

Rge. 7E
Rge. 8E

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3.4.2 Map 9 — Visual Analysis of Shoreline

(1) Summary of Information:

(a) Vista Quality — Vista quality, the view from land to water, was categorized into three classes, namely good, fair and poor. Important considerations include height of bank and backshore, and quantity and type of backshore vegetation. Areas of good and fair vista quality are found near Lester Beach, Hillside Point and Traverse Bay in addition to the sand spits at Hillside Beach and the eastern edge of the study area.

(b) Limitations to Seclusion — Shoreline — The shoreline was rated according to its screening characteristics for views from water to land. For example the shoreline was rated “severe” if a cottage development is readily visible from the lake because of no vegetation and low backshores. Three classes of limitations ranging from severe, moderate to slight were used to analyze seclusion. Again important considerations include shoreline height and vegetation conditions.

The best shoreline for providing seclusion is near Ironwood Point, Hillside Beach and along Traverse Bay.

(2) Significance:

(a) Vista Quality of Shoreline — Areas providing unique or distant vistas (a scenic view from a point on land) should be utilized to their full potential. Public access should be made available wherever major vistas occur. This could be tied into a pedestrian linkage system.

(b) Limitations to Seclusion — Shoreline — The degree to which one can view from the lake to the land can affect the type and location of development. If a high quality of visual experience from water to land is to be retained, natural shoreline characteristics should be maintained.

LAKE

WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Twp. 20
Twp. 19

Traverse Bay

R.M. Victoria Beach
L.G.D. Alexander

TRAVERSE

BAY

Hillside Beach

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Ironwood Point

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Belair
Provincial
Forest

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Creek

Jackfish Point

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Belair

Twp. 19
Twp. 18

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4

Lester Beach

33

Grand Beach

Provincial Park

lake winnipeg - traverse bay

Map 9 land use study

PROVINCE OF MANITOBA



0 1/2 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES

visual analysis of the shoreline

Quality denoted by band width

Vista quality

limitations to seclusion

Good

slight

moderate

poor

severe



3.4.3 Map 10 — Shoreline Access

(1) Summary of Information:

Those variables which influence shoreline access and which were examined in this study include bank steepness, beach and bank materials, and vegetation density. Access was rated into 3 classes, severe, moderate and slight.

Except for problems at Lester Beach and Hillside Point, most of the Lake Winnipeg shoreline has slight or moderate limitations to shoreline access. On the other hand, because of steep banks and high backshores, much of the Traverse Bay shoreline possesses severe to moderate access restrictions from the backshore.

(2) Significance:

The ability of recreationists to move from the land to the water indicates the degree to which people can be dispersed or distributed along the shoreline. People who cannot move freely, will tend to concentrate in a few accessible sites. Steep shorelines restrict movement onto beaches, requiring stairways, walks or other structures. Sites with slight movement limitations provide better opportunities for walkway systems and a greater dispersal of recreationists.

LAKE

WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach

TRAVERSE

Twp. 20
Twp. 19

L.G.D. Alexander

Hillside Beach

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Ironwood Point

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Belair
Provincial
Forest

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Jackfish Point

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Belair

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Twp. 19
Twp. 18

Lester Beach

33

Grand Beach

Provincial Park

lake winnipeg - traverse bay

Map 10 land use study

PROVINCE OF MANITOBA



0 1/2 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES

shoreline access

Limitations to backshore access

Ease of movement from beach to backshore denoted by band width



Slight

moderate

severe

SECTION IV — SITE CAPABILITY METHODOLOGY

4.1 Introduction

The process of analyzing the landscape to support alternative types of recreational development should consist of a very thorough and systematic appraisal of the natural resource base. An accurate resource inventory and analysis of land, water and other resources is essential to determine potential capabilities, constraints and effects at specific land sites.

4.2 Part A — The Landscape Unit System

Through aerial photo interpretation, field reconnaissance, interviews and a literature review, a general resource inventory was compiled in the Lake Winnipeg / Traverse Bay study area.

4.2.1 Landscape Units — Method

The study area was divided into 11 smaller special study regions. For each special study region detailed information was collected on the critical resources of soil, vegetation and the state of surface moisture. This information was plotted on aerial mosaics of 1 inch to 400 feet. At this scale any selected site could be scrutinized to determine its physical make-up and hence its capability to support varying intensities of cottaging use.

To summarize this resource information and to facilitate its use the landscape was further classified into landscape units. Each landscape unit reflects a particular combination of soil type, vegetation and surface moisture. Because of the diversity in the landscape more than 90 distinct units were identified in the study area.

Resource requirements of alternative type of land use could now be related to individual landscape units. In this way potential suitable areas could be identified on the basis of physical capability. For example, low or high density cottaging sites have different resource requirements.

This landscape unit analysis does not take into account other important factors in recreational land use planning such as beaches, accessibility, existing developments and reforestation. Such factors must be incorporated at a later stage.

4.2.2 Landscape Units Example

Maps 11, 12 and 13 on the following pages present the basic information on soils and shoreline type, vegetation and surface moisture collected for one of these eleven study areas. Map 14 summarizes this information in the form of landscape units.*

4.2.3 Map 11 — Soils and Shoreline Type

Soils:

Most of the soils on Map 11 consist of fine to coarse textured sand, with fine and loam sand predominating. Drainage is generally good except for the eastern side where the water table is at or near the surface.

Shoreline Type:

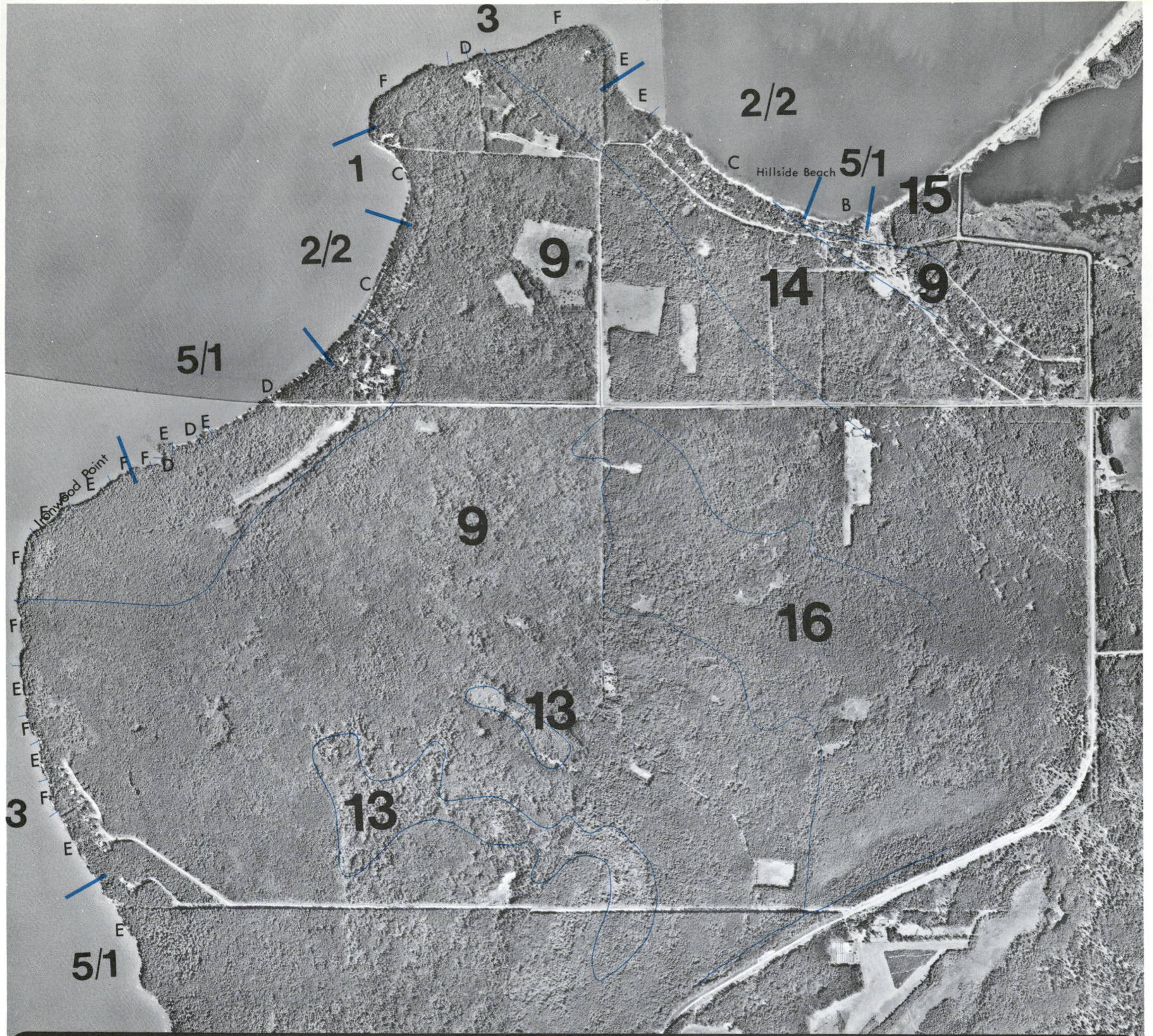
Beaches — The north-western shoreline of Map 11 region is a long, narrow beach of sand with scattered boulders, merging to the south into gravel with boulders. This is a class 2 swimming beach, according to Map 8 in Section III.

A class I beach is found at Hillside Beach to the top right corner of Map 11.

Backshore:

Most of the shoreline consists of a high backshore with minor shoreline erosion. There is generally easy access, to the shoreline.

* Detailed maps of soil and shoreline, vegetation, surface moisture and landscape units for the remaining 10 special study areas are available for review at Municipal Planning Branch offices in Beausejour.



lake winnipeg - traverse bay

Map 11 land use study

soils & shoreline type

9 St. Labre Fine Sand

well drained of outwash sandy to loamy sand overlying loam to clay textured lacustrine or till deposits. Found upon irregular very gently sloping topography. Surface runoff is moderate.

13 Caliento Fine Sand

imperfectly drained fine to medium textured sand over glacial till. Internal drainage varies from rapid at the surface to poor in the lower portion. Surface runoff is negligible. Due to glacial till composition in lower strata, water table is high.

14 Richer Complex

rapidly to imperfectly drained bouldery to moderately coarse textured deposits. Topography is irregular, gently sloping to moderately sloping in association with morainic ridges. Surface runoff is moderate to negligible.

15 Balmoral Clay Loam

poorly drained over level to depressional topography. Thin layer of peat overlays clay loam which increases in clay content with depth. Surface runoff is poor and the water table is high.

16 Malonton Sand over Till

poorly drained areas lying along margins of sandy moraines. Texture of surface horizon varies from sand to fine sandy loam over a substrate of till (usually at 30"). Surface drainage is slow and the water table is at or near the surface.

PROVINCE OF MANITOBA

0 1/2 3/4
SCALE KILOMETRES

0 1/8 1/4
SCALE MILES



HIGH BACKSHORES:

- 1 Erosional scarp in till. Aspen forest.
- 2/2 Steep bank in till. Aspen forest.

3 Gentle bank in till. Aspen forest.

INTERMEDIATE BACKSHORES:

- 5/1 Low bank in till. Aspen - ash - fir forest.

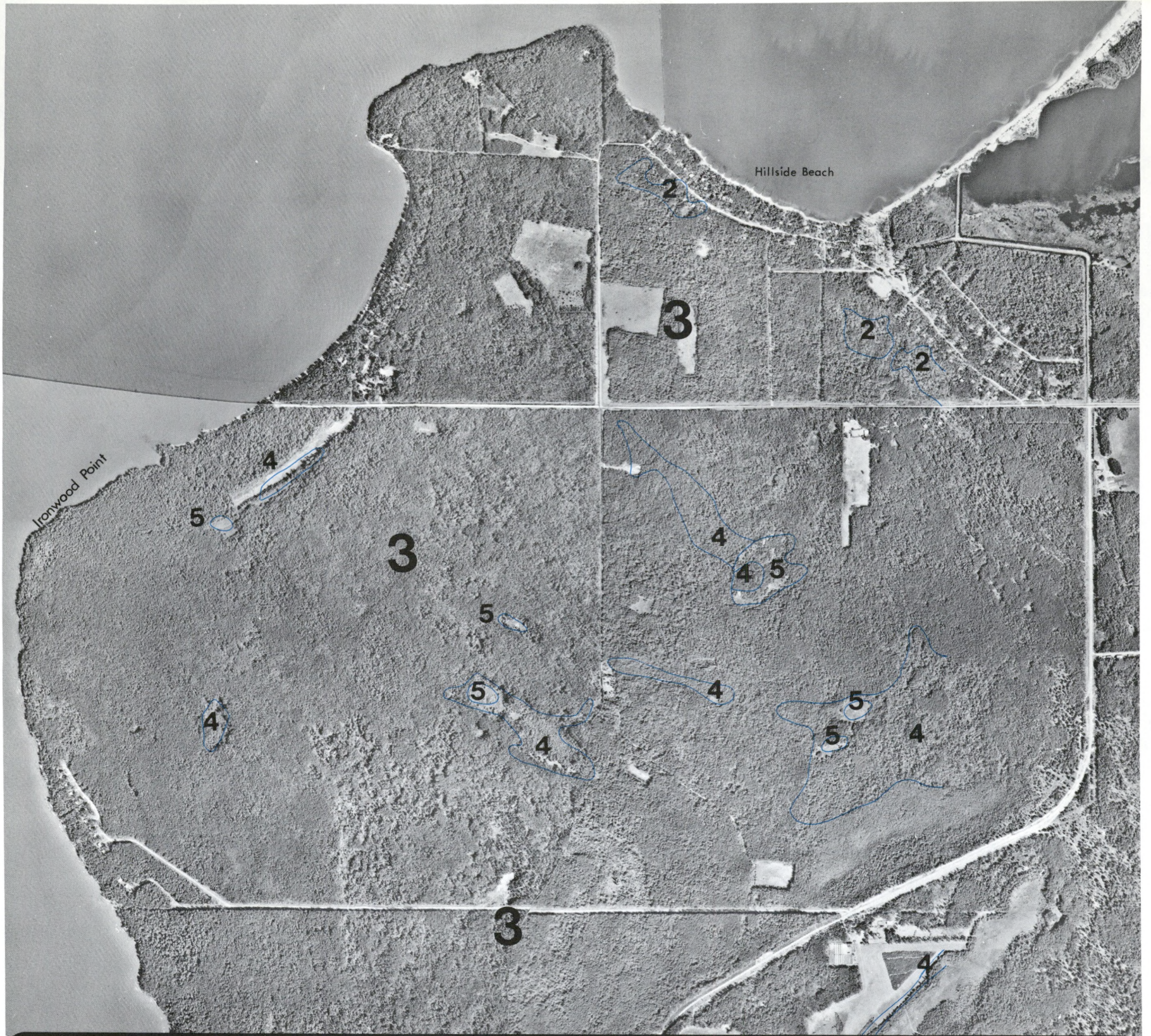
BEACHES:

- B Sand.
- C Sand with scattered boulders.
- D Gravel and silty sand.
- E Gravel and silty sand with abundant boulders.
- F Boulders and cobbles.

4.2.4 Map 12 — Moisture

Surface moisture conditions are generally “fresh”. This contains well-drained soils that are neither continually dry nor continually moist.

Pockets of moist and wet sites are scattered inland.



lake winnipeg - traverse bay

Map 12 land use study

moisture regime

SURFACE MOISTURE CONDITIONS

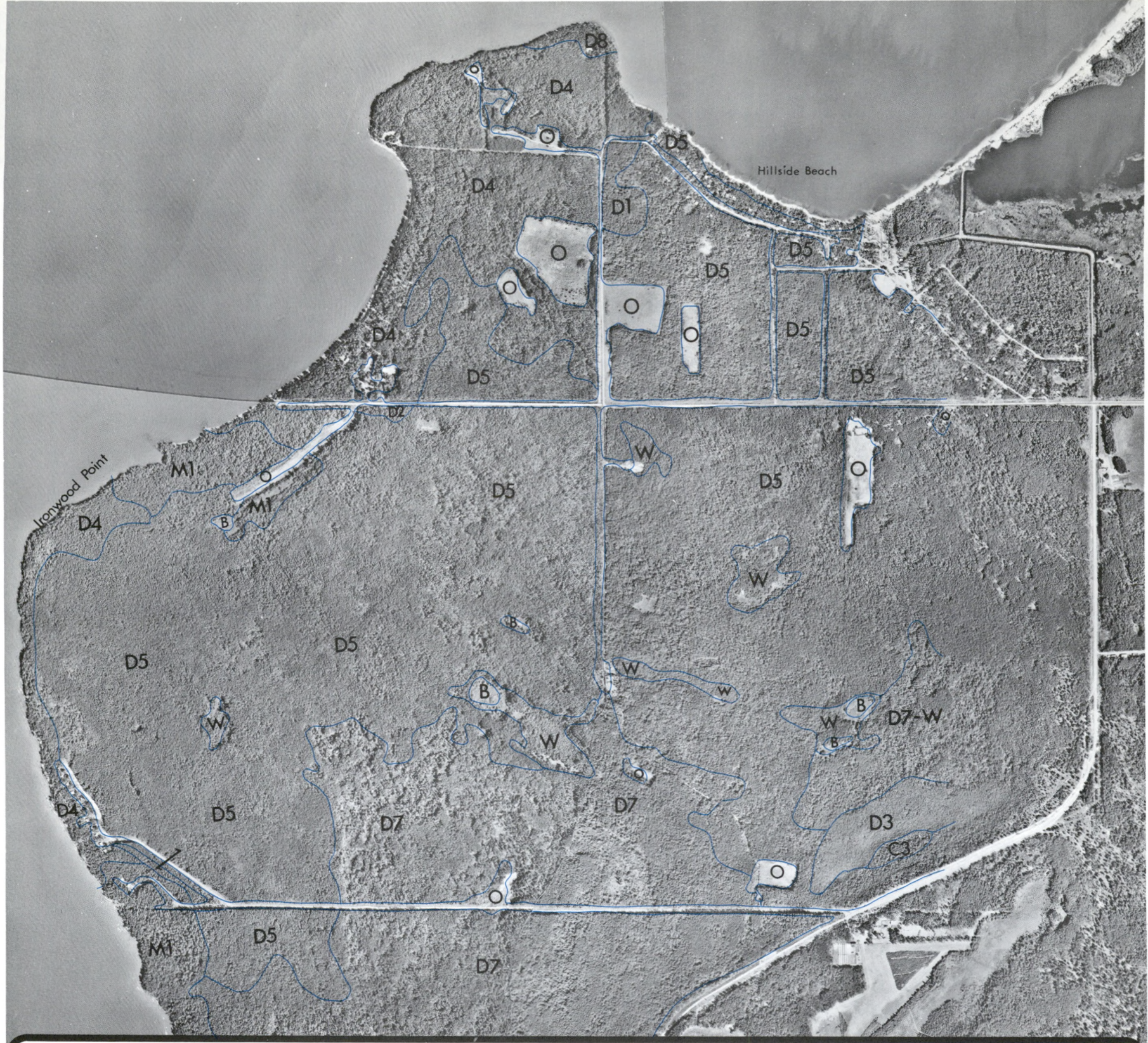
- 1 Very dry.
- 2 Dry; includes small very dry sites.
- 3 Fresh.
- 4 Moist; water table near the surface.
- 5 Wet; water table at or very near surface.

PROVINCE OF MANITOBA



4.2.5 Map 13 — Vegetation

Most of the forest in the Ironwood Point region is of deciduous nature with trembling aspen (white poplar) dominating.



lake winnipeg - traverse bay

Map 13 land use study

CONIFEROUS FOREST

- C1 Jack pine; minor paper birch, trembling aspen.
- C2 Jack pine – black spruce – tamarack.
- C3 Black spruce – tamarack (either dominant).
- C4 Black spruce – balsam fir; minor trembling aspen, tamarack.

DECIDUOUS FOREST

- D1 Green ash – trembling aspen; minor balsam poplar, paper birch, American elm.
- D2 Green ash – American elm.
- D3 Trembling aspen; minor paper birch.
- D4 Trembling aspen – green ash; minor balsam poplar, paper birch.
- D5 Trembling aspen – paper birch; minor green ash, balsam poplar.
- D6 Trembling aspen – bur oak.
- D7 Trembling aspen – balsam poplar – paper birch; minor bur oak, green ash.
- D8 Paper birch or paper birch – trembling aspen.
- D9 Bur oak or bur oak – trembling aspen.

vegetation

PROVINCE OF MANITOBA



MIXED FOREST

- M1 Trembling aspen – balsam fir; minor paper birch.
- M2 Trembling aspen – jack pine.
- M3 Trembling aspen – black spruce.
- M4 Jack pine – trembling aspen – paper birch.
- M5 Black spruce – trembling aspen.
- M6 Paper birch – white spruce – trembling aspen.
- M7 Trembling aspen – green ash – balsam fir; minor black spruce, paper birch.

NON-FORESTED LAND

- B Bogland, muskeg, marsh.
- G1 Wet grassland.
- G2 Dry grassland.
- O Open cleared land.
- W Willow or alder.

4.2.6 Map 14 — Landscape Units

There were 21 landscape units identified within the study region consisting of the Ironwood point area depicted on Map 14. The peculiar characteristics of each landscape unit are detailed on Map 14 legend with the corresponding numbers from the map.

Some distinctions, especially soils, appear at first but are important in considering factors such as sewage disposal with septic fields.



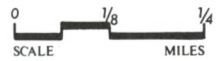
landscape units

lake winnipeg - traverse bay Map 14 land use study

MAP LEGEND AND BREAKDOWN OF LANDSCAPE UNITS

Resource Characteristics		Landscape Units																					
		2.3	5.5	5.8	5.10	5.11	5.12	5.15	5.16	7.7	9.2	9.4	10.1	10.4	10.6	11.2	11.3	11.7	12.1	12.2	18.1	18.2	
Soil Texture	1) Bouldery to moderately coarse deposits	x									x	x											
	2) Sand over till or clay deposits												x	x	x					x	x	x	
	3) Sand and fine sand over morainic and beach/outwash deposits																						
	4) Fine sand upon clay lacustrine deposits		x			x																	
	5) Fine sand upon loam or clay lacustrine sediments										x												
	6) Fine sand over loam or clay lacustrine sediments																						
	7) Fine sand over loam or clay lacustrine or till deposits						x																
	8) Fine sand upon loam or clay lacustrine or till deposits			x																			
Internal Soil Drainage	1) Poor																						
	2) Imperfect																						
	3) Well		x	x	x	x	x	x	x														
	4) Rapid to imperfect	x																					
Surface Moisture	1) Dry	x																					
	2) Fresh		x	x	x	x	x	x	x	x	x	x	x	x	x								
	3) Moist																						
Vegetation	1) Trembling aspen dominant, with paper birch, green ash and balsam poplar	x	x																				
	2) Trembling aspen dominant, with balsam fir and green ash																						
	3) Trembling aspen, balsam poplar and paper birch			x		x																	
	4) Trembling aspen																						
	5) Paper birch																						
	6) Green ash dominant, with trembling aspen																						
	7) Black spruce dominant, with tamarack and balsam fir																						
	8) Willow																						
	9) Bog																						
	10) Cleared																						

PROVINCE OF MANITOBA



4.3 Part B — Application of the Landscape Unit System

Part A introduced the landscape unit concept and provided a typical example of landscape units identified in the Lake Winnipeg / Traverse Bay study area.

Part B of this section, Site Capability Methodology, describes the application of landscape units to indicate areas suitable for cottaging at various densities.

4.3.1 Resource Synthesis

A rating in the resource analysis process was developed to categorize each landscape unit according to (1) capability to support septic fields, (2) susceptibility to erosion and windthrow, and (3) capability to provide visual privacy.

Proper disposal of sewage, erosion prevention, maintenance of the natural character of the area, visual privacy and seclusion were considered as important elements in the allocation of resources for cottaging.

Each landscape unit was rated from slight to severe for the above three listed categories. Maps 15, 16 and 17 and the accompanying text summarize this process for the entire study area.

4.3.2 Map 15 — Limitations for Septic Fields

(1) Slight, moderate or severe ratings were given to landscape units dependent upon their capability for absorbing effluent from septic fields. Density was not taken into account nor were special field installations such as longer tiles or bigger fields. The rating is based simply upon the degree to which soils can absorb additional moisture without creating ponding conditions. Map 15 shows that severe limitations to septic field exist in the low-lying areas along Traverse Bay, on either side of Highway 59 and inland south of Hillside Beach. Slight limitations are found in the Lester Beach-Belair region but groundwater contamination may result. The general Ironwood Point region and other areas shown on the map have moderate limitations to moisture absorption and, subsequently, septic fields.

(2) Significance:

The ability of the soil to absorb and dispose of human effluent and sewage with septic fields is related to the ability of the soil to absorb moisture. As a result, soils which display a coarse texture within the upper horizons are capable of absorbing liquid waste whereas coarse textured soils with clay strata or layers have disposal limitations due to potential retarded downward water movement. Severe limitation landscape units are those which are either too moist as a result of fine soil texture or topography or low moist site conditions such as peat.

Groundwater contamination problems could possibly result even in the landscape units best suited for septic fields. These are areas containing coarse sand over old beach or moraine deposits. Potential groundwater contamination must be considered prior to any installation of septic fields.

LAKE

WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach

TRAVERSE

Twp. 20
Twp. 19

L.G.D. Alexander

BAY

Hillside Beach

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Ironwood Point

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Jackfish Point

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Belair
Provincial
Forest

8

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Belair

Twp. 19
Twp. 18

Lester Beach

33

Grand Beach

Provincial Park

lake winnipeg - traverse bay Map 15 land use study


PROVINCE OF MANITOBA



0 1/2 1 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES

limitations for septic fields

-  Severe
-  Moderate
-  Slight
-  Cleared Land

4.3.3 Map 16 — Susceptibility to Erosion and Windthrow

(1) Summary of Information:

The potential for erosion and windthrow was based upon the type of vegetation, soils and exposure to the wind and water. Areas of highest potential impact are those with coarse textured unstable soils dominated by shallow rooted vegetation. Areas of least susceptibility occur where deep rooted trees are located.

For example, the most severely rated areas consisted of those where jackpine occurs over coarse sand and subsoil. Significant erosion may not occur under natural conditions. However, with disturbance of the soil or forest stand the potential for erosion and windthrow increases greatly.

Map 16 shows that about two-thirds of the Lake Winnipeg / Traverse Bay study area has a moderate to slight susceptibility to soil erosion and wind damage to tree vegetation.

(2) Significance:

Where erosion occurs the landscape is frequently rendered unattractive and large sums of money are necessary for soil stabilization to provide for walkways, foundations and other improvements. Erosion or soil loss reduces the ability of the land to support desired vegetation such as trees and grass. Silt, sand and other eroded materials clogs drains, covers vegetation and creates a general nuisance.

Susceptibility of trees to windthrow is important in recreational planning. If roots are poorly anchored, a strong wind common in summer storms, can topple trees. Property damage, downed power lines, blocked lanes and roads and personal hazard are resulting problems. Additionally, a large number of fallen trees can change the visual nature of an area dramatically.

LAKE

WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach

TRAVERSE

Twp. 20
Twp. 19

L.G.D. Alexander

Hillside Beach

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BAY

Ironwood Point

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Belair
Provincial
Forest

Jackfish Point

Jackfish

Belair

Twp. 19
Twp. 18

Lester Beach

33

Grand Beach

Provincial Park

lake winnipeg - traverse bay

Map 16 land use study




PROVINCE OF MANITOBA

0 1/2 1 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES



susceptibility to erosion and windthrow

-  Severe
-  Moderate
-  Slight
-  Cleared Land

4.3.4 Map 17 — Limitations to Visual Privacy

(1) Summary of Information:

Each landscape unit was rated according to whether it provided slight, moderate or severe limitations to visual privacy. The rating was based upon the degree through which adjacent land can be viewed. Therefore, open grassland poses the most severe limitation. Areas of mixed dense vegetation provide the best visual screening in both winter and summer whereas areas of open even-aged jackpine is rated severe because of lack of understory and natural screening.

As shown on Map 17, severe limitations to visual privacy are found primarily in the Lester Beach-Belair area and along Highway 59. Most of the remaining study area has slight limitations to visual privacy.

(2) Significance:

The present landscape provides opportunities for visual seclusion and privacy. An analysis of vegetation type and density as well as topographic variation indicated the degree of visual privacy available throughout the study area. For example, areas of dense mixed vegetation over relatively rolling topography provide few limitations to the creation of visually isolated cottage communities. As a result, visual intrusion would be minimal.

LAKE

WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach

TRAVERSE

L.G.D. Alexander

Twp. 20
Twp. 19

Hillside Beach

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BAY

Ironwood Point

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Belair
Provincial
Forest

Belair

Jackfish
Creek

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Jackfish Point

Twp. 19
Twp. 18

Lester Beach

33

Grand Beach

Provincial Park

lake winnipeg - traverse bay Map 17 land use study





PROVINCE OF MANITOBA



0 1/2 1 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES

visual privacy

-  Severe,
-  Moderate,
-  Slight
-  Cleared Land

4.4 Performance Standards for Cottaging

Following the identification of landscape units and a resource analysis for moisture disposal, erosion, windthrow and visual penetration, several types of cottaging developments were examined by the study team to determine their individual resource requirements. For example, high density cottaging of 4 units per acre should not be allowed on sites characterized by a single tree species because of lack of privacy.

Performance standards were developed from the varying resource requirements of different cottage densities.

The study team assumed that cottaging should be planned for potential year-round occupancy. Because of improved transportation and energy systems, growing popularity of winter sports, and increased leisure time, all season use of recreational residences is increasing in popularity. The trend is expected to continue.

Four types of cottaging were considered by the study team. These were:

- (a) high density cottaging of 4 units per acre
- (b) moderately high density cottaging of 2 units per acre
- (c) moderately low density cottaging of 1 unit per acre
- (d) low density cottaging of 1 unit per 5 acres.

These are now considered in turn. After relating to landscape units and performance standards, maps were drawn indicating severe, moderate or slight physical limitations to these types of development in the Lake Winnipeg / Traverse Bay area. The limitations indicated on Map 18 and 19 do not consider the proximity or relationship to beaches, highways, or other existing developments, but rather the physical capability of the landscape unit.

4.4.1 Map 18 — High Density Cottaging (4 units/acre)

This type of cottaging is comparable to urban densities. The goals were to maintain the natural character of the area, minimize erosion, ensure adequate sewage and water disposal, promote privacy, reduce visual clutter, and provide open space.

The following performance standards were prepared by the study team for high density cottaging, averaging 4 units per acre on a large tract of land:

PERFORMANCE STANDARDS

Soils — no sandy, clay or peat soils
— no poorly drained soils

Moisture — no excess surface moisture
— no excessively dry or rapidly drained sites

Vegetation — no single tree species

Lot Size — minimum lot size of 6000 square feet.

This analysis relates only to backshore capability and does not include beach capacity, shoreline characteristics or transportation factors.

Summary:

Map 18 shows that despite the severity of the performance standards almost half of the entire study area has slight limitations on a physical basis for high density cottaging. This density would necessitate holding tanks or piped services.

The areas with severe limitations to cottaging at an average density of 4 units per acre are the Lester Beach-Belair area (high susceptibility to erosion and windthrow, severe visual penetration), the Hillside Lagoon and along Highway 59 area (poor drainage, peat soils, high water table) and the eastern half of the Traverse Bay area (low topography and high water table).

4.4.2 Moderately High Density Cottaging (2 units/acre)

The moderately dense cottage development provides open space between cottages, lower populations levels and more of a natural atmosphere. Problems mentioned with high density cottaging remain but with reduced intensity; therefore the patterns indicated on Map 18 would also be applicable in this case.

The following performance standards were prepared by the study team for moderately high density cottaging, averaging 2 units per acre on a large tract of land:

PERFORMANCE STANDARDS

Soils — no peaty or clay soils

— no poorly drained soils

Moisture — no dry sites which are well to rapidly drained

— no wet sites

Vegetation — no single stand of jackpine

— no grassland

Lot Size — minimum lot size of 15,000 square feet

Summary:

Map 18 is also indicative of those areas rated for a cottaging density of 2 units per acre; however, the limitations are not as severe as for high density development of 4 units per acre.

4.4.3 Moderately Low Density Cottaging (1 unit/acre)

The moderately low density type cottaging would allow up to 160 cottages per square mile. Cottages would be well dispersed with a considerable amount of open space.

The following performance standards were prepared by the study team for moderately low density cottaging, averaging 1 unit per acre on a large tract of land:

PERFORMANCE STANDARDS

Soils — no peaty soils

— no poorly drained clay soils (except where trembling aspen is dominant)

Moisture — no dry sites which are well to rapidly drained

— no wet sites

Vegetation — no grassland or single stand of jackpine over sandy soils

Lot Size — minimum lot of 20,000 square feet

Summary:

Those areas depicted on Map 18 as having both moderate and slight limitations to high density development would be indicative of areas having slight limitations for a cottage density of 1 unit per acre.

LAKE

WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach
L.G.D. Alexander

TRAVERSE

Twp. 20
Twp. 19

BAY

Ironwood Point

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Hillside Beach

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Belair
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Forest

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Jackfish Point

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Belair

Twp. 19
Twp. 18

Lester Beach

33

Grand Beach

Provincial Park

lake winnipeg - traverse bay

Map 18 land use study




PROVINCE OF MANITOBA

0 1/2 1 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES



**cottage
development
limitations
- high density**

-  Severe
-  Moderate
-  Slight
-  Cleared Land

4.4.4 Map 19 — Low Density Cottaging (1 unit/5 acres)

Cottaging in this category would correspond to a rural setting. Development could take the form of a series of cottage clusters or a dispersed rural residential appearance.

The following performance standards were prepared by the study team for low density cottaging, averaging 1 unit per 5 acres on a large tract of land:

PERFORMANCE STANDARDS

Soils — no peaty soils

— no poorly drained clay where willow is dominant

Vegetation — no grassland

Moisture — no wet sites

Lot Size — minimum lot size of 40,000 square feet

Summary:

At this density almost all of the Lake Winnipeg-Traverse Bay study area has slight limitations to cottaging. Exceptions include the Hillside Lagoon and the eastern portion along Traverse Bay. In both of these areas problems of low topography and excessive wetness remain. Map 19 indicates those areas rated for a cottaging density of 1 unit per 5 acres.

LAKE

WINNIPEG

Victoria Beach

504

Rge. 7E
Rge. 8E

Traverse Bay

R.M. Victoria Beach

TRAVERSE

L.G.D. Alexander

Twp. 20
Twp. 19

Hillside Beach

34

35

36

BAY

Ironwood Point

29

28

27

26

25

30

20

21

22

23

19

20

17

16

15

14

18

17

16

10

11

Belair
Provincial
Forest

Jackfish Point

Jackfish

Belair

lake winnipeg - traverse bay Map 19 land use study

Twp. 19
Twp. 18

Lester Beach

33

Grand Beach

Provincial Park

PROVINCE OF MANITOBA



0 1/2 1 1 1/2
SCALE KILOMETRES

0 1/2 1
SCALE MILES

**cottage
development
limitations
- low density**

-  Severe
-  Moderate
-  Slight
-  Cleared Land

SECTION V — DEVELOPMENT OF ALTERNATIVES

5.1 Introduction

The basic information which was gathered during the study was used to analyze the land and water resources of the area. Following from the analysis it was then possible to formulate long range land-use planning alternatives for the study area. These alternative plans illustrate planning options. By presenting these alternatives to the public and soliciting their views, the Council and Planning Commission of the Local Government District of Alexander would have a better basis for selecting and implementing a land-use plan for the Lake Winnipeg / Traverse Bay area.

5.2 The Development of Alternatives — RATIONALE

The first step in establishing a series of land-use alternatives is to examine the resource base of an area. The second step is to examine those factors of demand which could influence the resources through development. Section IV provided a resource analysis; however, time restrictions prevent the undertaking of an appropriate demand analysis.

Even though a detailed demand analysis was not undertaken, preliminary indications are, that due to:

- (1) the proximity to Winnipeg (population of 550,000);
- (2) the ease of accessibility;
- (3) the use of adjacent provincial recreation facilities;
- (4) the number of existing cottages; and
- (5) the rapid sale of previously established subdivisions;

the Lake Winnipeg / Traverse Bay area lies in a region of high recreational demand.

Because of the popularity of cottaging in this area as well as the increasing year-round use, the study team maintained a year-round use theme in the formulation of land-use alternatives for the study area.

5.3 The Formulation of Alternative Land-Use Concepts

Utilization of the year-round use theme enabled the working group to establish a series of guidelines which could be used in the allocation of different development densities. The terms of reference included:

- (1) Development should only be allowed to the degree soils, vegetation and surface moisture conditions are capable of supporting. For example, areas with soils susceptible to erosion, high water table, vegetation of single trees species or lacking in tree cover will have development limitations. Where particular landscape units were deemed marginal for any development, only low density development would be permitted.
- (2) Development densities should be related to shorelands with high recreational capability. Development close to good beaches or to the shoreline would be permitted at a higher density than backshore areas provided that the site is physically suitable for the proposed density. Where beach areas are presently over-used, further development should not be permitted unless the beach capacity is increased.
- (3) Developments should be related to the local transportation network. High density areas should be easily accessible to the major arterial road systems.
- (4) Development should retain qualities which attracted residents to the area. Individuals seeking a particular experience could have that experience destroyed should development occur past certain levels. For example, desired peace and quiet might be lost with high density development.

Other factors considered in the development of land-use alternatives included:

- (a) The requirements for public outdoor recreation;
- (b) The eventual availability of a total public shoreline reserve;
- (c) The existing and potential development possibilities of specific beach sites;
- (d) The requirements for open space;
- (e) The provision of land for a commercial core; and
- (f) The requirements for a pedestrian trail system to link shoreland and open space to development concentrations.

Based on the above, two land-use alternatives were developed.

5.4 Preliminary Land-Use Plan I

5.4.1 Description:

Alternative I as summarized on Map 20, can be described as an extension of the existing situation. It advocates a continuation of shoreland development as has been occurring in recent years. Backshores would be developed at low to very low densities because of distance to high quality shoreland and poor site conditions.

Public recreation areas are suggested including a possible boat-launch site and development of small beach areas.

5.4.2 Major Features:

- (1) The Lester Beach area is designated as a "Private Beach". It would remain primarily as at present. Any further cottaging development in the Lester Beach area would be at a low to very low density.
- (2) Crown land at Ironwood Point would be developed for day-use camping, seasonal trailers and/or public cottages.
- (3) The Hillside Beach area would be developed as a high density area because of proximity to good beaches and good site capability.
- (4) A small day-use and boat-launch facility is proposed in the lagoon area adjacent to Hillside Beach. Public pedestrian access to the sand spit at Hillside Beach would be provided.
- (5) The Traverse Bay segment of the study area would only be developed north of the Belair Forest reserve. The backshore east of the Forest Reserve is generally unsuitable for development.
- (6) A campground is proposed in the Traverse Bay area to provide a public recreational facility and to utilize good quality beaches in the eastern end of the study area.

Note that density designations refer only to maximum overall desirable densities and to individual lot sizes. For example, it could be possible to have several one acre lots scattered or clustered and large amounts of open space on a particular parcel of land rather than lots each 10 acres in size.

Designated boundaries are not precise in this conceptual plan.

LAKE

WINNIPEG

Victoria Beach

504

Day Use Area & Boat Launch

Traverse Bay

Rge. 7E
Rge. 8E

R.M. Victoria Beach

TRAVERSE

L.G.D. Alexander

Twp. 20
Twp. 19

Campground
Seasonal Trailers
& or Rental
Cottages

Ironwood Point

Hillside Beach

34

35

36

Campground

BAY

29

28

27

26

25

30

Not suitable for Development

20

21

22

23

19

20

Belair
Provincial
Forest

Creek

17

16

11

Jackfish Point

18

8

9

10

11

Belair

Twp. 19
Twp. 18

Private Beach

Lester Beach

33

Grand Beach







Provincial Park

lake winnipeg - traverse bay Map 20 land use study

PROVINCE OF MANITOBA



alternative 1

-  High density cottage area 4 units/acre
-  Medium density cottage area 1-2 units/acre
-  Low density cottage area 1 unit/5 acres
-  Very low density 1 unit/10 acres
-  Beach areas
-  Open space preserve

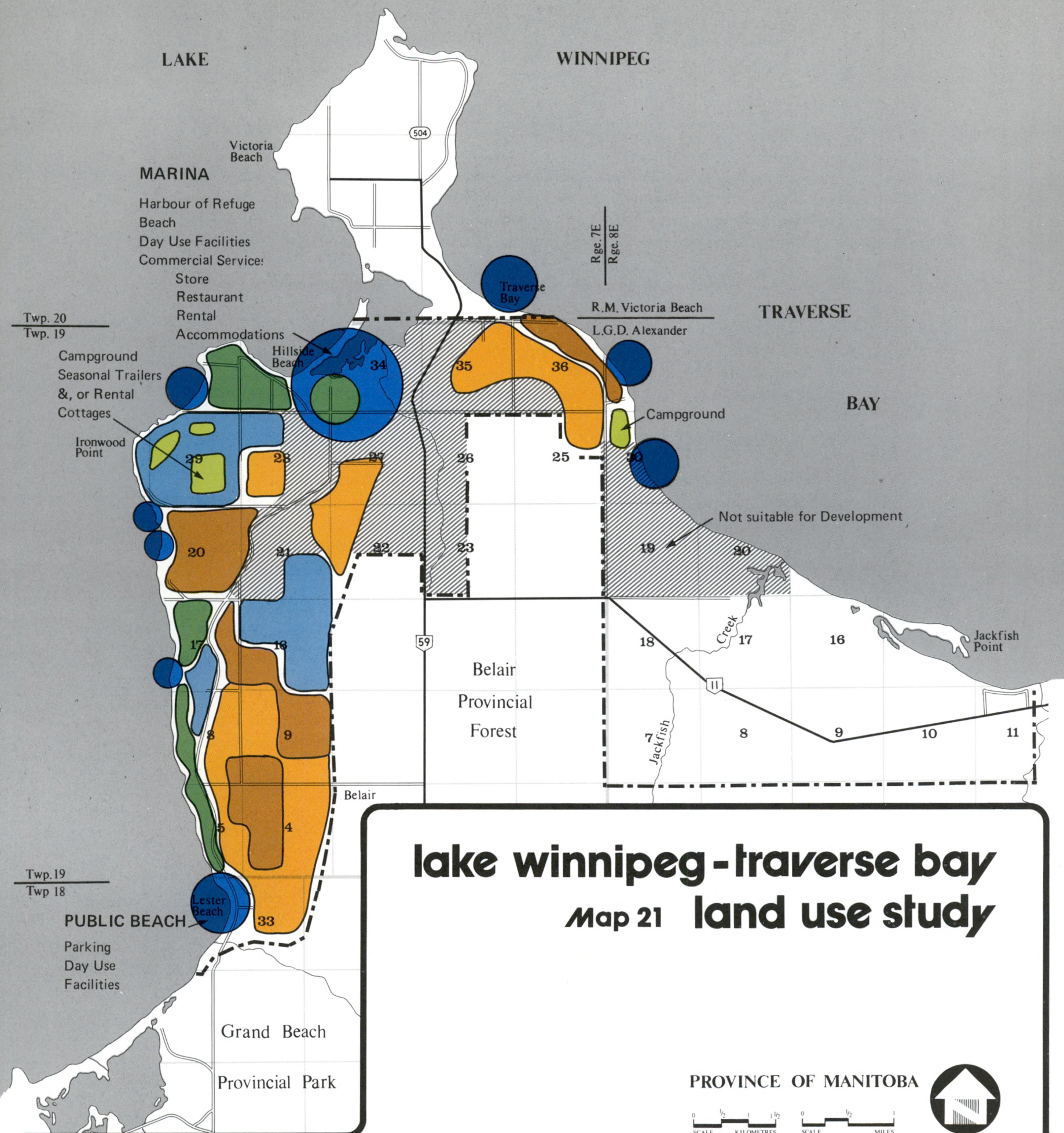
5.5 Preliminary Land-Use Plan II

5.5.1 Description:

Alternative II, Map 21, allows for a higher overall cottaging and population density than Alternative I. The higher density is related mainly to the possibility of acquiring certain segments of shoreline at Lester Beach and promoting a large scale marina/commercial development east of Hillside Beach near the lagoon.

5.5.2 Major Features:

- (1) The Traverse Bay segment remains unchanged from Alternative I.
- (2) The shoreland area west of the main road at Lester Beach would be acquired by the Crown and developed as a public beach with parking and day-use facilities.
This would involve the acquisition of approximately 60 cottages. Such could be accommodated by voluntary sale of first option to buy for the Crown or local authorities over the next twenty years. Public acquisition of this prime shoreland and beach would allow for higher backshore densities and would help alleviate day-use overflow from Grand Beach Provincial Park.
- (3) The Ironwood Point region would remain unchanged from Alternative I.
- (4) The lagoon east of Hillside Beach offers good potential as a Lake Winnipeg harbour. Dredging of the channel and construction of a marina or harbour of refuge would form the basic elements of the proposed development. Commercial facilities such as a store, restaurant and rental accommodation would become part of a marina complex; in addition, the sand spit at Hillside Beach could be developed as a public day-use area with access for pedestrian recreationists.
- (5) Many areas designated for development have slightly higher densities than proposed in Alternative I because of added public shoreline facilities.
Designated boundaries are not precise.



lake winnipeg - traverse bay

Map 21 land use study

PROVINCE OF MANITOBA



alternative 2

- High density cottage area 4 units/acre
- Medium density cottage area 1-2 units/acre
- Low density cottage area 1 unit/5 acres
- Beach areas
- Open space preserve

5.6 Summary of Public Feedback

As outlined earlier, the two alternative plans along with the base data were presented at a public meeting in the area in December, 1974. Questionnaires were distributed at this meeting and returned to the Local Government District office. A further meeting was held in February 1975 with local interest groups who wished to discuss the alternatives with the District Planning Commission and the study group.

Based on the feedback from these sources, the following synopsis of public input relating to Alternatives I and II was formulated.

5.6.1 General Comments:

- (1) No pattern of preference for either plan was evident. Some people indicated a liking for certain combinations of the two plans.
- (2) A majority of responses indicated that comprehensive planning as exemplified by this study was needed.

Comments were also related to specific locales in the study area.

5.6.2 Lester Beach:

Alternative II which proposed the development of a public day-use facility at Lester Beach was heavily criticized, primarily by local residents. Reasons given included loss of property, over-crowded conditions and loss of privacy.

Local residents seemed to feel that better services should be provided, specifically water supply, improved shoreline access and garbage pick-up.

5.6.3 Hillside Beach Area:

- (1) The major marina proposal was favoured by some respondents. Others felt that waterfowl and other wildlife in the lagoon area would be adversely affected by a marina type development.
- (2) Some comments indicated a strong concern over possible overcrowding from further development in the area.

5.6.4 Traverse Bay Area:

- (1) The concept of a public campground in the Traverse Bay area met with favourable response. However, the proposed site as illustrated on both plans was deemed unsuitable because of existing development patterns.

- (2) Any campground in the Traverse Bay area should be well buffered from cottaging areas.

5.6.5 Specific Comments Related to Density:

- (1) The proposed high density areas on both plans were regarded as unsuitable because they would result in overcrowding and loss of privacy.
- (2) A general consensus seemed to favour lots ranging from ½ acre to a maximum of 1 or 2 acres.
- (3) Some comments indicated that large lots greater than 2 acres in size would be too difficult to manage and too expensive to purchase. However, others favoured them as a means of preserving the landscape and maintaining an overall low density.

5.7 Results of Public Input:

As a result of the public feedback, the project group recommended a number of changes in the alternatives to form a revised plan, described more fully in the next section.

These revisions included:

- (1) Elimination of high density (4 units/acre) areas and replacement by lower density designations.
- (2) Relocation or removal of the Traverse Bay public campground.
- (3) Removal of the major marina proposal in the lagoon at Hillside Beach. The possibility of a small boat launch facility and day-use area was deemed to be acceptable.
- (4) The present land-use patterns at Lester Beach should be accepted. No acquisition of shorelands should be undertaken at this time. Further cottaging development should be discouraged in this area. Any further development should be at a very low density.
- (5) The public developments at Ironwood Point should include a small campground, rental cottaging and possibly some seasonal trailer sites.
- (6) The concept of low density backshore development should be adopted to preserve the character of the area to lessen the crowding on shoreline areas.

SECTION VI — A SUGGESTED DEVELOPMENT POLICY

6.1 Introduction

The previous section outlined two development alternatives for the study area. This Section attempts to suggest a development policy based upon those two alternatives, plus taking into consideration the various public reaction and opinion resulting from the public meetings. It is suggested that these policies or some modification of them be incorporated into the official Lake Winnipeg / Traverse Bay Development Plan. Once such a Development Plan is adopted any further land-use or zoning changes must abide by the policies as set forth in the plan.

The function of the suggested policies is to allow the Lake Winnipeg / Traverse Bay area to be developed as an extensive recreation area featuring public and private outdoor recreation and land-use.

6.2 Land-Use Recommendations

The following summarizes the recommended land-use policies for the study area. The land-use recommendations are:

6.2.1. Recreational Development:

(1) Moderately High Density (2 units/acre)

This designation is generally associated with those areas that are presently intensively developed. Additional development in these areas should meet the recommended development criteria as previously outlined and as follows:

Development criteria include a minimum lot size of 15,000 square feet with a maximum overall density of 2 units per acre. Adequate open space and public shoreline reserves should be provided.

(2) Medium Density Area (1 unit/acre)

This designation is generally associated with those areas that have slight to moderate development limitations as previously depicted by this study. Development criteria also include a minimum lot size of 20,000 square feet with a maximum overall density of 1 unit per acre. Adequate open space and public shoreline reserves should be provided.

(3) Low Density Development Areas (1 unit/5 acres)

Lands to be designated for low density development should have a location relative to existing or high potential development areas. Development criteria include a minimum lot size of 40,000 square feet with a maximum overall density of 1 unit per 5 acres and located in areas with slight to moderate limitations for low density cottaging, but not necessarily those areas having slight limitations to higher density development. Public shoreline reserves should be required where applicable.

(4) Very Low Density Development Areas (1 unit/10 acres)

Areas with severe site limitations or location may be designated for very low density development. Development criteria include a minimum lot size of 40,000 square feet with a maximum overall density of 1 unit per 10 acres. Such areas may include areas with moderate or possibly severe limitations to low density cottage development. The latter would depend upon the nature of the limitation. Public shoreline reserves should be required where applicable.

6.2.2 Public Recreation Areas

Because of site characteristics and/or proximity to the shoreline certain lands should be developed as public recreation areas. These areas have been identified on present Crown lands, such as Ironwood Point and the sand spit at Hillside Beach.

6.2.3. Natural Environment Areas

Areas, because of low capability for development or poor location, should be classified as "Natural Environment" areas within which development should be discouraged. Land-uses which promote resource conservation and appreciation should be promoted. To maintain the integrity of the natural environment these areas should have a site area minimum of 160 acres. Crown lands constitute the majority of these areas.

6.2.4 Beach Areas

Shoreline areas capable of supporting recreational activities but primarily oriented to serving local residents should be retained and designated, to function basically as community beaches. Additional local access and facilities should be provided.

6.3 Land-Use Policies

In addition to designating various types of recreational land-use the following specific policies were formulated to provide guidelines for land-use planning.

6.3.1 Public Shoreline Reserves

The concept of a public shoreline reserve has been integrated into the suggested Lake Winnipeg / Traverse Bay development plan.

A public shoreline reserve is essentially a strip of land adjoining and parallel to the water's edge. The function of a public shoreline reserve is to guarantee public access to the shoreline. Public shoreline reserve can be used to protect sensitive environmental areas, to provide a buffer against erosion and flooding and to aid in maintaining public control over high quality beaches and shoreline.

The public shoreline reserve in the Lake Winnipeg / Traverse Bay plan is intended primarily for use by residents of the area. The general public should be provided access to the shoreline reserve at strategic Crown Land locations.

Land designated as "Public Shoreline Reserve" should have a minimum width of 125 feet as measured from the top of the bank. In establishing a public shoreline reserve system a planning horizon of 50 years was assumed. For example, if the rate of erosion on a particular shoreline is expected to average two feet per year for the next 50 years the present requirement for shoreline reserves should be 225 feet. This will aid in ensuring that a 125 foot public shoreline reserve will exist 50 years hence.

In cases where the shoreline owner agrees to stabilize shorelands, the erosion allowance requirements might be varied. Shoreline stabilization would be to the satisfaction of local and provincial authorities.

A public shoreline reserve should be required as part of the public open space dedication where a change in the use of a shoreland property is proposed. In certain cases, the public might acquire portions of privately-owned shoreline to link existing shoreline reserves, with the long-range objective being to implement a public shoreline reserve along all waterfront areas.

No development would be permitted below the elevation of 722 feet above mean sea level. In cases where existing cottaging or other flood vulnerable development is occurring the long-range objective should be to incorporate these areas into the public shoreline reserve system.

6.3.2 Subdivision Design and Open Space

Where possible, a cluster concept for subdivision development should be encouraged. The clustering of cottages provides for more efficient community servicing as well as ensuring the provision of adequate open space. Lots within an individual cluster should meet aforementioned density criteria.

Since large portions of open space would be available a number of possibilities exist for management and ownership of these areas:

- (1) Dedication to the Local Government District of Alexander, the present local municipal authority.
- (2) Dedication to a co-operative organization composed of property owners who would be required to manage the area for natural environment purposes.
- (3) Retention by the original owner with easements granted for public access, accompanied by zoning for natural environment purposes.

6.3.3 Septic Waste Disposal

Unless otherwise specified, all septic waste disposal should be by pump-out holding tanks. All systems should be subject to the approval of the local health inspector.

Septic field systems might be permitted, subject to the approval of the health inspector, in low density areas.

Local authorities should designate and acquire suitable sites for the disposal of septic wastes from holding tanks. These should meet requirements established by the Department of Mines, Resources, and Environmental Management, Province of Manitoba.

6.3.4 Pedestrian Circulation System:

The overall pedestrian trail system utilizes the existing and proposed public shoreline reserve as well as the abandoned C.N.R. right-of-way. Links are required in the pathway system to connect the

public shoreline reserve, the abandoned railway right-of-way and development areas. Links could be created by public land acquisition or by dedication as part of the open space in a subdivision plan.

This pedestrian circulation system is intended to accommodate various forms of non-motorized transportation. Mechanized trail activities such as snowmobiling and motorcycling should be separated from non-motorized trail activities.

6.3.5 Public Recreation

Crown land at Ironwood Point should be developed for extensive recreational activities such as camping, cottaging and picnicking. These types of public facilities would thus complement and be consistent with the overall development plan.

Future development of Crown lands on the Traverse Bay side of the study area may be considered depending upon the growth of public recreational demands.

The sand spit at Hillside Beach should be developed for very low density public day-use activities. Following minor land acquisition a small parking lot and washroom facilities should be constructed at the base of the spit, to the east of the existing Hillside Beach development. Motorized access should not be allowed on the spit. The intent is to preserve the fragile qualities while allowing limited public access to its excellent beach.

Other minor public recreation facilities may be constructed throughout the entire area. These could include facilities such as public boat launching or pathways in the pedestrian circulation system.

6.3.6 Road Transportation

A basic vehicle transportation network for the area should be established in a subsequent development plan and include the following recommendations:

(1) Main Arteries

P.T.H. 59 and P.T.H. 11 comprise the main arteries for bringing people into the area and as such development adjacent to these routes should be discouraged.

(2) Primary Collectors

The primary collector system includes the Belair and Hillside Beach Roads. Along Traverse Bay, another primary collector is required and should be designated on the Development Plan Map. Since primary collectors function as limited access roadways, no individual accesses should be permitted. A buffer zone of 100 feet minimum should be established on both sides of the primary collectors to preserve aesthetic qualities of the roadway and to buffer developments.

This collector system should be hard-surfaced as necessitated by area development. The first phase of a hardsurfacing program should comprise the roadway from P.T.H. 59 west to Hillside Beach and Lake Winnipeg (north of Ironwood Point).

(3) Secondary Access Roads

Existing access roads are as shown on the map herein. These secondary access roads serve primarily to bring traffic from local streets to the primary collector system.

Wherever possible, new access roads should take advantage of government road allowances. In some cases, individual lots could be serviced from access roads.

(4) Local Streets

Local street systems service individual lots in cottage subdivisions. Minimum street right-of-way should be 60 feet. Minimum turning radius of culs-de-sac should be 120 feet.

6.3.7 Other Land Uses

Because of the emphasis of this plan on recreational development, policies related to other land-uses have not been specified. The following guidelines were formulated by the study group for dealing with particular land use proposals not covered in the suggested development plan. Revisions to the plan may be necessary to accommodate unforeseen developments.

(1) Permanent Homes

In order to accommodate possible conversion to permanent homes, all future subdivisions in the area should be designed to meet permanent home subdivision standards in terms of road width, drainage, lot size and building size.

The construction of permanent homes should be encouraged where added costs incurred by school bussing, snow-plowing and other essential services are acceptable to the local authorities in terms of costs and priorities.

(2) Trailers and Mobile Homes

Trailer and mobile home development should meet the same standards as cottages and permanent homes in regards to sewage disposal, shoreline reserves and density regulations. Seasonal trailer parks will be permitted in areas designated for "Recreational Development" subject to approval of the responsible authority and compliance with Parks and Tourism Branch, Department of Tourism, Recreation and Cultural Affairs, Province of Manitoba, regulations for trailer parks.

Wherever possible, separate areas should be set aside specifically for trailers or mobile homes to better accommodate these particular forms of recreational homes and to minimize conflicts with seasonal or permanent home developments.

(3) Institutional Day Camps

Institutional camps should be permitted in areas designated for recreational development provided that buffer zones, sewage disposal and other criteria are met. Acceptable restrictions on camp sizes are difficult to assess precisely and should be based upon overall area population levels and maintaining the natural character of the area.

(4) Commercial Development

Commercial retail development should be encouraged to locate in areas specifically designated for this type of land-use. Commercial accommodation facilities would be conditional uses subject to approval of responsible authorities.

Wherever possible, commercial resort operations should be located near beach facilities or in locations readily accessible from major roadways. A public shoreline reserve system should be encouraged between commercial operations and the shoreline.

(5) Mink Ranches

Mink ranching should be a conditional use throughout the study area. Ranches would only be allowed to operate when the responsible authority feels that the operation will not conflict with present or future recreational development in the area. Approved operations should be located and buffered so that odour or noise will not create a nuisance for adjacent land users.

(6) Sand and Gravel Operations

Sand and Gravel operations should be conditional uses throughout the study area. These operations should be permitted where conflicts with present or future recreational development in the area are minimized. Approved sand and gravel operations should meet requirements as set out by the Provincial Department of Mines, Resources and Environmental Management.

Wherever possible, sand and gravel operations should have direct access to P.T.H. 59 or 11. Buffer zones should be provided to minimize noise, dust, danger and visual intrusion.

Upon termination of operations, the site should be reclaimed to specifications of responsible authorities to promote the natural character of the area.

(7) Remaining Land Uses

Where a land use is proposed or initiated that is not discussed in this plan, the responsible authority should study the use, especially its social and environmental compatibility with recreational land uses accommodated by this plan and before making a decision, the plan should be revised where necessary.

6.3.8 Land Acquisition

Certain parcels of land in private ownership may need to be acquired to implement this suggested development plan. These were prioritized by the study team in order of importance:

- (1) The Hillside sand spit, including land for parking, and supporting facilities (is now crown land, but not a recreation area);
- (2) Sewage lagoon and garbage disposal areas;
- (3) Portions of the C.N.R. right-of-way;
- (4) Pedestrian-access corridors to the shoreline at Lester Beach;
- (5) Existing private shoreland developments within 125' of the shoreline, or below 722 a.s.l.

SECTION VII

7.1 What Comes Next?

The preceding sections have outlined two suggested long-term development alternatives and policies for the Lake Winnipeg / Traverse Bay Area and described the various inputs which went into the formulation of such.

It is recommended that this study be recognized as a working document and adopted as such by resolution of the Alexander District Planning Commission. This study will then be used as a basis for formulating a Development Plan for the Lake Winnipeg / Traverse Bay Area which will in turn be forwarded to the Advisory Council of the Local Government District of Alexander with the recommendation that it be adopted as part of the overall Alexander District Development Plan.

This Development Plan will then be adopted by the Local Government District of Alexander in a by-law process in accordance with the Planning Act. All plans of this nature are termed "Planning Schemes" under this act. By-laws are given the customary three readings; however, the Planning Act requires a publicly advertised meeting prior to second reading at which time ratepayers are given the opportunity to hear an explanation of the plan by the Advisory Council, District Planning Commission and their planning advisors. Ratepayers will be notified by mail of such a meeting.

After the meeting, residents would have the opportunity to put their comments and objections in writing to the Local Government District. The Local Government District should evaluate the comments and objections to revise the plan before giving second reading to the by-law. Objectors are informed of Council's decision and have the opportunity to forward their written objections to the Minister of Municipal Affairs who usually refers such objections to the Municipal Board for a public hearing. The Municipal Board after hearing all parties would either order changes or uphold the plan.

The local council may then proceed with the third and final reading, establishing the plan as a Planning Scheme for the area.

7.2 When the Plan is Adopted

After final reading, the Planning Scheme adopting the Development Plan is the official legal guideline and control mechanism for Lake Winnipeg / Traverse Bay sector of the Local Government District of Alexander.

All land-use decisions in the area must conform to the Planning Scheme. Any departure from the adopted policies and recommendations in the scheme would require an amendment.

While much present effort has been expended in the formulation and adoption of the plan future conditions and changes in lifestyle might require changes. It remains the responsibility of the Local Government District to update the Planning Scheme from time to time to ensure relevancy in light of future circumstances.