Ontario

TEMAGAMI INTEGRATED PLANNING

BACKGROUND INFORMATION

CONSERVATION RESERVES

Bob Lake

East Lady Evelyn Lake

Jim Edwards Lake

Makobe Grays Ice Margin

North Yorston

Pinetorch Lake

Smith Lake

Sugar Lake

PROVINCIAL PARKS

Lady Evelyn-Smoothwater

Makobe-Grays River

Obabika River

Solace

Sturgeon River

TEMAGAMI AREA CROWN LAND RECREATION

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Approval Statement

The Ontario Ministry of Natural Resources is preparing management plans for five provincial parks and eight conservation reserves in the Temagami area. In addition, a recreation management plan is being prepared for the unregulated Crown lands in the Temagami area. We are pleased to present this Background Information document for the integrated planning process.

This document provides a summary of the features and values found on unregulated Crown land in the Temagami area, and within the following provincial parks and conservation reserves:

Provincial Parks

- Lady Evelyn-Smoothwater
- Makobe-Grays River
- Obabika River
- Solace
- Sturgeon River

Conservation Reserves

- Bob Lake
- East Lady Evelyn Lake
- Jim Edwards Lake
- Makobe Grays Ice Margin
- North Yorston
- Pinetorch Lake
- Smith Lake
- Sugar Lake

The Ministry of Natural Resources invites you to review this Background Information document. We welcome your comments or questions. Your comments will be carefully considered throughout the integrated planning process.

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1.0 Executive Summary of Backround Information

The Temagami Integrated Planning process combines three planning projects outlined in the 1997 *Temagami Land Use Plan*. The three components are:

- management planning for five backcountry parks (wilderness and waterway);
- management planning for eight conservation reserves which lie adjacent to the parks; and
- a recreation plan for unregulated Crown lands in the Temagami administrative area (part of MNR's North Bay District).

Five provincial parks covering 104,248 hectares lie in the western part of Temagami. Surrounding the parks are eight conservation reserves which make up an additional 42,836 hectares of protected area. Much of the remaining land base consists of unregulated Crown lands which are designated as one of four types of land use management zones in the *Temagami Land Use Plan*.

The Temagami area lies approximately 100 km north of North Bay. The area covers approximately 650,000 hectares of varied and rugged terrain. Much of the area is relatively remote, offering solitude and challenge for those seeking a backcountry recreation experience.

The area lies on Precambrian bedrock partially overlain by a thin veneer of glacial deposits. In the Lady Evelyn-Smoothwater area, the bedrock rises to a broad highland which includes Ishpatina Ridge—the highest point in Ontario (693 metres above sea level). The area is drained by watersheds flowing eastward to the Ottawa River and southward to Lake Nipissing.

The area's rugged, variable landform also influences the diversity of flora and fauna. Lying in the transition zone between the Great Lakes-St. Lawrence and Boreal forest regions, the Temagami area exhibits a range of vegetation types. A number of species are found at the northern edge of their range here. Unique to the Temagami area is the endangered Aurora trout, a variant of the brook trout native to only two lakes within Lady Evelyn-Smoothwater Provincial Park.

Temagami has been a tourist destination for over a century. Numerous lakes and rivers offer excellent boating, canoeing and fishing. There are over 2,000 kilometers of interconnecting canoe routes and portage trails. Many trails have been in use for thousands of years as *nastawgan*, the traditional routes of the Teme-Augama Anishnabai.

Cultural heritage is found throughout the area. Archaeological evidence of aboriginal peoples dates back over 6000 years. Native culture and land use continue with the First Nation communities of Bear Island and Matachewan.

By the late-1800s, Temagami was of interest to the forestry, mining and tourism industries. The establishment of the Temagami Forest Reserve in 1901 played an important role in shaping the area's pattern of development. A century later, the Temagami area is renowned for its rugged landscape as well as its significant natural, cultural and recreational resources.

The integrated planning process will produce a number of planning products: a park management plan for five parks, resource management plans for eight conservation reserves, and a Crown land recreation plan for unregulated Crown lands. The recreation plan will address only the recreational aspects of Crown lands; all other land uses will continue to receive direction from the *Temagami Land Use Plan*.

The park planning process provides the overall framework for this integrated planning effort. It is a dynamic tool, looking forward for a 20-year period. It includes the following stages: terms of reference, background information, management options, preliminary management plans, and approved management plans. There are opportunities for public consultation at each stage.

Issues and opportunities to be explored during the planning process include a variety of topics. Some are specific to parks and protected areas while others pertain to recreational use throughout the Temagami area. These include:

- access
- adjacent land uses and activities
- social and economic opportunities
- protection of park values and resources
- rehabilitation and restoration of ecosystems
- visitor management and customer service.

This background document summarizes resource information about the area that has been collected over a number of years (including the Comprehensive Planning Process and the approved *Temagami Land Use Plan*). It will serve as a foundation for the evaluation of issues and opportunities, and will form part of the preliminary and approved management plans within this integrated process. Public input and review is important. Readers are invited to provide additional information, or to clarify what has been presented.

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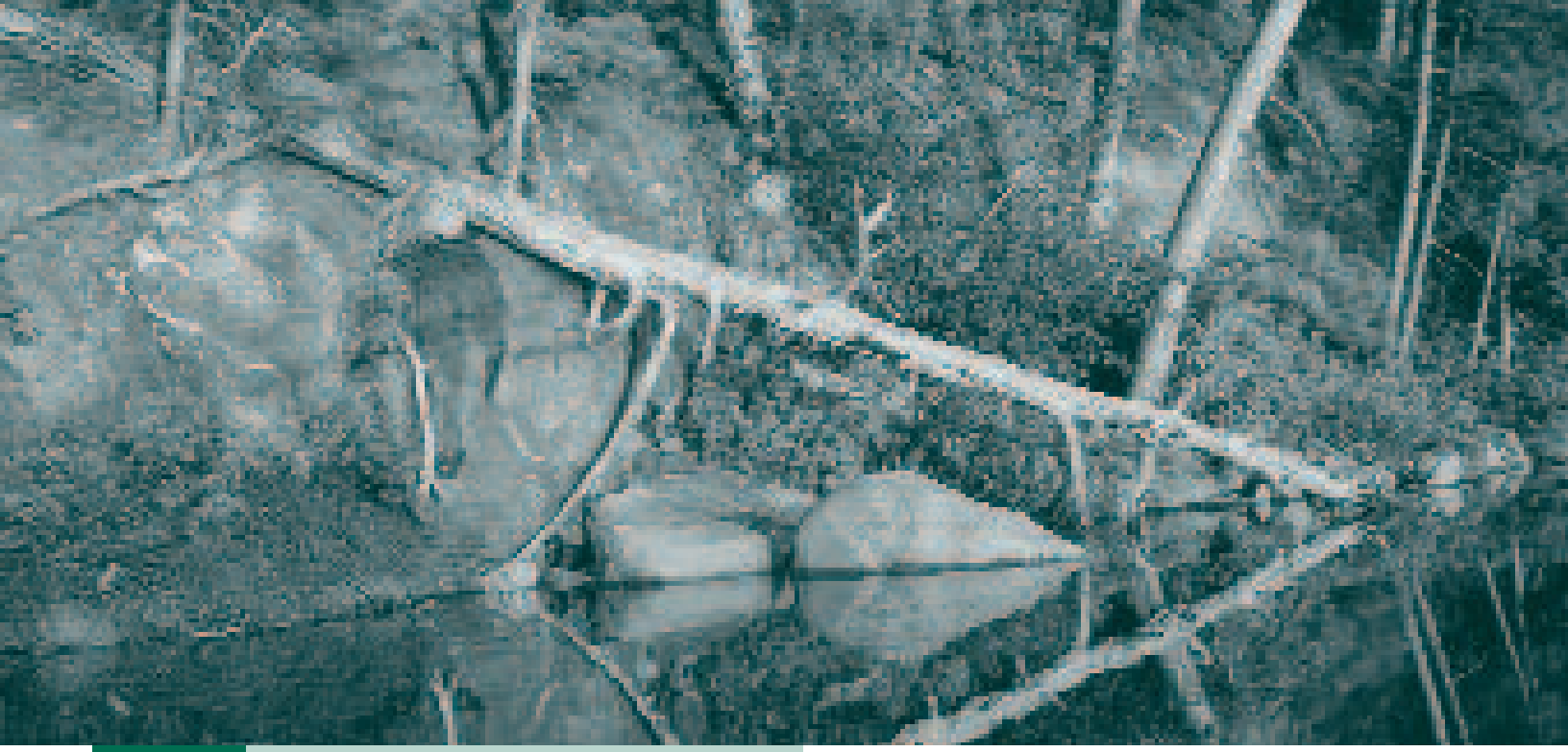


1.0 Introduction

The Temagami area is renowned for its rugged landscape as well as its significant natural, cultural and recreational resources. Temagami is of interest to many people for a variety of reasons—its rich natural resources providing the basis for the area's economic development over the past century and a half.

For more than six thousand years, aboriginal inhabitants have lived here, travelling by way of the *nastawgan*, an interconnected system of winter and summer trails and portages. Temagami is within *Daki Menan*, the ancestral homeland of the Teme-Augama Anishnabai—the deepwater people (Figure 11). Many sacred sites are found within the area, and the landscape of Temagami continues to hold great cultural, spiritual and economic significance for today's First Nation communities. Present-day First Nation communities include Bear Island on Lake Temagami and Matachewan on the Montreal River.

The word "Temagami" has a different geographical extent for different people. Within this document the term "Temagami area" refers to the area covered by the 1997 *Temagami Land Use Plan* (Figure 1).

Five provincial parks lie in the western half of the Temagami area. Covering over 104,000 hectares, they make up approximately one sixth of Temagami's land base. Lady Evelyn-Smoothwater, a wilderness class park, forms the "core" of Temagami's protected areas. Four waterway class parks radiate outward to the north, east and south of the wilderness class park. All five parks are physically connected to each other (Figures 1, 2 and Table 1).

Surrounding, and physically connected to, the core parks are an additional 42,000 hectares of protected area in the form of eight conservation reserves (Figures 1, 2 and Table 2). In total, the 13 protected areas (parks and conservation reserves) cover what many consider to be the heart of Temagami's wilderness. Beyond these protected areas lie over 500,000 hectares of unregulated Crown land, which offer a variety of recreational experiences as well as a range of resource uses, as described in the *Temagami Land Use Plan* (OMNR 1997).

From a recreational perspective, the Temagami area has been a canoeing destination for over a century, and offers more than 2,400 kilometres of canoe routes which lie within parks, conservation reserves (CRs) and on

Crown land. The area attracts visitors from provincial, national and international markets for a variety of recreational activities including: canoeing, boating, fishing, hunting, hiking and scenery appreciation. Use is expected to increase with growing interest in adventure travel and relatively accessible wilderness experiences. The majority of travel into the core parks and conservation reserves occurs from Crown land access points that are a considerable distance away from the protected areas.

Major land use decisions and management direction for the Temagami area are outlined in the *Temagami Land Use Plan*[1]. This document reaffirmed Temagami's existing provincial parks and identified four primary land use zones for the entire Temagami area: Protected Areas, Special Management Areas, Integrated Management Areas, and Developed Areas. These four types of zones are subdivided into 59 specific management areas (Figure 3). The *Temagami Land Use Plan* (TLUP) continues to provide the overall direction for the management and use of natural resources within each specific management area.

The *TLUP* also provides direction to develop management plans for the provincial parks and protected areas (now conservation reserves). In addition, the *TLUP* provides direction to develop a plan to manage the increasing recreational use of the area's unregulated Crown lands (i.e., not regulated as a provincial park or conservation reserve). The intent of this planning process is to follow through on these commitments from the 1997 *Temagami Land Use Plan*.

1.1 An Integrated Planning Process

To ensure a consistent planning approach, the following three components are integrated into one overall planning process:

a) management planning for the five provincial parks
b) management planning for the eight conservation reserves physically connected to the parks
c) development of a Crown Land Recreation Plan for the Temagami area

All three components (Figure 2) are strongly interrelated. The integrated planning process will explore ecological, social and recreational linkages between the interconnecting parks and conservation reserves. It will provide management objectives and outline the desired future condition for each of the five parks and eight adjoining CRs. Resource management planning for the parks and CRs will be carried out to ensure that ecological integrity is maintained. Note that throughout this document, the term "protected areas" is used to denote both the provincial parks and conservation reserves included in this planning process.

The management of recreation on unregulated Crown lands in the Temagami area will deal specifically with issues related to user distribution, access, maintenance or development of recreational features such as campsites, trails and portages, and options for funding these activities (e.g., maintenance authority, user fees, partnerships). In all other aspects, the management of resources within these Crown lands will be guided by the *Temagami Land Use Plan*.

The *Crown Land Use Policy Atlas* is the official source of area specific land use policy for much of the province and includes land use policies such as *Ontario's Living Legacy Land Use Strategy* and the *Temagami Land Use Plan*.

1. *The Temagami Land Use Plan* (OMNR 1997) encompasses most of the former Temagami MNR District—now an administrative area of MNR's North Bay District—as well as a portion of Crown lands within Kirkland Lake District which is subject to the plan.

1.2 The Components of Temagami Integrated Planning

This planning process includes three components: management planning for five provincial parks; management planning for eight conservation reserves; and recreation planning for unregulated Crown lands in the Temagami area. Each component is covered in detail below:

1.2.1 Provincial Parks

Lady Evelyn-Smoothwater, Makobe-Grays River, Obabika River, Solace, and Sturgeon River Provincial Parks fall into two of six classes of parks within the Ontario Provincial Park System—Wilderness and Waterway. *Wilderness* parks are substantial areas where the forces of nature are permitted to function freely and where visitors travel by non-mechanized means and experience expansive solitude, challenge and personal integration with nature. *Waterway* parks incorporate outstanding recreational water routes with representative natural features and historical resources to provide high quality recreational and educational experiences. Table 1 provides an overview of the five provincial parks.

Table 1: Provincial Parks in the Planning Process

Provincial Park	Class	Area (ha)	Year Regulated	Planning to Date	Area Highlights
Lady Evelyn-Smoothwater	Wilderness	72,400	1983	IMS* 1984	Temagami's largest protected area contains significant cultural heritage and earth/life science features. Numerous wilderness canoe routes; Maple Mountain and Ishpatina Ridge–Ontario's highest point; native range of endangered Aurora trout
Makobe-Grays River	Waterway	1,427	1985	IMS* 1986	Remote, seasonal whitewater river accessed from wilderness park. Speckled trout fishery.
Obabika River	Waterway	20,520	1989		Protects old growth red and white pine forests, cultural heritage features and a significant bog area. Numerous lakes popular for canoeing, boating, fishing and commercial tourism.
Solace	Waterway	5,943	1989		Protects a string of Lake/Brook trout lakes. Wilderness canoeing in roadless setting.
Sturgeon River	Waterway	3,958	1989	IMS* 1986	Provincially significant canoe route, connecting to Wilderness and other Waterway class parks.
Total Area		**104,248**			

**IMS=Interim Management Statement (an interim document to guide the custodial management of a park until a management plan is completed)*

Provincial parks are administered under The Provincial Parks Act. Park planning takes its direction from *Ontario Provincial Parks: Planning and Management Policies, 1992 Update*.

1.2.2 Conservation Reserves

Conservation reserves (CRs) are protected areas regulated under the Public Lands Act. They complement provincial parks in protecting representative life and earth science areas and special landscapes. A relatively new type of protected area, CRs protect natural heritage features and values while allowing a range of traditional activities to continue.

The 1997 *Temagami Land Use Plan* (TLUP) designated 16 protected areas which are now regulated as conservation reserves. Seven of the 16 CRs will be covered in this integrated planning process since they are physically connected to the five parks. The *TLUP* and individual *Statements of Conservation Interest* will continue to guide planning and management activities for those CRs in the Temagami area not covered in this planning process.

Ontario's Living Legacy Land Use Strategy (OMNR 1999) will provide the planning context for Makobe Grays Ice Margin Conservation Reserve (the eighth CR) as this site is a new protected area created during the *Ontario's Living Legacy* planning process.

Table 2 describes the eight CRs that are a part of this planning process:

Table 2: Conservation Reserves in the Planning Process

Conservation Reserve	Area (ha)	District	Area Highlights
CR 32 East Lady Evelyn Lake	5,612	NB	Protects water-based remote tourism, natural heritage values and the significant Lady Evelyn dune complex.
CR 33 Sugar Lake	6,143	NB	Remote fishing and backcountry recreation opportunities. Protects Lady Evelyn River watershed and Obabika River Provincial Park
CR 44 Bob Lake	2,657	NB	Ecological link to Obabika River Provincial Park. Provides significant backcountry canoeing opportunities.
CR 50 Pinetorch Lake	3,623	NB	Ecological link to Lady Evelyn-Smoothwater Provincial Park, and wilderness canoe route.
CR 52 Jim Edwards Lake	8,656	NB	Protects headwaters for Lady Evelyn River watershed and provincially significant old growth white pine stands on the wilderness park's southern boundary
CR 53 North Yorston	13,323	NB	Protects portions of headwaters for Sturgeon, Yorston and Lady Evelyn rivers, and Pilgrim Creek. Protects park-related values for three parks. Remote backcountry recreation.
CR 55 Smith Lake	1,649	KL	Protects provincially significant old growth white pine ecosystems, coldwater fisheries and part of the headwaters of Smoothwater Lake in the wilderness park.
C 1608* Makobe Grays Ice Margin	903	KL	Protects a provincially significant kame ridge moraine with jack pine dominated forest.
Total Area	42,836		

** designated under Ontario's Living Legacy Land Use Strategy (1999); all other CRs designated under the Temagami Land Use Plan (1997)*

NB =MNR North Bay District
KL =MNR Kirkland Lake District

One resource management plan will be developed to provide guidance for the management of the eight conservation reserves. Policies for CRs are outlined in *Conservation Reserve Policy and Procedure* (OMNR, 1997).

1.2.3 Recreation Management for Crown Lands in the Temagami Area

The third component of this integrated process is the development of a recreation plan for all unregulated Crown lands covered under the *Temagami Land Use Plan*. Due to the complex patterns of recreational use between the parks, CRs and adjacent Crown lands, the development of the Temagami Crown Land Recreation Plan will be integrated into the protected areas planning process. This will ensure that management direction for recreation on unregulated Crown land is consistent with planning for the five provincial parks and eight CRs. The Temagami Crown land recreation plan will help to achieve a number of objectives within the *TLUP*[2]. The Temagami Crown land recreation plan will examine only recreational activities that occur on unregulated Crown land in the area.

In developing the Recreation Management Plan, the planning team will make extensive use of the background information collected and used by both the Comprehensive Planning Council (CPC) and its predecessor, the Temagami Advisory Committee (TAC), as well as the information included in the approved *Temagami Land Use Plan*. In order to avoid duplication, this background information has not been reproduced extensively in this document.

1.3 What Types of Plans will be produced?

This planning project will produce three different types of plans—a park management plan, a resource management plan and a recreation management plan. The plans will vary in the level of detail and scope of what will be covered:

- A *park management plan* will provide long-term direction for resource stewardship, development and operations of parks. Management direction provided by the park management plan will be restricted to the provincial parks.
- A *resource management plan* will be developed to provide management direction for the conservation reserves.
- A *Crown land recreation plan* will address recreational use of all other unregulated Crown lands in Temagami. This plan will deal only with recreational issues on Crown land and will not deal with other resource or land use issues; direction in these matters will be taken from the 1997 *Temagami Land Use Plan.*

1.3.1 Park Management Plan

A park management plan is a document that identifies the contribution that each individual park makes to achieve the four objectives of the provincial park system: protection, heritage appreciation, recreation and tourism.

No plan is undertaken with a "blank slate"; all plans must apply broad provincial policies to the specific resources and management needs of the individual park. A park management plan:

- defines the role, significance and classification of the park within the provincial parks system
- designates specific zones within each park for the protection, planning, development and management of the park's natural, cultural and recreational resources.

2. The *TLUP* includes a paper developed by the Comprehensive Planning Council entitled "The Temagami Recreation Area Strategy." This document provides the basis for development of a Temagami Crown land recreation plan.

- assures that planning, management and development of each park is compatible with the protection of the environment, and is responsive to public interests
- provides guidance for the preparation of subsequent *implementation plans*; these specific, more detailed plans are required to implement park policies and achieve program objectives
- provides a rationale and priorities for the funding of capital development and park operations
- acts as a record of public consultation and input into the planning process
- provides the basis for ongoing monitoring of development and management of the parks.

Typically, management plans are developed for individual parks. In this case, one plan will be produced to cover Lady Evelyn-Smoothwater, Makobe-Grays River, Obabika River, Solace, and Sturgeon River Provincial Parks. Management planning will be integrated for all five parks since they are physically connected to each other, share similar features and values, and provide similar recreational opportunities.

These parks share a common theme in that they all provide relatively remote wilderness experiences. Present visitor use takes place in an uncontrolled manner, often creating environmental impacts on park resources, and a less-than-satisfactory experience for many users. The intent of the planning process is to manage visitor use, protect significant natural and cultural resources within the parks, and to ensure that park operations are sustainable environmentally, socially and economically.

1.3.2 Resource Management Plan for Conservation Reserves

Activities in conservation reserves throughout Ontario are directed by either a Statement of Conservation Interest (SCI) or, in more complex situations, a resource management plan. One resource management plan will be prepared for the eight conservation reserves.

The resource management plan will:

- identify and describe the features and values of each conservation reserve
- outline the activities that occur within each conservation reserve
- provide guidelines for the management of current and future activities in the context of protecting the natural, social and cultural values of each conservation reserve.

1.3.3 Crown Land Recreation Plan

The Crown land recreation plan will cover unregulated Crown land within the Temagami Area of the Ontario Ministry of Natural Resources (OMNR) North Bay District, as well as a small portion of Kirkland Lake District which is subject to the *Temagami Land Use Plan* (Figure 1). This plan will provide direction for implementing recreational aspects of the Temagami Land Use Plan in a manner consistent with future management of the provincial parks and conservation reserves.

The Crown land recreation plan has its basis in the Temagami Recreation Area Strategy within the *Temagami Land Use Plan*. The strategy includes information regarding:

- different recreational activities currently occurring across the Temagami Crown land base, the potential of each to expand in the future, and issues related to these recreational pursuits
- ideas to be considered/incorporated into the development of a recreation plan
- an implementation strategy which describes three possible components of a recreation management plan:
- fees/revenue retention (recreational user fees)
- recreation use management (user distribution system, recreation zoning)
- resource management prescriptions (viewscape management, seasonal resource extraction prescriptions) – this issue has primarily been addressed in the *Temagami Management Unit 2004-2024 Forest Management Plan*
- excerpts from the objectives of the Comprehensive Planning Council which provide additional ideas for inclusion in the recreation plan.

Development of the Temagami Crown land recreation plan, especially for a land base as large and as heavily used as that in Temagami is a new undertaking by the Ministry of Natural Resources. As such, the planning process will need to be flexible and innovative in order to develop a recreation plan that will address the range of needs in the Temagami area. Public input is critical for the development of the recreation plan.

It is anticipated that the recreation plan will focus on the following items:

- identification of areas which support highly sensitive recreational activities worthy of special recognition in other resource management planning processes
- distribution of recreational users across the land base; integration with backcountry park operations
- improved maintenance of the facilities or attributes which support recreational pursuits (e.g., maintenance authority, partnerships)
- partnership opportunities to permit the operation of recreational access points, sites or facilities by outside parties
- funding options to support recreation management (e.g., recreational user fee)
- development of partnerships with local First Nations and other area communities to manage recreational use on Crown land.

1.4 The Planning Area

The planning area, referred to as "Temagami area" in this document, encompasses 13 protected areas, as well as all unregulated Crown land covered under the *Temagami Land Use Plan*. The five parks and eight CRs lie in the western portion of the Temagami area, and encompass almost one quarter of the Temagami area land base. All 13 protected areas are physically connected, with Lady Evelyn-Smoothwater, a Wilderness class park, lying at the centre. Looking at the maps in Figures 1 and 2, one will note that this configuration results in significant portions of Crown land located between connecting parks and CRs.

The term "Temagami area" used throughout this document refers to the area covered by the *Temagami Land Use Plan*. This includes most of the entire former Temagami District as well as a small portion of Kirkland Lake District to the north of Lady Evelyn-Smoothwater Provincial Park. Makobe-Grays River Provincial Park and Makobe Grays Ice Margin CR both lie within Kirkland Lake District. It also includes a portion in the southwest corner that was formerly part of the Sudbury District which was added to the Temagami Area of North Bay District in 1997.

What Areas Are Not Covered in this Planning Process?

Scattered across the Temagami area are an additional nine conservation reserves and two provincial parks which are not included in this planning process. These protected areas are not physically connected to the core protected areas in this process. The management of these areas will be guided by individual *Statements of Conservation Interest*. The conservation reserves referred to are: CR3a Matabitchuan River, CR4a South Temiskaming Shoreline, CR5 Ottertail Creek, CR9 Rabbit Lake West CR15 Cliff Lake, CR17 White Bear Forest, CR31b Indian Bay South, CR40a Narrows Island and CR40b Temagami Island North.

Two provincial parks, Finlayson Point and W.J.B Greenwood are not included in integrated planning and have an approved park management plan and interim management statement respectively.

Two other parks are outside of the planning area; Sturgeon River Provincial Park Additions and Temagami River Provincial Park, were recommended in the 1999 *Ontario's Living Legacy Land Use Strategy*. These parks are outside of the integrated planning area and will be guided by Interim Management Statements under *Ontario's Living Legacy* policies.

The Temagami Land Claim is entirely separate from the integrated planning process, but there are some overlapping issues between recreation management on unregulated Crown land and the Crown lands which will form part of the proposed Indian Reserve in the land claim settlement. These issues will be considered in this integrated planning process, at the request of the Temagami First Nation.

The Temagami Land Claim settlement process is proposing the creation of a waterway class provincial park on certain portions of the mainland of Lake Temagami. Those portions of the mainland that are identified for park creation in the proposed settlement agreement will be converted to park status, following whatever requirements may be necessary, once there is a final agreement. The management planning for this proposed park would be a separate process.

The Crown land recreation component of TIP will include all unregulated Crown land subject to the *Temagami Land Use Plan* (TLUP), including all Crown lands within MA 39 of the TLUP, plus all Crown islands in Lake Temagami.

However, with respect to Crown lands which will form part of the Indian Reserve in settlement of the Temagami Land Claim, including those lands which will become part of the proposed Lake Temagami Waterway Provincial Park, the Crown land recreation component of TIP will include planning for only water based recreation consistent with the *Temagami Land Use Plan* (including canoe routes, portages and camp sites and their associated use and maintenance).

1.5 Planning History

Prior to 1973, the Temagami area was managed as part of the North Bay District within the Department of Lands and Forests, with the Chief Ranger Headquarters located in Temagami; this was part of the North Bay District within the Department of Lands and Forests. With the creation of the Ministry of Natural Resources (MNR) in 1973, Temagami operated as a district within MNR's Northeast Region. In 1996, Temagami became a management area within MNR's North Bay District; the office in Temagami closed and remaining staff were relocated to North Bay.

Management of Crown lands and resources has been guided by the *District Land Use Guidelines* (OMNR, 1983) for Temagami, Kirkland Lake and Sudbury MNR districts. At a park-specific level, direction for the non-operating parks has been outlined in a series of *Interim Management Statements* (OMNR, 1984, 1986).

In 1989 the area became the focus of a unique and intensive process—the Temagami Area Comprehensive Planning Program—as a model of land use management planning by the provincial government. A citizens' advisory committee, the Comprehensive Planning Council (CPC), worked with the support of a team of multi-ministry staff to produce a series of land use recommendations. The *Report of the Temagami Comprehensive Planning Council* (OMNR, 1996) and the *Response of the Government of Ontario to the Temagami Comprehensive Recommendations* (OMNR, 1996) provided the basis for the land use zone designations for Crown lands and waters outlined in the *Temagami Land Use Plan*, which was approved in 1997.

The *Temagami Land Use Plan* (*TLUP*) designates specific land use zones (Figure 3) and provides direction for the use and management of resources within each zone. A number of adjacent land uses and area management objectives can significantly affect the planning and management of parks and CRs. The *TLUP* makes specific references to area provincial parks, adjacent conservation reserves, special management areas, and the development of a recreation plan for the Temagami area.

After two years of public consultation, *Ontario's Living Legacy Land Use Strategy (OLL Strategy)* was released in 1999. The *OLL Strategy* guides planning and management of much of the Crown lands in central and northern parts of Ontario. The *OLL Strategy* replaces the *Northeast Strategic Land Use Plan*. At the district level, the *OLL Strategy* and the *TLUP* replaced the 1983 *District Land Use Guidelines*. In the specific case of the former Temagami District, the *Temagami Land Use Plan* was released prior to development of the *OLL Strategy*. The approved land use plan for Temagami will continue to guide planning activities for this specific planning area, and is deemed to be part of the *OLL Strategy*.[3]

3. Ontario's Living Legacy Land Use Strategy (OMNR 1999), p. 33

Subsequent to the *OLL Strategy*, area-specific Crown land use policy (for parks, protected areas and unregulated Crown land) has been incorporated into the *Crown Land Use Policy Atlas*. With respect to Temagami Integrated Planning, the *Crown Land Use Policy Atlas* houses applicable area-specific land use policies such as the *Temagami Land Use Plan* and the *OLL Strategy* in an interactive web-based browser (http://crownlanduseatlas.mnr.gov.on.ca/).

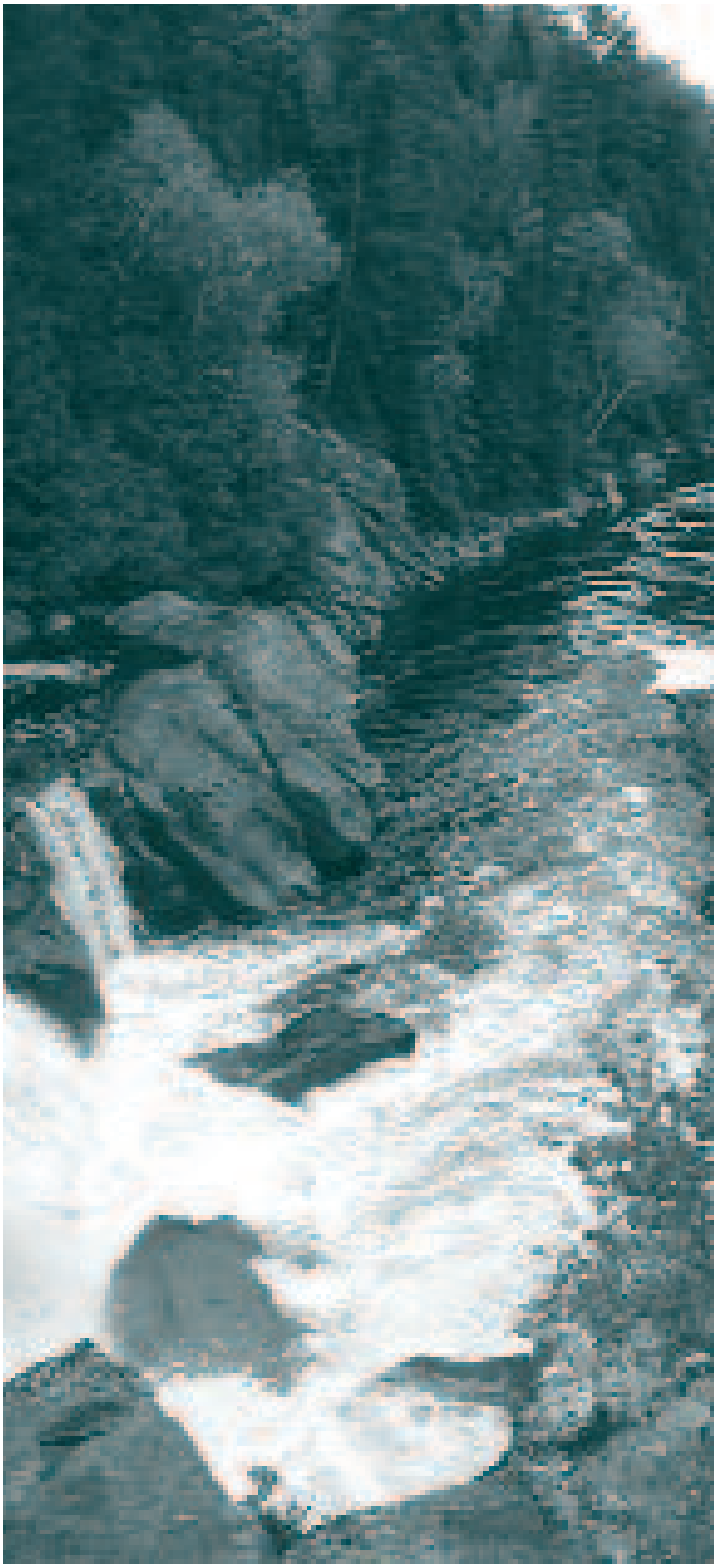
1.6 Planning Schedule

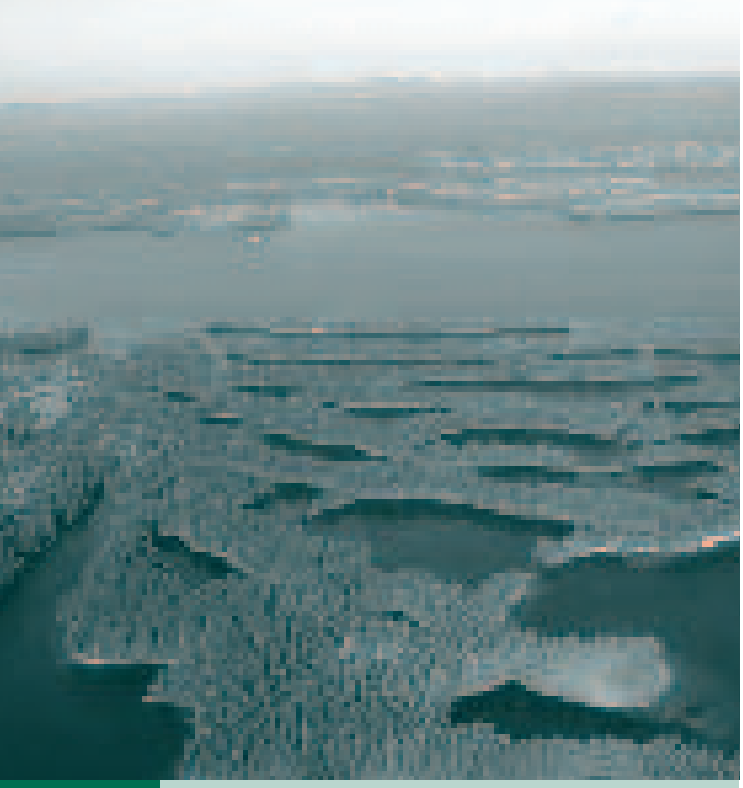
Over the next 24 months, the Ontario Ministry of Natural Resources (MNR) and Ontario Parks will undertake the development of management plans for the three components within this integrated planning project. The overall planning schedule follows the framework used in management planning for Ontario's provincial park system. Significant milestones in the schedule for the management planning process are:

- Terms of Reference Approval — July 2001
- Invitation to Participate — June 2004
- Review of Background Information — Summer 2005
- Issues and Opportunities — Fall 2005
- Preliminary Management Plan — Spring 2006
- Recommended Management Plan — Fall 2006
- Approved Management Plan — Winter 2007

1.7 The Planning Team

Preparation of a park management plan for five parks, a resource management plan for eight CRs and a Crown land recreation plan are the responsibility of a core team consisting of staff from Ontario Parks, district staff of the Ministry of Natural Resources, and representatives from local Aboriginal communities (Matachewan and the Temagami Aboriginal community). Further support is provided by a multi-disciplinary group of Ministry staff at district, regional and main office levels.





2.0 Regional Context

2.1 Introduction

Located in Northeastern Ontario, the Temagami area is characterized by rugged Precambrian Shield topography, with a complex array of rock knolls and ridges, lakes, rivers, and glacial sediments left as a result of the Wisconsinan era glaciation. This rugged terrain includes the highest point in Ontario—Ishpatina Ridge (693m above sea level) which lies within Lady Evelyn-Smoothwater Provincial Park.

The Temagami area is situated in the transition zone between the Great Lakes-St. Lawrence and Boreal forest regions. As a result of this transition zone, a wide variety of tree species grows in the area. The white birch, poplar, balsam fir, jack pine and spruce found here are typical of the Boreal Forest Region. The white pine, red pine, maple and yellow birch are more typical of the Great Lakes-St. Lawrence Forest Region.

Fire is one of the key elements in the development of both the Boreal and the Great Lakes-St. Lawrence forests. Historically, fire has played an important role in the ecology of the forests. It is a natural force that sustains the cycle of growth, death and regrowth upon which the forest is built. Forests and fire are linked in an irregular sequence of alternating fire disturbance and regrowth that repeatedly rejuvenates the forest, maintaining long term ecosystem diversity and stability.

Wildlife species found in the area are typical of the transition zone between the Great Lakes-St. Lawrence and the Boreal forest. Species include beaver, river otter, pine marten, gray wolf, great blue heron, common loon, as well as large mammals such as moose, white-tailed deer and black bear.

The variable landform of the Temagami area has provided a variety of fish habitats. Species inhabiting the area include walleye, perch, lake trout, speckled trout as well as large and smallmouth bass. Of particular note is the endangered aurora trout, a variant of the brook trout, which is unique to the Lady Evelyn-Smoothwater area. Major water bodies in the region include Lake Temiskaming/Ottawa River, Lake Temagami, Lady Evelyn, Smoothwater, Obabika, Rabbit and Anima-Nipissing lakes.

To the area's first inhabitants and stewards of the land, the Teme-Augama Anishnabai, Temagami is part of *Daki Menan*—their traditional territory (Figure 11). Native people have inhabited Daki Menan for over six thousand years and continue to occupy and use the area today. While permanent residents of these communities tend to be concentrated in reserves on Bear Island on Lake Temagami and Matachewan on the Montreal River, others live "away" in larger population centers throughout Ontario. It should be noted that, regardless of where they live, the First Nation communities continue to have a strong physical and spiritual tie to the land.

Temagami has been a destination for canoe enthusiasts for a century. Its rugged country encompasses over 2,400 km of canoeable waterways ranging from large lakes and meandering streams to fast-flowing rivers. In spring, moderate whitewater conditions offer a challenge to those eager to test their paddling skills.

Approximately 80% of the area's waters travelled by canoe lie outside of the five parks. Similarly, a major portion of the area's over 1800 known campsites lie outside of provincial parks. The extensive flow of backcountry travel into and out of the parks through the surrounding conservation reserves and Crown land is a unique characteristic of recreation in the Temagami area; it also offers a unique challenge for managing the protected areas and adjacent Crown land in a consistent manner.

2.2 Population Centres[4]

There are no communities or settlements within the core protected areas; however, a significant number of communities lie within or near the Crown land recreation planning area (Figure 1). While Temagami area users come from many locales, residents of the following communities utilize the area for social, economic and recreational purposes:

- Bear Island Reserve(153)[5]
- Cobalt (1,229)
- Coleman Township (550)
- Elk Lake (Township of James) (467)
- Latchford (363)
- Township of Matachewan (453)
- Matachewan Reserve (55)[6]
- Temagami (893)
- Temiskaming Shores (10,487)
- West Nipissing (13,114)

North Bay (metropolitan population 55,209) lies 90 km to the south and one hour by road from the town of Temagami. It is the nearest major urban centre to the Temagami area and is a regional centre for industry, services, shopping, recreation, education and transportation. Lying at the junction of Highways 11 and 17 as well as rail lines, North Bay is considered the "gateway" to the Northern Ontario.

The City of Greater Sudbury (metropolitan population 155,219) is the largest urban centre in Northeastern Ontario. The town of Temagami is a 2-hour drive (175km) to the northeast. Indirect access to the southwestern portion of the Temagami area is via regional and forest access roads heading north from Sudbury.

2.3 Access and Transportation Routes

The core protected areas lie approximately 45 straight-line kilometres to the west of Highway 11. This major north-south corridor links the Temagami area to the vast population centres of southern Ontario and the northeastern United States. Roughly paralleling the highway to the east is the Ontario Northland railway line, which offers passenger transport between North Bay, Cochrane and Moosonee on James Bay. Historically, Temagami was a drop-off point for recreationists arriving by rail.

Lying approximately 50 straight-line kilometres to the south of the area, Highway 17 is the main east-west corridor across the province, linking the centres of Sudbury and North Bay with Sault Ste. Marie to the west. To the east, Highway 17 links to the major population centres of Ottawa/Hull as well as the populated regions of Eastern Ontario and Western Quebec.

Both highways 11 and 17 are designated as part of the Trans-Canada Highway, and intersect at North Bay.

At a more local level, the protected areas are accessed from all directions by a variety of means:

North: Highways 560 and 562 provide access to the Elk Lake area. From here, forest access roads extend southward toward Lady Evelyn-Smoothwater Provincial Park. The Beauty Lake Road provides

4. Information derived from Statistics Canada 2001 community profiles.

5. Bear Island is a one-square mile (293 hectare) Indian Reserve located near the center of Lake Temagami. There are 153 people residing on the reserve, with an additional 400 people living off of the reserve.

6. The Matachewan First Nation has a current band membership of 495 people. While only a small number (approximately 55) currently live on the reserve, the majority of band members live within their traditional areas in the District of Temiskaming and along the Montreal River. Others live throughout Ontario and other parts of Canada.

access to the Montreal River. Also from the Beauty Lake Road, the former Liskeard Lumber Road provides restricted access south through the park. To the east of Makobe-Grays River Provincial Park, the Cooke Lake Road provides access to areas immediately north of Lady Evelyn-Smoothwater. Extending beyond the roads, a number of interim or unofficial trails are used by snowmobiles and all-terrain vehicles (ATVs) to access areas within the parks as well as Smith Lake and Makobe Grays Ice Margin conservation reserves.

East: Lady Evelyn-Smoothwater and Obabika River parks, as well as East Lady Evelyn Lake and Sugar Lake CRs are accessed from Mowat Landing on the Montreal River at Highway 558 and then by water via upper Lady Evelyn Lake. Water access from the east is also possible through several access points on Lake Temagami, which can be reached from Highway 11.

South: Highway 805 provides restricted access to Obabika Lake. Existing forest access roads provide all-terrain vehicle access further northward into the planning area to points along Obabika River and Sturgeon River parks.

Southwest: The Portelance Road and a further network of forest access roads run northward from Capreol and Lake Wanapitae to points along the Sturgeon River and into North Yorston Conservation Reserve.

By Air: Private and commercial aircraft presently access most of the major water bodies within the parks and CRs for fishing and other recreational purposes. Three commercial operators provide fly-in services into the parks and surrounding areas. Access by floatplane can quickly put a canoeist or angler into the interior of the parks, thus eliminating several days of paddling.

Access to Crown land recreation areas includes the means listed above, with the majority of access occurring from the Highway 11 corridor. Highways 558 and 567 provide access to Mowat Landing on the Montreal River and areas along Lake Temiskaming respectively. Vehicular access to Crown land away from the main highway corridors is possible along a network of forest access roads. Roads and trails extending from the forest access roads are numerous and provide opportunities for more remote recreational experiences.

2.4 Land Tenure

Crown lands make up almost 96% of the land in the Temagami area, with only a small portion held in private ownership. There are several types of occupational authority that are issued under the Public Lands Act for Crown lands in Ontario. The most common types of occupational authority are *Land Use Permits* (both private and commercial) and *License of Occupation*.

In total, there are 194 land use permits issued in the Temagami area (parks, conservation reserves and unregulated Crown land). Land use permits are issued for a variety of land uses, some of which are not relevant to this planning process (e.g., sewage lagoons, mine tailings, extraction, etc.). Over half the land use permits are associated with recreation and outpost camps. Land use permits have also been issued for water-based activities (e.g., access point, boathouse, dock, marina, seaplane base) as well as trails and facilities associated with horseback riding, snowmobiling, skiing and commercial sled dog operations. A number of these are shown in Figure 4.

Occupational authorities also exist for industrial land uses as well. In the Temagami area there are 388 active mining leases and five mining licenses of occupation. There are also licenses of occupation for flooded lands associated with hydro development.

Land tenure within the protected areas is described in more detail below. Current provincial park policy allows for the continuation of private (i.e. recreation camp) land use permits within parks only until December 31, 2009. In conservation reserves, existing outpost and private recreation camps are permitted to continue; however, new camps are not permitted.

Beyond the modern-day concept of land tenure, it is important to note the area's First Nations ongoing relationship with the land. Daki Menan is the ancestral homeland of the Teme Augama Anishnabai. While present day use is centered on Bear Island in Lake Temagami, it is anticipated that once the TFN Membership ratify the agreement, 127 sq. miles will be Reserve lands, with a mainland community site in the Shiningwood Bay area. There are 14 traditional family territories spread across Daki Menan (Figure 11). The final settlement will provide for each of the Traditional Families to choose a parcel of land (of up to 150 acres per family), throughout Daki Menan—some of these may be in Parks and CRs while others are on Crown land. If traditional families choose not to select an area, that amount of land will be added on to the proposed Reserve near Guppy Lake.

To the north, residents of the Matachewan First Nation share similar strong ties to the Temagami land base. While this settlement lies outside of the planning area, there are strong historic and present-day ties to the lands considered within the planning process.

2.4.1 Provincial Parks

Lady Evelyn-Smoothwater: This wilderness class park contains four land use permits and one parcel of patented land.

There are three mining leases in Whitson Township, located one kilometre north of Anvil Lake along the park boundary. Two of these leases grant mineral rights only; a third lease grants both surface and mineral rights. Immediately adjacent to the park, in Whitson and Van Nostrand townships, there are 17 mining leases.

Makobe-Grays River: There are no occupied, leased or alienated lands within this waterway park.

Obabika River: This waterway park contains seven land use permits (including one commercial outpost camp), one trapper's cabin and eleven parcels of patented land.

Ontario Power Generation (previously Ontario Hydro) holds a licence of occupation (LO 7458) for the flooding rights to Lady Evelyn Lake from Mattawapika Dam and covers the townships of Leo, Medina and Dane. It gives Ontario Power Generation the right to flood to an elevation of 948.6 feet above sea level.

There are thirteen mining leases in Delhi Township, located just outside but adjacent to the park boundary, on the southeast shore of Wakimika Lake.

Solace: There are seven recreational land use permits and one trap cabin within this waterway park.

Sturgeon River: Three land use permits and three trap cabins are located within the boundaries of this waterway park. Numerous mining claims have been staked in Turner and DeMorest townships; the western edge of these blocks approach within 250 metres of the Sturgeon River in both townships.

2.4.2 Conservation Reserves

Conservation reserves in the planning area are remote and have little development. Trap lines and bear management areas (BMAs) are found in all the conservation reserves with the exception of Sugar Lake CR that has no BMA. North Yorston and Bob Lake CRs both have a trap cabin. Sugar Lake CR has three land use permits for private recreation camps. East Lady Evelyn Lake CR has only one land use permit in its boundaries but there are a number of tourist lodges and cottages on private land on Lady Evelyn Lake. No forms of occupational authority have been issued for Jim Edwards Lake, Pinetorch Lake and Smith Lake CRs.

2.5 Existing Land Use and Development

The Temagami area accommodates a wide range of land uses; however, industrial activities such as forestry, mining, hydroelectric development and aggregate extraction are prohibited within the protected areas. The entire Temagami area is utilized by recreational users but there are some general differences between recreation in and near the core protected areas versus

Crown land. Recreational use in the core protected areas is typically more "remote" and water-based: with fewer roads or trails within the protected areas, the most common form of access is by water from adjacent Crown land. Recreation elsewhere is more suitable for motorized recreational users because of road access. Of course, there are a variety of experiences to be found in the Temagami area considering the large area and sparse population (Figures 4 and 12).

Traditionally, Native people's use of the land and its resources revolved around the cyclical patterns of the seasons and movement across the land with these cycles. Various activities were performed at different locations; the availability of resources dictated the movement of people, their areas of use and habitation.

Living close to the subsistence level, Native people existed within the ecological limits of their environment. As such, a complex system of conservation was in place which ensured the sustainability of the environment. It also entailed the respect of other people and creatures sharing the land.

Present day use by the First Nations is ongoing; communities use the land for ceremonies, teachings, gathering and subsistence which combines traditional and modern means. A number of businesses are owned by First Nation communities or by individual members. Not surprisingly, a number of these businesses are related to the forestry and tourism industries. Wage-based economic benefits are in short supply; it is anticipated that future economic development will also benefit these communities.

Historically, the richness of the Temagami area provided for all of the needs of the Anishnabae; hunting, fishing and gathering are still important activities for local First Nation residents. These activities are conducted not as "sport" or "recreation", rather as an important supplement to their existence and a cultural tie to the land.

2.5.1 Protected Areas

Most of the current land use within the five parks and eight CRs is associated with backcountry recreation. Facilities and users within the recreation and tourism sector include:

- lodges, resorts
- outfitters
- outpost camps
- boat caches
- wilderness canoeists
- youth camps
- commercial fly-in operators
- anglers
- hunters
- private camps and cottages.

The CRs and parks form a major part of an extensive system of canoe routes totalling more than 2,400 kilometres. Increasing numbers of canoeing parties use the protected areas and the adjacent Crown lands throughout the summer months, and to a lesser extent, the shoulder seasons of late spring and early fall. As visitation pressures increase at other large parks such as Killarney and Algonquin, which are closer to major urban centres, backcountry recreational demand in the Temagami area is likely to continue to increase.

A high proportion of the canoeist traffic is associated with youth camps, predominantly those located on Lake Temagami. These camps have a long history in the Temagami area, and many groups still travel using traditional methods. As demand at other parks increases, youth camps from Southern Ontario are beginning to use Temagami routes on an increasing basis.

Sport fishing is a popular activity throughout the Temagami area. Within the parks and CRs, the greatest angling activity occurs on lakes that are readily accessible by motor boat. These include Lady Evelyn and associated lakes such as Sucker Gut and Willow Island, as well as Obabika and Wakimika lakes. To the northwest, Smoothwater Lake is also accessible by boat via the upper Montreal River.

Sections of the North Lady Evelyn River that are accessible by boat via the Liskeard Lumber Road also receive relatively high angling use. In addition, there are a number of boat caches located throughout the five parks, most notably at Makobe, Grays, Trethewey and Diamond lakes, as well as various locations along the Sturgeon River. A number of these caches are associated with commercial tourist operations, such as lodges, outfitters or fly-in operations. Boat caches will be addressed during this planning process.

Winter fishing activity occurs on those lakes that are accessible by snowmobile. These include most of the lakes mentioned above, which are accessible by boat. Snowmobile access also occurs along a number of forest access roads that are closed to vehicular travel during the non-winter months.

Provincially designated TOPS snowmobile trails cross both Sturgeon River and Obabika River provincial parks. To the north, the A206 trail connects the TOPS trail system to Long Point Lake and the community of Elk Lake. Designated as an interim trail, pending review in park management planning, this route runs through Lady Evelyn-Smoothwater Provincial Park to the east of Ishpatina Ridge. The route utilizes a series of traditional canoe portages that link Scarecrow, McCullough, Apex and Smoothwater lakes.

Industrial land uses such as timber harvesting, mining and hydroelectric development are not permitted by policy within wilderness and waterway parks, nor are they permitted in conservation reserves. A number of active and inactive forest access roads do, however, cross the waterway parks and CRs, or lie in close proximity to their boundaries.

The Liskeard Lumber Road, a former forest access road, presently extends through the centre of Lady Evelyn-Smoothwater Provincial Park. No longer used for industrial purposes, it is presently used by anglers and canoeists accessing the Lady Evelyn River system. It also offers access to areas south of the park for hunting. Hunting is not permitted within the wilderness class park, Lady Evelyn-Smoothwater Provincial Park. To the northeast, the Cooke Lake road runs to the boundary of the wilderness park.

2.5.2 Crown Land

Much of the recreational land use which occurs in the protected areas also occurs on the unregulated Crown lands in the Temagami area. As noted previously, the entire area is renowned for its backcountry canoeing opportunities. Sixty percent of this use occurs on Crown land. In addition to canoeing, there are a number of other non-motorized activities which occur. These include snowshoeing, cross country skiing, dog sledding, horseback riding, mountain biking and hiking.

Motorized travel includes access by two and four wheel-drive vehicles, boats, all terrain vehicles and snowmobiles. Vehicle traffic is by paved highways and forest access roads. The larger lakes are typically accessible to motor boat traffic while a number of the smaller, less accessible lakes contain boat caches which are accessible by foot or by air. A number of boat caches are associated with commercial tourist operations such as lodges, outfitters or fly-in operations.

All terrain vehicle (ATV) use typically follows roads and trails. Snowmobile access occurs on lakes, trails, and along a number of forest access roads that are closed to vehicular travel during the non-winter months, such as the Red Squirrel Road. Provincially designated T.O.P.S. snowmobile trails run through the planning area—north-south from North Bay to Temiskaming, and east-west from Lake Temagami to Sudbury.

Game species in the planning area include moose, black bear, white-tailed deer, ruffed and spruce grouse, snowshoe hare, woodcock and various waterfowl species. The majority of hunting activity occurs in areas accessible by main roads, forest access roads and by water on the larger lakes. Hunting also takes place from a number of private and commercial camps. Hunting is permitted with the exception of the Nipissing Crown Game Preserve. Trapping has been an important activity in the local economy since the early days of the fur trade. Species harvested include beaver, mink, marten, fisher, muskrat, red fox and river otter.

Sport fishing is popular throughout the Temagami area, which includes approximately 2,400 lakes and 1500 km of rivers and streams. The majority of angling activity is concentrated in accessible areas such as along the Highway 11 corridor, the Temiskaming Shores area, Lake Timiskaming, Lady Evelyn Lake and Lake Temagami. The Temagami area supports both warmwater and coldwater fish species (Figure 10). Baitfish harvesting also occurs.

Cottaging is a popular land use that coincides with the abundance of lakes in the Temagami area. On Lake Temagami, virtually all cottage development has historically occurred on islands to restrict the potential spread of wild fire to the mainland. Many of the cottages are used exclusively in the summer months while others are year-round residences.

Many visitors to Temagami stay in lodges in conjunction with recreational activities such as angling, hunting and scenery appreciation. These lodges, and associated outpost camps, are located throughout the Temagami area and are typically accessed by land, water or by air for more remote outpost camps.

Forestry plays an important role in the local economy. Forestry activities on Crown land include harvesting, site preparation, tree planting, tending and road building. The majority of the area is comprised of the Temagami Management Unit; however the small area within the Kirkland Lake District is part of a Sustainable Forest License held by the Timiskaming Forest Alliance Inc. The Temagami Management Unit (TMU) is currently administered by the Ministry of Natural Resources and is one of the last Crown managed forests in Ontario. The TMU provides wood fibre for 13 mills and has a sustainable harvest volume of approximately 250,000 m^3 per year.

Part of the planning area lies in the Sudbury Forest Management Unit and is managed by the Vermillion Forest Management Company under a Sustainable Forest License. The Sudbury Forest encompasses the southwestern corner of the planning area and is bounded approximately by Lady Evelyn Smoothwater Park and Pinetorch Conservation Reserve to the north and Obabika River Provincial Park to the east. Mining has played a significant role in the local economy. Surface and mining rights in the form of claims and leases are located throughout the area; although there are currently no operating mines, mineral exploration is active throughout the Temagami area (Figure 4). Aggregate extraction also occurs and it provides resources for roads and other construction activities.

The “Little Clay Belt” at the north end of Lake Timiskaming supports agricultural activities.

Hydroelectric development includes dams on the Montreal and Matabitchuan rivers. There are four hydro-electric generating facilities on the Montreal River as well as five control dams. The Matabitchuan River supports one electrical generating facility and three water control structures. The majority of the generating stations were built in the period 1910-1923 to supply electricity and compressed air to local mining operations.

Some major lakes serve as “reservoir” lakes for power generation further downstream; Lady Evelyn Lake is controlled by the Mattawapika Dam, while the water levels of Lake Temagami and Cross Lake are controlled by the Cross Lake Dam.

3.0 Social and Economic Context

The Temagami area has always relied on the riches offered by its natural resources. Industrial activities such as mineral exploration and mining, forestry and hydro-electric power generation have played significant roles in developing the area's economy. While the local mining and forestry industries have each suffered downturns (there are currently no operating mines in the area and a number of the local mills have closed), they continue to play an important role in the area's economy.

The socio-economic context is described by 2001 Statistics Canada census data for the Timiskaming-Nipissing federal riding. This federal electoral area is fairly representative of the Temagami area in that it includes the communities of Timiskaming Shores, Temagami and North Bay. The electoral area also includes the communities of Mattawa and Powassan. It does not include the communities of Sturgeon Falls or Sudbury which are located in the adjacent riding of Nickel Belt.

The total population, from the 2001 census, is 89,890, of which 51.6% are female and 48.4% are male. The mother tongue is English for 75.4% of the population, French for 18.1% and 3.0% for other languages. The portion of the population that identified themselves as Aboriginal is 4,385, or 4.9%.

For those 15 years or older the highest level of education attained for the population is: less than high school (29.9%), high school and/or some postsecondary (25.1%), trades certificate or diploma (12.4%), college certificate or diploma (17.3%), and university diploma or degree (11.9%). The labour force participation rate is 61.7% with an unemployment rate of 7.9%. The average individual income is $26,931 and the average household income is $51,528. Employment participation by occupation is described in Table 3.

Table 3: Timiskaming-Nipissing Labour Force by Occupation

Occupation category	Percentage of labour force
sales and service	28.1%
trades, transport, and equipment operators	16.9%
business, finance and administrative	16.2%
management occupations	11.1%
social science, education, government service and religion	8.6%
health occupations	6.1%
natural and applied sciences	4.8%
processing, manufacturing and utilities	3.8%
primary industry	2.5%
art, culture, recreation and sport	1.8%

Source: Statistics Canada, 2001

Temagami and Matachewan First Nation members are employed in a wide variety of occupations including forestry, mining, transportation, construction, social service work and administrative positions. A large majority of First Nation community members rely on seasonal employment and economic opportunities related their traditional land base.

4.0 Natural Resource Inventory

4.1 Climate

Lying at latitudes between 46º and 48º North, Temagami is part of the Humid Low Boreal (LBh) Ecoclimatic Region. The region is characterized by a modified continental climate, with long, relatively dry winters and warm to hot, and at times humid, summers. Modified continental refers to a climate moderated by the influence of large water bodies such as the Great Lakes.

In winter, the continental polar airmasses from the north dominate, and cold temperatures prevail. In summer, tropical airmasses from the south and southeast dominate and warm weather prevails. Thus, wide seasonal ranges in temperature must be expected throughout the region. Precipitation is common throughout the year since the area lies in a frontal zone where north and south air masses meet. Contrasts in airmasses result in strong frontal activity and highly changeable weather.

The mean annual precipitation for the Temagami area is 862.9 mm. Monthly precipitation ranges from 50 to 100 mm, with maximums occurring in summer. In the winter period, the mean annual snowfall is 252 cm.

Warmer-than-normal microclimates occur on high, bare, exposed bedrock knolls and ridges, as well as on the coarse sands and gravels of the higher glaciofluvial landforms and on broad sand plains. Dry and very dry moisture regimes characterize these sites. Colder-than-normal microclimates are associated with swamps, low-lying basins and the steep north-facing slopes of the diabase uplands. Normal sites have a minimal influence on climate and are typified by the variable, rolling terrain found throughout much of the Temagami area.

4.2 Topography

Topography is the surficial expression of underlying materials (bedrock) transformed by natural forces (erosion and deposition by wind, water and ice) to create the contours and features we see today. In conjunction with climate, these forces of erosion and deposition have created the soils, drainage patterns and bedrock elevations that we see in Temagami today.

The rugged terrain of the Temagami area is comprised of a backbone of Precambrian bedrock partially overlain by a thin veneer of unconsolidated Quaternary materials including sands, gravels and till primarily of glacial or post-glacial origin. (See Figures 5 and 6 for an overview of Temagami's bedrock and surficial geology).

Many outstanding landforms are represented throughout Temagami. In the west-central portion of the area, Precambrian bedrock rises to a broad central highland which includes the highest point in Ontario—Ishpatina Ridge (693 m above sea level). This highland drains northward to the Montreal River, eastward to Lake Timiskaming and southward to Lake Nipissing.

Viewing a contour map of the Temagami area, one cannot help but notice a series of prominent linear valleys formed by a series of weathered and glacially eroded faults. These geological structures, more than anything else, have defined the landscape, the watercourses—and the human history—of the area. The original inhabitants developed a network of winter trails and summer portages along these paths of lesser resistance. Aboriginal peoples used these routes to access hunting territories for over 6,000 years. Today's canoeists follow many of the same routes that have been in use for millennia.

4.3 Bedrock Geology

The Temagami area lies on the Canadian Shield, a landform formed of the Precambrian rock which underlies most of Canada at surface or at depth. These are some of the oldest rocks on earth.

There are three major bedrock age groups represented in the Temagami planning area. The oldest rocks are Archean in age (early Precambrian, in excess of 2,500 million years). They are found in only a few small segments of Solace and Sturgeon River provincial parks.

The bedrock in the protected areas consists almost exclusively of clastic metasediments of the Huronian Supergroup deposited between 2,500 and 2,200 million years ago. These metasediments are locally intruded by sheets, dykes, and plugs of Nipissing Diabase, formed circa 2,160 million years ago. Lower units of the Huronian Supergroup—the Mississagi, Bruce, Espanola and Serpent River Formations—are exposed in the southwest part of the area near the Sturgeon River. Elsewhere over the greater part of the area, tillites, conglomerates, and sandstones of the overlying Gowganda and Lorrain Formations comprise the bedrock. Overlying these can be found the siltstones and sandstones of the Gordon Lake and Bar River Formations.

These sedimentary layers were later intruded by numerous large bodies of mafic magma, which crystallized to form a group of gabbroic rocks known as the Nipissing Diabase. Geological processes associated with cooling and crystallization of the diabase resulted in formation of the silver deposits in the area. These rich deposits provided one of the principal stimuli to the increased settlement and development of the Temagami area.

In the period from 2,100-1,800 million years ago, the rocks of the Southern Province were metamorphosed and deformed to varying degrees. In the western portion of the planning area a range of structures from broad gentle folds to more complex folding and faulting are the principal determinants of surface topography. Bedrock geology creates the rugged terrain found in and adjacent to Lady Evelyn-Smoothwater and the nearby waterway parks.

The area immediately west and north of New Liskeard is underlain by much younger Paleozoic limestones which lie unconformably (an interrupted geological sequence) on Huronian age sediments, and which are remnants of what was once much more extensive cover. These are the only Paleozoic rocks found between Manitoulin Island and the James Bay lowlands.

Bedrock geological features of interest found within the protected areas include the following:

Maple Mountain Mafic Dikes: Early Precambrian dikes occur within the Maple Mountain area. They consist of multiple sites, are often very narrow (maximum width 30m) and do not usually exceed 1000m in length.

Maple Mountain, Huronian Lorrain Formation: Rocks of the Lorrain Formation are exposed on the eastern flank of Maple Mountain. A vertical section here represents 260+m of Lorrain lithologies, primarily from the middle green sandstone unit.

McGiffin Lake Exposure, Huronian Bar River Formation: Only outcroppings of the Bar River Formation in the Temagami area. Lithology is exclusively pink and white quartz arenite which preserve in situ ripple marks, showing original sedimentary surfaces.

Smoothwater Lake, Multiple Precambrian Lithologies: Multiple geological units are exposed including Nipissing Diabase, Gordon Lake and Lorraine formations.

Makobe River, Fault Contact: Lorraine and Gowganda formations; exposure of very fine-grained Nipissing Diabase. Occurrences of specular hematite.

Obabika River Exposures, Gowganda Formation: Greywacke and conglomerate of the Gowganda Formation occur as outcrops along the Obabika River.

Wakimika Lake Exposures, Sudbury Breccia: A band of Sudbury-type intrusive breccia occurs here, caused by the Sudbury Basin meteorite impact over 90 kilometres to the southwest.

Solace Lake, Archean Felsic Pluton: Exposure of a marginal zone of Archean felsic intrusive body. Lithologies include quart monzonite, grandiorite and granite.

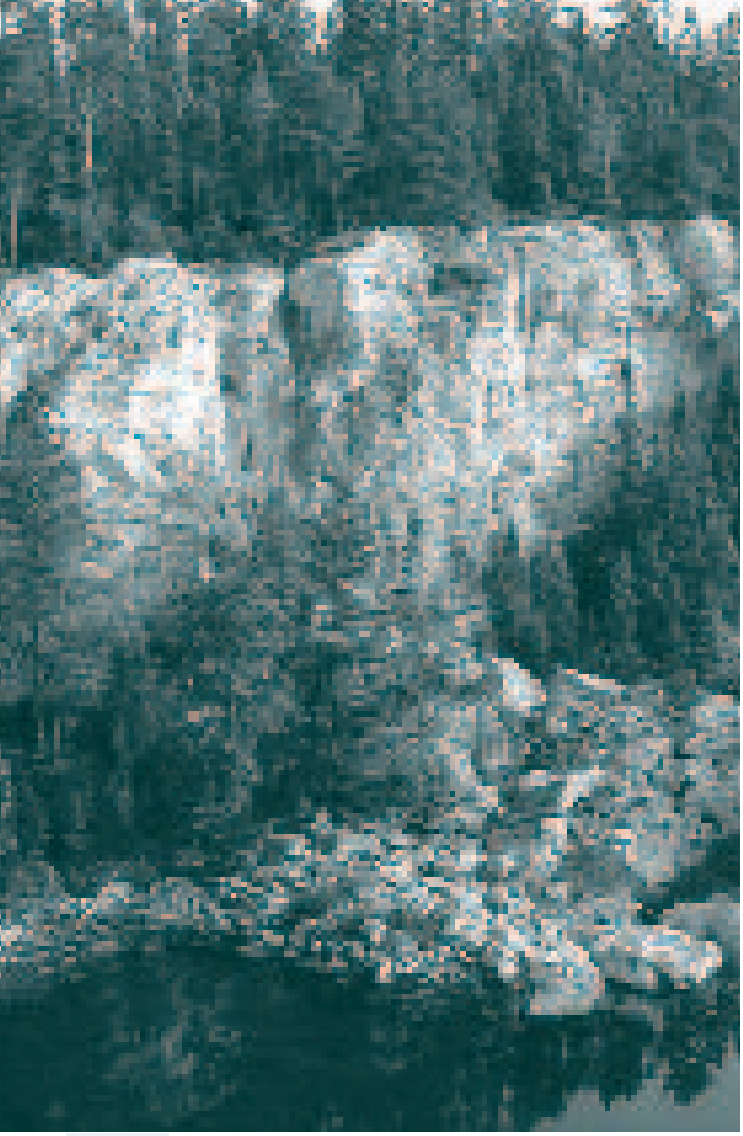
Solace Lake, Pre-Huronian Unconformity: Exposure of pre-Huronian sub-Gowganda unconformity. Basal Gowganda includes boulders derived from Archean basement granite.

Sturgeon River, Exposure of Huronian Formations: Three formations which are exposed in the northeast corner of DeMorest Township represent one of the few exposures of these formations in the Temagami area, and the only exposure within park boundaries. These are: the Bruce Formation—primarily polyonictic paraconglomerate; the Espanola Formation—primarily siltstone, limestone and greywacke; and the Serpent River Formation—primarily sandstone and calcareous, massive siltstone.

Pinetorch Lake Conservation Reserve: Lorrain Formation quartz arenites are exposed in spectacular white cliffs. In addition there are a number of "blue-water" ponds that are regionally significant. These indicate the presence of marl, a calcareous clay usually formed in lakes from groundwater.

Jim Edwards Lake and North Yorston Conservation Reserves: Regionally significant terrain of cliffs and valleys from the Lorrain Formation.

Smith Lake Conservation Reserve: Although small, this CR encompasses a rugged bedrock-dominated terrain of domes and valleys with extensive bedrock exposure in cliffs and along the shorelines of Lulu and Smith lakes. Bedrock consists primarily of quartz arenite (quartzite) of the Lorrain Formation. This is well-exposed in the cliffs of the CR, showing some structural elements such as bedding. Diabase dikes of the Nipissing Diabase and Sudbury Dike Swarm are also present.



4.4 Surficial Geology

The majority of the landform features we see today are the result of relatively recent glacial activity (Figure 6). The Temagami area was repeatedly glaciated over the past two to three million years. During this time, many major episodes of glaciation have occurred, with the most recent period being the Late Wisconsinan, which retreated from the Temagami area for the last time approximately 10,000 years ago. This last ice age produced an ice cap originating in northern Quebec, from where it spread into the Hudson Bay Basin and spread radially outward across Ontario. The ice sheet was estimated to have a maximum thickness of three to four kilometres.

Temagami's landscape is a reflection of the erosion and deposition processes associated with the advance and retreat of the Late Wisconsinan glaciers. Uplands were scoured bare, while in lower areas, depositional features include eskers and outwash plains. Lacustrine sands, silts and clays found in the area were deposited in numerous glacial lakes and ponds, primarily related to glacial Lake Barlow-Ojibway.

Some surficial features of interest within the protected areas include:

Willow Island Creek Outwash Complex: Valley train deposits south from Skull Lake represent one of two outlets of glacial Lake Barlow-Ojibway. This complex includes esker, kame and outwash sand deposits. Postglacial dunes are found near Willow Island Lake on these deposits.

McGiffin Township DeGeer Moraine: Features developed on well-drained sandy outwash materials reflecting the local periodic retreats of the ice sheet resulting in sequential moraine ridges.

McCullough Lake Kettled Outwash: Distinctly kettled outwash with associated beaded esker; lacustrine plain occurs to the east end of the lake.

Florence Lake Lacustrine Features: Representative recent lacustrine features. These include gravel and sand beaches, sand spits and a tombolo (a sand bar which joins an island to the mainland).

Trethewey Township Ground Moraine: Drumlinoid rock ridge with associated sandy glacial till; representative of sandy/sandy loam ground moraine tills in the area.

Stonehenge Mass Wasting and Lag Rock: Numerous large blocks of locally weathered bedrock with downstream rock more rounded. The accumulation of blocks at this site is a striking example of bedrock weathering that occurs throughout the area. This occurrence is accentuated because of the proximity to the river and a falls which has resulted in reworking and a lag effect possibly due to higher waters in glacial drainage.

Helen Falls: Headwater fluvial system of rapids and waterfalls linking small lakes. Shingle scree, located along Lady Evelyn River North Channel.

Shangri-La Cataracts: Crest of waterfall is "armoured" by boulders. This natural damming resulted in the formation of Stonehenge Lake to the north. A series of rapids follow the Dry Lake fault. Potholes formed above the crest of the falls are indicative of the high velocity fluvial channel typical of the North Branch of the Lady Evelyn River.

Lady Evelyn River Canyon: A narrow (20 m width) bedrock gorge 30 m deep, with talus slopes, funnels the waters of the South Channel, Lady Evelyn River.

Sunnywater Lake: This deep lake (60 m) contains clear, azure-blue water with Secchi disc readings to 18 m. The lake's coloration is likely due to a marl clay bottom.

Temagami Headwater Lakes (Whirligig, Whitepine and Little Whitepine lakes): Oligotrophic headwater lakes formed on stony coarse loamy ablation tills. Low pH, low conductivity, low alkalinity and teal blue colour. Sensitivity due to water quality/pH; natural range of endangered Aurora trout.

Lady Evelyn River Potholes: Distinct potholes 1-1.3 m deep, 3 m in diameter, occurring along the narrow South Channel of the Lady Evelyn River.

Makobe River Terraces: Distinctive gravel river terrace on small channel east of Alexander Lake. Abandoned dry gravel channels formed on lower terrace west of river, maintained during flooding.

Lady Evelyn Lake Moraine: Sand, gravel and boulder ridge moraine at SE end of Lady Evelyn Lake and north of Lake Temagami; hummocky terrain marks ice front position during the retreat of continental glaciers.

Obabika River Meanders: Represents a low-energy fluvial system developed in deep coarse glaciofluvial deposits. Good examples of alluvial deposits and varved clays, oxbows and meander scars.

Sturgeon River Misfit Stream: Underfit river in a large outwash channel with evident terraces. Plunge pools, waterfalls, scour features and other fluvial features along southern portion of Sturgeon River Provincial Park.

East Lady Evelyn Lake: The East Lady Evelyn Lake Conservation Reserve contains excellent examples of eskers, kettles and kames associated with broad glacial outwash plains. The esker-kame system with associated dune complexes are provincially significant earth science features.

Makobe Grays Ice Margin: A well-developed end moraine which for most of its length is represented by a single, relatively continuous, sinuous end moraine ridge. Provincially significant.

Makobe-Banks Bedrock Streamlined Forms: Several large, bedrock headlands were sculpted opening to the north when sub glacial meltwater erosion coursed through the area. This provincially significant surficial feature is representative of glacial water sculpted rock. The feature occurs in line with a subglacial meltwater system, the Makobe site being mid way in the region where these occur between Lake Abitibi and Georgian Bay.

Post glacial weathering has produced rock debris slopes and talus in some locations. These occur associated with bedrock ridges and rock slopes (e.g. Lady Evelyn River canyon, Maple Mountain east face).

4.5 Soils

The Temagami area lies, for the most part, on the Cobalt Plate of the Canadian Shield's Southern Province. The predominant bedrock is ancient, resistant to decay, acidic and nutrient poor. Soils here generally consist of Pleistocene deposits of the Wisconsinan glacial event. Advances and recessions of the glacial ice resulted in bedrock scouring and sculpting, with the deposition of glacial tills and ground moraine overlying bedrock.

Areas of exposed bedrock are common. The little soil that does exist in upland areas consists of sands, gravelly sands and bouldery sands. In localized areas, a thin humus layer has developed. On better mesic sites, the soils consist of weakly developed podsols or brunisols. Peat deposits have developed in small basins and some extensive peatlands exist within the area. The northeastern corner of the area is comprised of massive clays and lacustrine silt. The soils in this area are the remnants of a glacial lake and support agricultural activity in the areas around New Liskeard. In the majority of the Temagami area, the soils that have developed are thin, acidic and low in nutrients, but are productive for typical boreal tree species.

4.6 Flora

Ontario's rich natural diversity is divided into 14 *ecoregions*, which represent areas of similar climate, mainly temperature and precipitation patterns. The regions are further subdivided into 71 *ecodistricts*, each based upon characteristic patterns of physiographic features. The Temagami area is located within *Ecoregion 4E (Northern Conifer-Hardwood Forest Ecoregion)*, which is characterized by a dry-humid, warm-boreal forest climate type. The region is further divided into four ecodistricts; each distinguished by a characteristic physiographic pattern.

Most of the Temagami area—including all of the protected areas—is located in *Ecodistrict 4E-4 (Temagami)*, with small portion in the northeast lying in *Ecodistrict 4E-5 (New Liskeard)*. The entire area is in the transition zone between the Boreal and Great Lakes-St. Lawrence forest regions. Vegetation site types range from cliffs and rock barrens to upland coniferous, mixed and deciduous forests to bogs, fens and aquatic communities. This ecodistrict is well known for its remaining stands of old growth red and white pine ecosystems.

Lying at the junction of two different forest regions, one might presume that the flora here might be quite diverse. This is, however, not the case because the transition forest shares more similarities than differences with the boreal forest and is thus more boreal in nature. Most of the Temagami area consists of nutrient-poor till soils overlaying sandstone bedrock. This has a limiting effect on ground cover plant diversity due to the lack of available nutrients and the generally acidic nature of the soil.

Major Boreal Species

Boreal forest species are the most wide-ranging here, however, their primary range is generally north of the Temagami area. The following include common tree, shrub and ground cover species occurring in the southern portion of their range:

Black Spruce
Poplar species
Jack Pine
Dwarf Raspberry
Leatherleaf
Stunted Sedge
Labrador Tea
False Solomon's Seal
White Birch
Balsam Fir
Mountain Alder
Sheep Laurel
Two-seeded Sedge
Three-fruited Sedge
Lesser Pyrola

Major Great Lakes-St. Lawrence Species

These forest species are often found on warmer-than-normal sites or protected locations such as at the base of talus slopes. At this latitude, these species may be near the northern edge of their range. They include:

Sugar Maple	Yellow Birch
White Pine	Red Pine
Red Oak	Black Chokeberry
Winterberry	Alternate-leaved Dogwood
Pipissewa	Round-leaved Dogwood
Large Cranberry	Mountain Holly
Steeplebush	

Typical forests of this transition area are of mixed composition with white birch, white spruce, black spruce, jack pine, white pine and balsam fir dominating the canopy. Jack pine, red pine, and black spruce dominate thin-soiled ridges, while deep, well-drained sand and gravel deposits are often dominated by red and jack pine alone (Figure 7).

Nutrient-rich fresh and well-drained sites with deep soils contain stands of sugar maple and yellow birch along the southern portion. Jack pine and black spruce cover sandy till soils. Organic, poorly drained soils are covered by black spruce, tamarack, and white cedar and black ash in warmer sites.

4.7 Vegetation Communities

A variety of vegetative site types are found in the Temagami area, ranging from aquatic to cliff environments. Site types, or *ecosites*, form a working basis for assessing vegetation communities, indicating soil types, nutrient availability and wildlife habitats. Certain plant and animal species have ranges that are restricted to specific ecosites. As a result, the various site types can be used to identify representative and special features to be considered in management planning for protected areas.

Local First Nations continue to use a variety of plants in all aspects of their lives, whether for medicinal or ceremonial purposes. Much of this information is passed down from one generation to the next through the teachings of the Elders.

Upland Coniferous Forest

This forest type is generally found on very dry to dry-mesic, well-drained rocky, sandy or gravelly sites in all microclimate types in the area. The soil is thin or has relatively poor nutrient availability compared to more southern forests.

Black spruce, jack pine and red pine are the dominant tree species. Mountain alder, sheep laurel, northern bush-honeysuckle and velvetleaf blueberry are the common understory shrubs. The ground flora is lower in diversity relative to southern upland coniferous forests, but generally includes the following species:

Dogbane	Bristly Sarsaparilla
Bluebead Lily	Bunchberry
Pink Lady's-slipper	Wild Lily-of-the-valley
Bracken Fern	Starflower

The moss Pleurozium schreberi is often a common ground cover in this site-type.

Upland Mixed Forest

The most common site type in the Temagami area, this forest type is generally found on dry to mesic sand and gravel sites in average microclimate types. The soil may have a thin humus layer. The canopy cover ranges from almost pure deciduous to pure coniferous species.

Red pine, black spruce, white spruce, jack pine, balsam fir, white pine, white birch and poplar are the dominant tree species. Large-diameter old white pines stand out as the super canopy trees in these communities. Mountain alder, hazelnut, northern bush-honeysuckle and velvetleaf blueberry are the common understory shrubs. The ground flora is typically diverse and includes the following species:

Bristly Sarsaparilla	Large-leaved Aster
Bluebead Lily	Bunchberry
Twinflower	Ground-pine
Wild Lily-of-the-valley	Bracken Fern
Rose Twistedstalk	Starflower

Upland Deciduous Forest

This collection of plant communities is found on mesic loam soils in average and warmer-than-average microclimate sites. These soils generally have a humus layer. This site type generally covers only a small portion of the Temagami area. White birch, poplar and sugar maple are the dominant trees. Common understory shrubs are hazelnut, mountain maple and northern bush-honeysuckle. The ground flora is variable among sites, but generally includes the following species:

Bluebead Lily	Bunchberry
Ground-pine	Rose Twistedstalk
Wild Lily-of-the-valley	Bracken Fern
Starflower	

Mixed Swamp

These sites are found on very wet sandy soils along waterways with average temperature conditions. These sites are relatively uncommon in the area. White cedar and black ash are the dominant trees. Common understory shrubs are winterberry, mountain holly and speckled alder. Typically, the ground flora is diverse, and includes Canada bluejoint, beaked sedge, marsh cinquefoil, nodding and painted trillium and marsh St. John's-wort.

Deciduous Swamp

Found on wet peat and alluvial sands on average temperature or possibly warmer-than-average sites along watercourses and shorelines, these sites have ground flora that are generally diverse, but variable from site to site. Black ash, silver maple and balsam poplar are the dominant trees in these relatively uncommon habitats. There is usually a scattered understory of speckled alder and red osier dogwood. The following ground cover species are the most common:

Canada Bluejoint	Bladder Sedge
Water Horsetail	Canada Manna Grass
Sensitive Fern	Tall Meadow-rue

Thicket Swamp

These sites are common in the area, found on wet peat and alluvium on cool or average temperature sites along shorelines. It is most often found in narrow streams or in areas of drawdown from beaver ponds. Scattered occurrences of trees such as black ash, white cedar, larch and black spruce are found in these sites, while speckled alder, sweet gale, meadowsweet and mountain holly are the dominant understory shrubs. The ground flora is diverse and includes the following species:

Purple-stemmed Aster	Canada Bluejoint
Beaked Sedge	Canada Manna Grass
Wild Iris	Dwarf Raspberry
Marsh St. John's-wort	

Bog

Bogs occur on peat deposits that are mesic to very wet and cool. This site type is common as narrow bands and isolated pockets throughout the area, although occasionally they cover extensive areas such as the Little Fry Lake Bog in Obabika River Provincial Park. Peat depth varies from several centimetres to over two metres.

Most bogs are a mosaic of treed and near-treeless phases. In near-treeless areas, the dominant vegetation consists of low shrubs and sedges. Black spruce and larch are the dominant trees, with cedar also occurring occasionally. Shrubs such as leatherleaf, Labrador tea, velvet-leaf blueberry and bog laurel are the dominant plants on drier sites while sedges dominate the wetter sites. A thick sphagnum moss carpet is composed of such species as *Sphagnum angustifolium*, *S. fallax*, *S. fuscium* and *S. magellanicum*. The ground flora is not diverse in herbaceous species, but generally includes the following plants:

Few Seeded Sedge	Stunted Sedge
Dense Cotton grass	Stiff Sedge
Round-leaved Sundew	Virginia Cotton grass
Pitcher Plant	Small Cranberry

Fen

Fens are found on peat deposits that are very wet or saturated, and are cool or normal in temperature. These sites are uncommon in the area, occurring generally as narrow bands on the wetter margins of bogs, and along waterways where minerals and nutrients are readily available. Fens are characterized by a less acidic pH and more water flow than in bogs.

Open fens tend to be a mosaic, with some areas dominated by low shrubs. These areas contain dwarf birch, sweet gale, bog Rosemary and meadowsweet. Herbaceous communities consisting mainly of sedges dominate other areas.

Treed fens are dominated by a moderate cover of larch, with an understory of such shrubs as dwarf birch, sweet gale, speckled alder, bog Rosemary and meadowsweet. Herbaceous communities, consisting mainly of sedges, dominate some areas. The ground flora in treed sites is similar to, but generally less diverse than, open sites. While mosses are less prevalent in fens than in bogs, Drepanocladus exannulatus is the most common species encountered. Sphagnum species are generally absent or very sparse. The ground flora in open and treed sites include the following:

Bog Aster	Canada Bluejoint
Hoary Sedge	Inland Sedge
Wooly Sedge	Mud Sedge
Few-weeded Sedge	Stunted Sedge
Beaked Sedge	Three-way Sedge
Water Horsetail	Brown-ruited Rush
White Beak-rush	Marsh St. John's-wort

Shoreline Meadow

These common sites occur on sand, gravel, and alluvial shores which are mesic to very wet, in all climate types. They are commonly found as a narrow band along waterways and may be dominated by low shrubs or herbaceous species. These sites are quite diverse and each is different in species composition. The following species are typical:

Bog Aster	Canada Bluejoint
Yellow Sedge	Wooly Sedge
Beaked Sedge	Three-way Sedge
Northern Bugleweed	Wool-grass
Marsh St. John's-wort	

Meadow Marsh

These diverse sites are found in abandoned beaver floodways as a common, but transient, community. They are dominated by herbaceous species such as Canada bluejoint, sedges and shrubs such as willow. Purpled fringed orchid often occur but are sparse here.

Aquatic Community

This site type is common in shallow waters over sand, silt or alluvium in all microclimate types. It occurs as small zones, or occasionally, as extensive areas of shallow lakes and lagoons. Some species, such as subterminal club-rush or slender water milfoil, remain submerged, while others, such as bullhead lily and emersed pondweed, grow chiefly on or above the surface. Bullhead lily and fragrant water lily dominate the most common community association. The following species are also common:

Water-shield	Water Horsetail
Pipewort	Water Lobelia
Emersed Pondweed	Great Bulrush
Narrow-leaved Bur-reed	Common Bladderwort

Upland Thicket

These relatively short-lived plant communities are found in recent forest openings due to fires or clear-cut logging. They are found on dry-mesic to dry south to west facing slopes on sandy loam soils. The scattered trees that are present range from older undisturbed specimens to regenerating ones. Such sites may ultimately revert to other forest types. Due to the general scattering of these sites and their varied disturbance history, they differ from one another with respect to vegetation communities. A tall shrub layer is dominant, with hazelnut being the most common. The ground flora is diverse and supports many species, although they differ among sites, velvetleaf blueberry, common raspberry and sheep laurel being common. These transient communities are not widespread throughout the Temagami area.

Rock Barren

On bare exposed rock, which is very dry to mesic in all site types, the *rock barren site* type occurs as an occasional feature in coniferous and mixed forest. They usually occur on the highest areas where site conditions are extreme. What soil that is available—generally sand and some humus—is restricted to crevices in the rock.

Protected and level sites support carpets of foliose lichens such as *Cladina* species, while sloping and exposed sites are bare or support only fruticose lichens. The scattered tree cover is generally made up of jack pine, red pine, white pine or black spruce. Sheep laurel, velvetleaf blueberry and low blueberry are the most common low shrubs. Typical ground flora include:

Pink Lady's Slipper	Wavy Hair Grass
Wild Lily-of-the-Valley	Cow-Wheat
Bracken Fern	

Cliff

Similar to rock barrens, cliff environments are found on bare and exposed, very dry rock in all microclimate types. Some sand in crevices is the only soil available. There are many cliff sites in the Temagami area, with the most common type occurring on sandstone, typically of the Lorraine Formation. This sandstone is very resistant to erosion and contains few nutrients; consequently, the flora on these cliffs is not diverse. There are talus slopes of varying extent associated with the base of cliffs. Cliffs of diabase are uncommon, but support a more diverse flora. The following species are common to both sandstone and diabase cliff sites:

Wavy Hair Grass	Wild Lily-of-the Valley
Rock Polypody	Low Blueberry
Velvetleaf Blueberry	

4.8 Life Science Features

Unique and representative life science features are found throughout the Temagami area. The majority of unique and representative features have been captured in the areas' provincial parks and conservation reserves. Protected areas play an important role in protecting life science features from development or other incompatible uses. A number of life science features are shown in Figure 9.

4.8.1 Provincial Parks

Lady Evelyn-Smoothwater Provincial Park

- Maple Mountain, east facing ridges with mesic deciduous woods, mature maple wood near the northern extent of its range. Regionally significant.
- North Lady Evelyn River shore fen in a valley train peat and alluvium deposit. Regionally significant.
- Chris Willis Lake peatland, consisting of forested and stabilized sand dunes interspersed with assorted peatland communities. Regionally significant.
- McCulloch Lake kettle bogs, small kettle lakes situated in an outwash plain. Regionally Significant.
- Scarecrow Lake canyon with moist bottom and colder-than-normal microclimate.
- Smoothwater Lake: meadows consisting of narrow lakeshore meadows on sand and gravel deposits around a relatively deep lake. Regionally significant.
- White Pine/Whirligig lakes: headwater lakes and endangered Aurora trout habitat. Provincially significant.
- Graymud Lake: extensive aquatic and peatland communities with open graminoid fen, treed fen open and treed low shrub bog. Regionally significant.
- South Lady Evelyn River: open graminoid and poor fens. Regionally significant.

Makobe-Grays River Provincial Park

- Alexander Lake: diverse upland and wetland communities associated with extensive areas of shallows with mud bottom. Even aged jack pine forest and black ash swamp.

Obabika River Provincial Park

- Little Fry Lake Bog: an extensive peat land dominated by low shrubs with examples of treed bog and graminoid bog. Regionally significant.
- Diamond Lake wetlands: wide range of wetland communities.
- Obabika Lake old red and white pine forests: diverse collection of communities on a variety of landforms and soils, in a relatively undisturbed area. Provincially significant.

Solace Provincial Park

- Remote, upland coniferous and deciduous forests, wetlands associated with Pilgrim Lake.

4.8.2 Conservation Reserves

Conservation reserves in the Temagami area play an important role in protecting headwaters, protecting old growth forests and maintaining ecological linkages between protected areas. A number of the CRs contain acid-stressed lakes with depressed pH levels. In recent years, a number of lakes are showing signs of partial recovery (e.g. Jim Edwards Lake, North Yorston, Pinetorch Lake and Smith Lake).

4.9 Forest Disturbance and Diversity

Temagami's forests have evolved through time subject to a range of natural disturbances such as fire, insect defoliation and wind storms. More recently, extensive human use of the forest in the form of harvesting has also had a significant effect on forest ecosystems.

Fire has played an important role in the evolution and maintenance of Temagami's forests; however, it has traditionally been viewed negatively as a destructive force. More recently, there has been increased recognition of the role of fire in maintaining a healthy forest ecosystem. Fire is a disturbance agent that plays an important role in rejuvenating forests; it is as much a component of the forest ecosystem as forest growth and decay.

Active fire suppression has been in effect since the 1940s with most fires receiving initial-attack response. Forest ecosystems characterized by fire-dependent species can be significantly altered by the exclusion of fire. Fire suppression can result in extensive even-aged mature forests. At such time as these forests do ignite, the resultant fires are usually large, hot and catastrophic.

There are presently extensive areas of old forest in the Temagami area that are a result of the reduced role of fire in the ecosystem. For instance, the historic stand replacing fire cycle for white and red pine is 160 years;

in Temagami the average projected stand replacement fire cycle for these species is now 1059 years.

Fire, like other forms of disturbance, plays an important role in changing species composition and ages in the forest. For instance, fire may burn a forest dominated by spruce and balsam fir. Following a fire, increased sunlight reaches the forest floor, resulting in favorable growing conditions for white pine, red pine and jack pine. Changes in the forest as a result of forest disturbance also affect wildlife habitat. For instance, fire can open up the forest and allow plants such as blueberries to thrive and provide a food source for bears.

By the 1870s logging was firmly established in the eastern portion of the Temagami area. In 1901 the Temagami Forest Reserve was created which prevented the disposition of the land for settlement thereby eliminating the settlers' "clearing" fires which up until then had been destroying huge tracts of forest in neighbouring areas. In 1904 the reserve was expanded to 3,716,000 acres (approximately 161 townships). Basically, this reserve included all of the unharvested portions of Temagami District. Road building and harvesting equipment improved so that previously remote areas became accessible. By the 1980s, some areas that are currently within the boundaries of Lady Evelyn-Smoothwater Provincial Park had been logged. Harvesting has significantly changed over the years from non-sustainable highgrading of only the most profitable species (white pine, yellow birch) to a sustainable, more ecologically based approach that attempts to emulate natural processes.

Moderate to severe defoliation in the northeast portion of the Temagami due to forest tent caterpillar occurred from 2001 to 2003. Similarly, defoliation due to spruce budworm occurred in the southwest portion of the area in 2003 and 2004. Severe drought damage occurred throughout the Temagami area in 1995. In 2001, portions of western Lady Evelyn-Smoothwater Provincial Park also suffered drought damage.

See also Figures 7 and 8.

4.10 Wildlife

Wildlife is plentiful in the Temagami area, with 47 species of mammals, 180 species of birds and 24 species of reptiles and amphibians recorded to date.

The wildlife species of the area are typical of the transition forest. Mammals include moose, white-tailed deer, bear, timber wolf, lynx, fox, pine marten, weasel, snowshoe hare, least chipmunk, red squirrel, beaver, muskrat, otter and mink.

Bird species include common raven, blue and gray jay, evening and pine grosbeak, goshawk, red-tailed hawk and American kestrel, osprey, turkey vulture, bald eagle, great-horned owl, as well as both ruffed and spruce grouse. The common loon, great blue heron, black duck, common goldeneye, common and hooded merganser and the herring gull are also present. Sightings of bald eagle and peregrine falcon have also been occasionally reported.

Amphibians (such as salamanders and frogs) as well as reptiles (such as turtles and snakes) are observed with varying degrees of regularity. Most species in Temagami are at the northern limit of their known range. Although information is available pertaining to ranges and habitats of reptiles and amphibians, relatively little data are available on their abundance in the Temagami area. In recent years, there has been a general decline throughout North America in reptile and amphibian populations. This is in part due to air and water pollution, increased road mortality and habitat loss. Protected areas in Temagami can thus play an important role in protecting their habitat, especially in the northern extent of their ranges.

Most of the Temagami area is situated within Wildlife Management Unit (WMU) 40. To the southwest, the Sturgeon River and part of the Obabika River form the boundary of, and lie within, WMU 41.

Local First Nations continue to harvest wildlife and fish for food. To local First Nations, these activities are not considered "sport" hunting or angling, rather activities that they rely on for their subsistence. Wildlife is

harvested for individual use as well as to share with others in the community. The main wildlife that is harvested includes moose and fish , however other animals such as beaver, fox, mink, and marten are also harvested Hunting and gathering continues to be important not only for the physical resources but also the continued cultural connection to the land.

Non-Native sport hunting for moose, and to a lesser extent, bear and grouse, is a traditional activity in the Temagami area. The estimated moose population for the entire Temagami area is in the range of 2000 to 2500 individuals. In 1988, sport hunting was excluded as a permitted activity within Lady Evelyn-Smoothwater Provincial Park when park policy was established to prohibit hunting in all wilderness class parks.

Bears harvested by non-residents are typically managed through a series of Bear Management Areas (BMA) that give operators exclusive rights to guide non-resident bear hunters in their area. The BMA Program helps manage the harvest, improve hunt quality and allows for better business planning for hunting guides. There are 46 BMAs in the planning area.

Commercial trapping has occurred within the Temagami area for centuries. Trapping contributes to the local economy for both Natives and non-Natives, with registered trap lines occurring on Crown lands throughout the entire area. There are also three resident trappers on private land in the Tri-town area. In general, trap lines in the eastern half of the Temagami Area are administered through MNR North Bay District; trap lines in the western half are administered through the Bear Island Trapping Cooperative. First Nation members have the right to trap in provincial parks; only trap lines held by Status Indians exercising treaty rights will be permitted to continue in provincial parks after December 31, 2009.

Beaver and muskrat account for the largest proportion of the annual yield of fur. Fox, mink, pine marten and otter account for much smaller harvest numbers. Annual economic returns from trapping fluctuate due to market prices, trapper effort and population densities.

Many traplines include at least one cabin for access and safety purposes. Travel by snowmobile is commonly used to access to the entire trap area. Trapping trails are maintained in the winter months and occasionally act as portages in summer.

Species such as lynx follow regular density cycles closely tied to the natural prey population of snowshoe hare. Others, like the timber wolf, are associated with the status of moose populations. Species such as pine marten and fisher are dependent on prey populations that require old growth forest habitat. Trapping can influence other wildlife populations. Other management activities, such as fire suppression, will influence forest habitat with implications for species such as pine marten, which prefer mature forests.

Species at Risk

Rare and endangered species are important to protect in order to maintain biodiversity and functioning ecosystems. This planning process will give full consideration to protecting endangered species. Species that warrant special consideration are protected under the Fish and Wildlife Conservation Act (1997) and the Endangered Species Act (1990).

The Fish and Wildlife Conservation Act designates “specially protected” mammals, birds, reptiles, amphibians and invertebrates. Species that are prohibited from being hunted, trapped, bought or sold are listed in the Ontario Hunting Regulations Summary. The Endangered Species Act prohibits the injury, killing or habitat destruction of flora and fauna threatened with extinction under the regulation.

Rare and endangered species which occur in the planning area include animals, plants, aquatic plants, fish and birds (for a detailed list, refer to Table 5). Endangered species of note that have been monitored and are regulated under the Endangered Species Act include peregrine falcon, aurora trout and bald eagle. Peregrine falcons were reintroduced into the area in the mid-1990s. Annual monitoring occurs as part of the provincial peregrine falcon recovery program. Aurora trout is a colour variant of the brook trout with a natural range of only two lakes within the Temagami area.The

aurora trout lakes and their headwaters lie entirely within Lady Evelyn-Smoothwater Provincial Park. Bald eagles have been sighted in the planning area in the past six years and most recently nests have been located for the first time. The bald eagle is a provincially endangered species and efforts are made to identify nesting sites and protect them from adverse impacts.

4.11 Aquatic Resources

The Temagami area is well known for its wilderness character and multitude of undeveloped rivers and lakes. Approximately 15 percent of the Temagami area is covered by aquatic habitat that supports a variety of species including renowned fisheries. The area is located entirely within the Great Lakes watershed. The Montreal River, including Lady Evelyn Lake and River, flow south into the Ottawa River and subsequently into the St. Lawrence River. The Sturgeon River watershed, which includes Obabika Lake and Lake Temagami, all flow into Lake Huron via Lake Nipissing and the French River. The protected areas play an important role in protecting headwater lakes and help maintain water quality and resources for areas within and downstream of the Temagami area.

The Temagami area supports a variety of fish species, from lake trout, whitefish and lake herring, which require cold, highly oxygenated, low nutrient waters, to species such as walleye, pike and bass which thrive in warmer waters which include higher nutrient levels. Overall, the shallower warmer lakes tend to be located east and southeast portion of the Temagami area (Figure 10).

Unique to the Temagami area is the endangered aurora trout, a variant of the brook trout. Its original range is limited to two lakes within Lady Evelyn-Smoothwater Provincial Park. Lake acidification due to industrial emissions caused the extinction of the aurora trout from its lakes-of-origin. With the reintroduction of hatchery-raised stock from the original lakes and with the help of lake water chemistry enhancement, it is hoped that the aurora trout will re-establish a naturally reproducing and self-sustaining population in the wild.

Acid deposition (pH<6) has been a problem for lakes in central and northwest Temagami area including those that support aurora trout. Acid deposition can occur from acid rain or dry deposition of emissions that contain high levels of sulfur dioxide and nitrogen oxide. Emissions originate in industrial areas in Ontario and the United States to the south of the affected lakes. Acid precipitation can decrease the pH of a lake and affect the ability of fish species to reproduce. Fortunately, in the past decade reduced emissions from industrial sources have led to a general recovery of pH levels in lakes from the 1980s when acidification was most severe.

Dams, reservoir lakes, and fluctuating water levels play a significant role in the Temagami area. Lake Temagami, Lake Temiskaming, and Lady Evelyn, Rabbit, Cassels and Cross lakes are among the water bodies that have fluctuating water levels as a result of dam operations. While attempts are made to manage water levels and reservoir lakes effectively, there are effects on the aquatic system. Fish spawning sites can be particularly sensitive to changing water levels; for instance, northern pike need flooded areas of sedges and grasses in the spring for suitable spawning habitat.

A healthy aquatic system is a precondition of a sustainable fishery. Fisheries management through the implementation of strategies such as size limits, creel limits, bait fish restrictions, fish sanctuaries and access controls ensure the maintenance of high quality fisheries. Since fisheries management requires survey information from anglers and Native fishers to make management decisions, there is a large role for co-operation between anglers, First Nation communities and fisheries biologists. Aquatic resources are an important component of the “Temagami Experience” and are valued for aesthetic, environmental and recreational reasons.

5.0 Cultural Resources

The Temagami area is rich in pre- and post-contact cultural history. Numerous heritage sites are found within the five parks and the surrounding area. Archaeological evidence of aboriginal peoples in the area dates back to 4000BC. Native culture in the area continues to the present with the community of Bear Island on Lake Temagami and Matatchewan to the north. Land claim discussions are ongoing between the Temagami Aboriginal Community and the Government of Ontario.

Post-contact trade history begins in the mid-1600s. By 1890, the recreational trade of outfitting sportsmen/women and canoeists marked a new era of development. The tourism industry paralleled the harvesting of timber resources, which began in the 1870s, and the exploration and extraction of the area's mineral wealth. The establishment of the Temagami Forest Reserve in 1901 and its expansion in 1903 played an important role in shaping the area's pattern of development. The area continues to be highly valued for many reasons—having intact natural ecosystems; for its natural resources, including forest products and mineral potential; and for its recreational opportunities, from wilderness canoeing to cottaging, angling and hunting.

The cultural resources of the Temagami landscape provide information about the social, economic and spiritual lives of the people who have inhabited the area since the retreat of the last ice age. These prehistoric and historic sites are a record of the area's prehistoric hunters and gatherers, the travellers of the fur trade era, as well as early logging and mining endeavors.

5.1 The Prehistoric Period

Artifacts such as tools, spear points, and the debris from their manufacture have been found in locations where Paleo-Indian hunters camped, hunted, fished and chipped stone tools. While sites of cultural and archaeological significance are found throughout the area, many sites occur along lakeshores and riverbanks. Often, these same locations are popular as campsites or rest spots for modern-day travellers along these waterways. The artifacts that remain are vital clues into our cultural past—a period long before recorded history. Culture themes are based upon a geographic distribution of technology and style, which are displayed within a range of artifacts.

The Shield Archaic culture was established around 6,000 BC and lasted until about 2,500 years ago. This culture is known for its expanded array of tools, including artifacts of copper from the area around Lake Superior.

The first evidence of specialized tools for fishing and the preparation of nuts and berries appeared during this period, which may indicate adaptation to the northward migration. They engaged in subsistence activities and probably lived in small bands of extended family size. There is evidence that while the Archaic people still hunted large game, their subsistence was becoming more diversified: they were fishers as well as hunters and gatherers.

The discovery of habitation sites along waterways indicates the use of canoes or dugouts. Shield Archaic people likely ranged throughout the area in small family groups, stopping where the fish and game were plentiful or the berries ripe. In order to survive, the Shield Archaic people required an in-depth understanding of their environment, in terms of where and when each food resource was most abundant. This subsistence cycle remained virtually unchanged until the advent of the European fur trade.

About 2,500 years ago, the Laurel culture of the Middle Woodland period succeeded the Shield Archaic people, and remained until about 1,000 years ago. The Laurel people, who resided throughout northern Ontario, were the first to use pottery vessels to cook, store and transport their food and other items. Fragments of these conical pots with wide necks and attractive patterns on the upper third of the vessels have been found on habitation sites throughout the north. As well, the Laurel culture developed elaborate burial ceremonies, with burial mounds.

These people developed and expanded trade routes, establishing trade links between the various cultures. Objects made of copper from northern Ontario have been found throughout eastern North America, and shells from the Atlantic and obsidian from Wyoming have been found in Laurel sites. The use of wild rice and a marked emphasis on fishing characterize the Laurel culture. Large fishing village sites have been discovered where runs of whitefish, walleye and sturgeon occurred. Bone refuse from these sites also indicates that large and small mammals and birds formed a significant part of the diet.

Replacement of Laurel pottery by the Blackduck and Selkirk styles about 1,000 years ago marks the beginning of the Late Woodland Period, which lasted up to the time of contact with the Europeans. The Selkirk people are recognized as the progenitors of the Cree, while the Blackduck people are Algonkian-speaking predecessors of the Ojibwe.

There was a similarity of resource use between the Laurel and Blackduck/Selkirk people, relating to hunting and fishing, as well as the use of wild rice. These cultures subsisted on game such as caribou, moose, deer, black bear, snowshoe hare, red squirrel and beaver. Fish such as sturgeon, whitefish, brook trout, walleye, pike and lake trout were also caught, as well as birds such as grouse, ducks and geese. In addition to wild rice, a variety of plants and berries were also utilized.

During the Late Woodland era, annual migration patterns developed in response to seasonal work cycles. In the spring, family groups would travel down the various rivers from the interior for their seasonal gathering. During the summer months, a larger band comprising a number of these family groups, perhaps 50 to 100 people, would gather on the shores of large lakes. These site locations follow an established pattern during this period, with many sites found on level places on islands, points, peninsulas, narrows, and sandy beaches or at the ends of portages.

Within these larger groups, members would share fishing and hunting chores, gather berries and other foods in preparation for the winter. They would also hold social and religious celebrations. In late summer and early fall, the groups would split into smaller family units and disperse inland to hunt and trap for the winter. The following spring, the bands would return to the large lakes to repeat the cycle. In summer, transportation was by birch bark canoe, and in winter by

dog, travois and snowshoe. Clothing was of caribou, moose or beaver skins and decorated with porcupine quills and red vegetable dyes. Wigwams constructed of birch bark or hide provided shelter.

The inhabitants of the area are considered part of the Ojibwe culture, which was loosely organized as a grouping of bands. Their group names generally refer to a place. Thus, members of the Temagami Band refer to themselves as Teme-Augama Anishnabai, or "Deep-water people." Similarly, the name "Matachewan" was derived from the word Madagewan meaning "meeting of the waters" and indeed it was a meeting place for the Matachewan people each year to trade at the Hudson Bay Post. The name referred to the entire Montreal River, not just the site of the trading post.

With the advent of the fur trade, traditional subsistence and settlement patterns became somewhat disrupted, with settlements often occurring in the vicinity of fur trade posts, especially later in the period.

The majority of the planning area lies within Daki Menan, the ancestral homeland of the Teme-Augama Anishnabai (Figure 11).

In terms of ethnography, the Teme-Augama Anishnabai are one of the best-documented native groups in Northeastern Ontario. This is in large part due to the work of Dr. Frank Speck, an early ethnologist. Although he was primarily interested in mapping hunting territories, Dr. Speck also collected information on burial practices, kinship, hunting lore and political organization. The results of his fieldwork were published by the Geological Survey of Canada in 1915, along with a separate monograph containing Speck's collection of Temagami myths and folklore.

Prior to this time, geological surveyors such as Robert Bell and his assistant, A.E. Barlow, gathered significant materials on traditional culture during their field trips to the Temagami area in 1887 and 1888.

5.2 The Historic Period

Direct contact between Temagami's aboriginal inhabitants and Europeans began in the 1620s, with the beginning of commercial fur trade in the area. The major trade routes into the area were the Sturgeon and Temagami rivers from the west and south, and the Montreal River from the east. These water routes are shown on early French maps.

Among the native groups that traded with the early Frenchmen were the peoples of Smoothwater Lake, Lake Temagami and Lake Mattagami. French posts at this time were located on Lake Nipissing and Lake Timiskaming.

During the 1760s, just after the conquest of New France by the British, Timiskaming-based fur trade was taken over by the Northwest Company (NWC). For a number of years, the NWC maintained an outpost, called Osaweamininica, or "perch spawning ground" to the northwest of what is now Lady Evelyn-Smoothwater Provincial Park. This settlement closed in 1794.

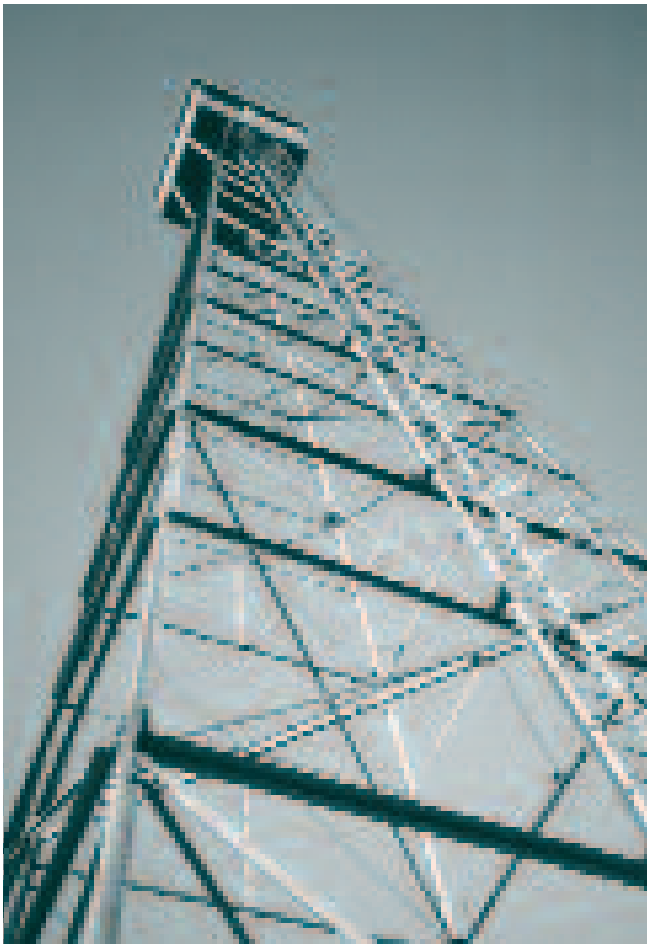
In the early nineteenth century, the Northwest Company built another small post along the Montreal River at Mountain Lake, to the northeast of Lady Evelyn-Smoothwater Provincial Park. Its exact location is unknown and it did not survive the NWC's merger with the Hudson Bay Company (HBC), which took place in 1821. However, in response to competition from independent traders based on Lake Nipissing and Georgian Bay, the HBC built an outpost on Lake Temagami in 1834. This seasonal outpost on Temagami Island accessed the best furs in the Temiskaming trade district.

The Hudson Bay Company's dominance continued until 1865, when an Ojibwa chief named Michel "Aigle" Dokis from the French River sent two of his sons to start a small post in the Temagami area, first on Cross Lake, then beside the HBC on Temagami Island.

Throughout the 1870s a flood of independent traders, some from Lake Nipissing, some from the Ottawa River and Lake Temiskaming, spread throughout the region.

They built small posts on Diamond Lake, Willow Island Lake and on the upper Sturgeon River. The Dokis brothers also established several new posts, with one lying to the northeast at Matatchewan. The HBC devoted considerable efforts to counteracting the independents. It opened an outpost on Diamond Lake, named Fort Destruction, which only lasted a few years. Another HBC post at Matatchewan survived well into the 1900s.

Final defeat for the smaller traders like the Dokis family was not the result of actions by the Hudson's Bay Company, but the building of the Canadian Pacific Railway through North Bay and Sturgeon Falls. By 1890 the HBC, with its greater resources, had developed a lucrative sideline outfitting parties of sportsmen and recreational canoeists. Mattawa and Sturgeon Falls were now easily accessible by rail from southern Ontario and Quebec, as well as from the eastern United States. Due to the increased demand, the HBC post at Bear Island began to remain open in the summertime.



By 1902, recreational canoeists had established canoeing camps on Lake Temagami. The rivers and lakes of the Temagami area, already famous for their varied attractions, became even more popular with the opening of the Timiskaming and Northern Ontario (T&NO) Railway to the public in 1904. With rail access into the new town of Temagami, entrepreneurs were quick to move in. Englishman Arthur Stevens started a general store and outfitting business which competed directly with the HBC for the tourist trade. Together with Dan O'Connor, he built the Ronnoco Hotel in Temagami, which was followed a few years later by the Lady Evelyn Hotel on the north arm of Lake Temagami. Tourism was further increased when islands on Lake Temagami were made available for vacation properties in 1905.

By the time of the First World War, the recreational character of Lake Temagami was well established. Numerous islands on the lake had been sold or leased to cottagers, hotels and tourist lodges were everywhere, and a series of summer camps had been founded. From these camps came the tradition of wilderness canoeing, first through the waterways which extended out from Lake Temagami, then through longer trips to James Bay and the Arctic. This ensured Temagami's reputation as a premiere canoeing destination in North America.

A lucrative boatline, owned and operated by the T&NO Railway, served the growing tourism industry until the early 1970s.

As early as 1865, the pre-confederation government of Canada was granting timber berths in the lower Montreal River watershed to Ottawa Valley lumber companies. By the mid-1870s, timber cruisers were checking the Lake Temagami vicinity for red and white pine. During these declining years of Canada's enormous white pine square timber trade with overseas markets, commercial logging began in the Temagami area adjacent to Lake Temiskaming.

With the end of the American Civil War in 1865, the expanding economy of the northeastern United States created a large demand for lumber. The ensuing search for pine sawlogs further inland along the Ottawa Valley watershed resulted in Temagami's largest harvests. As

logging expanded along the Montreal River, it led to the establishment of the present-day communities of Elk Lake and Latchford. Temagami's first sawmill began in 1894.

The establishment of the Temagami Forest Reserve in 1901 played an important role in shaping the pattern of development in the Temagami area. The Temagami Forest Reserve was established under the provincial Forest Reserves Act of 1898. Originally 2,200 square miles in extent, it was increased in size to 5,900 square miles in 1903. The reserve set aside the pine resource in and around the Temagami district to secure the future of the forest industry.

The growing tourism industry of the early 1900s created a demand for vacation properties on Lake Temagami, but the Temagami Forest Reserve precluded the sale of land. By discouraging settlement, the likelihood of human-caused fires in timber reserved for the forest industry had been reduced. Eventually, in response to increased public demand, the Ontario government agreed to the leasing of islands on Lake Temagami in1905. In doing this, it was a compromise that allowed both recreation and the protection of the standing timber for the forest industry. The restriction of settlement to the islands of Lake Temagami has continued to the present[7]. The mainland shoreline of the lake has been managed as a *skyline reserve*, leaving the shoreline relatively natural and undisturbed. Such a form of lake development is unique in Ontario.

Little harvesting had been done inside the forest reserve until after the Haileybury fire of 1922, one of the worst wildfires in the area. During a government investigation into the salvage of burned wood from a smaller fire in nearby Cassels Township, it became apparent that much of the pine in the forest reserve was advanced in age and starting to decay. To minimize the economic losses due to the death and decay of the pine, the government allowed harvesting within the Temagami Forest Reserve. This resulted in a number of mills being established in both Latchford and Temagami.

7. Lake Temagami and the mainland shoreline which includes the Skyline Reserve are designated as Management Area 39 in the *Temagami Land Use Plan* (OMNR 1997).

The mills operated during the spring and summer milling the logs that had been cut the previous fall and winter and the cycle would begin again in the autumn. This type of logging was the norm until the mid-1950s. With the invention of the chain saw and the movement to road accessible timber, lumbering became a four season investment and the volume of wood taken from the land base increased dramatically.

To the west of Lake Temagami, the lands that are now encompassed by the five parks were unmapped until 1865-1866. Duncan Sinclair, who had been hired by the government to conduct surveys for a proposed northern railway, ran an exploratory line between the Montreal River and Mattagami Lake. His travels took him to Smoothwater Lake, inside what is now Lady Evelyn-Smoothwater Park. Other surveyors from the Canadian Pacific Railway soon followed. Several exploratory lines were run, but unfortunately, no detailed records have survived. Some place names in the parks, such as Paul Lake, date from these explorations.

The distinguished geologist Robert Bell undertook more thorough mapping of the area for the Geological Survey of Canada (GSC). During the summers of 1887 and 1898, he led expeditions that covered the Makobe and Lady Evelyn rivers, Lady Evelyn and Diamond lakes, as well as the Obabika and Sturgeon rivers. It was Bell who provided the names Maple Mountain and Lady Evelyn.

GSC parties continued to explore the Temagami area into the early 1900s. In 1900 the Ontario government also conducted surveys to assess the land, timber, game and mineral potential of the Sturgeon and Obabika river valleys. The majority of township lines in the present Temagami area were run by 1911.

To the northeast, agriculture in the Little Clay Belt began to grow in response to a demand for livestock and crops to feed the logging industry. This growing agricultural base was the impetus for construction of the T&NO Railway. This, in turn, allowed for the expansion of both the logging and agricultural industries. Plan of Sub-Division M-66 was laid out in the Village of Temagami in 1906 with the land being held by the Ontario Northland Railway.

In 1903, silver was discovered at what is now the town of Cobalt during construction of the T&NO Railway. This was to have a huge impact on the exploration and development of northeastern Ontario. Major mineral finds also took place near Maple Mountain, Elk Lake and Gowganda.

After World War Two, a high-grade copper ore body was discovered on Temagami Island. A mine opened in 1954 and was soon followed by the construction of the Lake Temagami Access Road with power and telephone lines leading to the centre "hub" of Lake Temagami. This created easier access to the heart of the Temagami area.

5.3 Archaeological /Heritage Sites

Cultural heritage resources include cultural landscapes, structural remains, archaeological remains and traditional use sites. The Temagami area is distinguished not so much by its individual prehistoric and historic sites as by the *diversity* of sites that have been found and the high degree of site preservation due to the general lack of development in the area. The potential for evidence of habitation is thus relatively high within the protected areas and adjacent lands. A 1989 cultural overview of Temagami's provincial parks located over 44 sites (Pollock, 1990). Across Daki Menan, over 400 sites have been identified as significant; these include sites that of sacred, burial, religious, historical, cultural and economic value to the present-day Teme-Augama Anishnabai.

Prehistoric sites include such features as campsites, burials, pictographs, rock feature sites, cache sites, vision pits, quarry sites, ancient winter and summer trails and portages. In addition, traditional areas such as fishing, hunting and sugar bush areas have also been identified. Sites of spiritual significance are an important part of the native heritage. Ceremonies and rituals were practiced throughout Daki Menan, but certain places had extra spiritual significance. Perhaps the most important sites in this regard include *Chee-bay-jing*, or Maple Mountain, and *Chees-kong-Abikong*, in the Obabika Old Growth forest area. For the area's First Nation communities, the physical and spiritual connection with the land comprises not merely a "piece of history" but continues as an important aspect in their present day culture, livelihood and management of the land.

More recent historic sites include settlement features such as cabin sites, early logging and mining camps, mine claims, roads, jackladders and dams. Two fire towers are located within Lady Evelyn-Smoothwater Provincial Park. One tower is on Maple Mountain; the second stands on Ishpatina Ridge. Fire towers are also found near Pinetorch Lake CR as well as Okinaida Ridge. These towers represent a part of the province's forest fire-fighting heritage, and are prominent features to backcountry visitors.

There is often considerable overlap between sites occupied in the past and sites in contemporary use. Some of the most popular recreational campsites are frequently located on sites where prehistoric and historic material has been found. This is because the best sites have been subject to use throughout the centuries, since they offer scenic and geographic attributes in a landscape that has remained relatively unchanged since the retreat of the glaciers.

There is a need to protect heritage resources because "…heritage resources are considered non-renewable… they are unique to the people who created them and used them as part of their culture. These heritage resources are, by their nature, usually fragile and susceptible to irreparable damage and/or destruction."[8] The planning team recognizes the significance and sensitivity of cultural sites, traditional use areas and sacred places, and will work in collaboration with First Nation communities to ensure their protection.

Figure 11 shows the boundaries of Daki Menan, the traditional home territory of the Teme Augama Anishnabai. It also outlines the 14 traditional family territories.

8. *Timber Management Guidelines for the Protection of Cultural Heritage Resources* (OMNR 1991), page 2.

6.0 Recreation Resources

6.1 Overview of Recreation

The Temagami area has been a destination for recreational canoeists for over a century. Before the arrival of European settlement, native peoples developed an extensive network of canoe routes; these routes allowed for relatively swift travel throughout the region. Portages, in combination with summer and winter trails, form *nastawgan*—a network of all-season travel routes. The protected areas contain a significant proportion of these ancient routes.

Temagami encompasses numerous lakes and beaches, rivers, rapids and waterfalls, rolling hills, rock outcrops, glacial features, steep cliffs and occasional canyons. These all combine to provide a rich diversity of rugged and scenic landscapes. These landscapes provide opportunities for high quality backcountry travel and wilderness recreation. Popular summer activities include canoeing, camping, swimming, fishing and wildlife viewing. In winter, the Temagami area is highly regarded as a destination for snowmobiling, dog sledding, snowshoeing and ice fishing. Figure 12 provides an overview of recreation and tourism values.

Canoeing

The Temagami area has long been recognized as superb canoe country: Temagami offers opportunities for river and lake travel as well as whitewater canoeing. Visitors can choose from a range of trip possibilities depending on skill level, desired trip length, and the degree of exertion and challenge sought. This range in variety, combined with relative accessibility and "remote wilderness" character make Temagami one of the key canoe areas in eastern North America. Major canoe routes are outlined in the *Temagami Canoe Routes Planning Map* produced by Ontario Parks and the *Temagami Canoe Routes* guide book by Hap Wilson. A variety of combinations and variations of routes are possible.

The Ojibwe have travelled Temagami's waterways for centuries and most of the portages in the area have evolved from this traditional use. Ease of travel varies—some routes have very few or very short portages, while others require traversing portages over rugged terrain for up to four kilometres. Area canoe routes were first documented and maintained by the users and later by the Ministry of Natural Resources in the early 1970s. MNR crews undertook

some degree of regular maintenance of portages and campsites within the parks. Due to changes in MNR's program direction for Crown land recreation, this work ceased in 1994. Campground and portage maintenance on unregulated Crown land is no longer a core business area of the MNR.

Backcountry Camping

The use of backcountry campsites in Temagami's remote areas is associated predominantly with canoe travel, with limited use by fly-in anglers. On the more accessible lakes, however, campsites are used by a variety of recreationists ranging from canoeists to boaters, anglers and even houseboats.

Throughout the area, campsites are found on rock outcrops on points and islands, and thus tend to possess relatively high biophysical carrying capacity. Cold water temperatures limit swimming to the high summer period, when water temperatures can exceed 20° C.

A survey of park visitors in the backcountry was undertaken in 2000. The questionnaire was designed to obtain information regarding the general characteristics of interior visitors to the five parks and adjacent Crown land in the Temagami area; it also asked for their evaluation of the services and facilities.

Average group size was 3.8 persons, with groups of two persons making up 40 percent of use. The average trip length was 7.7days; few people stayed for less than three days, while 14 percent of trips exceeded 11 days in length. Most visitors have moderate to extensive canoe tripping experience. While the majority of visitors were satisfied with their overall experience, areas of dissatisfaction included the condition of campsites and portages, crowding, human waste and garbage. Field surveys in summer 2004 on Crown land and CRs support these conclusions.

In the spring of 2004, Ontario Parks began the phase-in of the five parks to operational status. Two interior rangers were responsible for clearing and marking all of the portages within the parks, and carried out initial assessments of a number of the interior campsites. Interior fees for overnight camping are now in effect; these funds will be used to cover operational costs. The phase-in to full operating status will occur over two to three years. Operating status will enable Ontario Parks to fulfill its objectives of protection, heritage appreciation, recreation and tourism for these five parks.

Car Camping

Along the Highway 11 corridor, Finlayson Point Provincial Park, and several private campgrounds provide traditional car camping opportunities. These sites are characterized by amenities such as good access, potable water supply, electrical hookups (at some sites), washrooms and sanitary waste disposal facilities.

Unorganized Crown land camping exists in a number of areas throughout the Temagami area, usually adjacent to forest access roads. These campsites are often used in conjunction with recreational activities such as boating, hunting, fishing and ATV travel. Campers and trailers are often parked on the side of the road and provide accommodations. Some areas, such as former gravel pits, are large enough to support groups of campers. Unorganized Crown land camping is a permitted use provided sanitary waste and garbage is properly disposed of.

Trail Use

Some of the trails in use today date back for millennia to the traditional nastawgan, while others were developed in more recent times to access fire towers on high ground. A present-day trail group, named Nastawgan in honour of Temagami's past, is supporting a revived interest in non-motorized trail development. Present hiking opportunities consist of a variety of day hikes, with long distance backpacking trails being contemplated for the future.

A number of hiking trails such as the Cliff Lake Trail, Blueberry Lake Trail and the White Bear Forest trail system exist along the Highway 11 corridor. Water-accessible trails are located on Lake Temagami, such as the Temagami Island Old Growth trail system, Ferguson Mountain trails and Devil's Mountain. Other hiking trails are more remote and require boat or canoe access, often possible only as part of an extended canoe trip. These include trails to Ishpatina Ridge, Maple Mountain and the Obabika Lake Old Growth trail system. These sites provide an opportunity to stretch one's legs on a long canoe trip and explore the surrounding landscape. Numerous off-trail hiking opportunities also exist, but require more advanced navigation skills.

Local snowmobiling and long distance snowmobile touring along hundreds of kilometres of TOPS trails are popular activities. Snowmobile travel brings in tourists in the winter and helps offset the drop in visitors from the peak summer tourist season. Other trails include those for cross-country skiing, dog sledding and ATV travel. In addition, old logging roads and trails support activities such as snowshoeing, mountain biking and horseback riding. Great potential exists for additional recreational trail opportunities since to date only snowmobile and a limited number of short distance hiking and cross country skiing trails have been developed.

Boating

Recreational power boating is popular due to the presence of several large lakes, such as Temagami and Temiskaming, as well as innumerable smaller, road accessible water bodies such as Rabbit, Jumping Caribou and Anima-Nipissing. Lake Temiskaming probably holds the greatest potential to see increased use as it is part of the Ottawa River waterway which now permits boating between Pembroke in the east and New Liskeard to the northwest (boats are transported by trailer around obstructions for a fee). In addition, sailing may become more popular in the future, particularly on the larger lakes supporting marinas.

Hunting

Along with canoeing and angling, hunting was one of the earliest recreational activities drawing tourists to the Temagami area. It is also an extremely popular activity among local residents. Hunting is permitted on Crown lands and in the waterway parks, but is prohibited in Lady Evelyn-Smoothwater Provincial Park (Wilderness Class) and in the Nipissing Crown Game Preserve. While moose is the species drawing most hunters from outside the area, other species hunted include black bear, white-tailed deer, ruffed grouse, snowshoe hare and various waterfowl. At present, most moose hunting occurs adjacent to roads constructed by the forest industry, making use of off-road vehicles. A small number of hunters use water-based transportation to take them to more remote or roadless areas of Crown land where hunting pressure is lower and moose densities higher. A third group of hunters make use of fly-in operators to provide a back-country hunting experience, characterized by very low hunting pressure and in some cases, higher moose densities.

With many Native families living below the poverty level, wild game is still important in order to augment their food supply. In local First Nation communities, meat is shared among the families and community, including the elders. Wildlife harvesting is typically done with conservation in mind—taking only what is needed for subsistence.

The best opportunities for wildlife viewing exist within the Nipissing Crown Game Preserve, Lady Evelyn-Smoothwater Provincial Park and Obabika River Waterway Park

Angling

With over 2,400 lakes and rivers, angling in the Temagami area is very popular. Angling opportunities range from above average road accessible, to high quality remote or back-country experiences. Temagami has a number of both warm and cold water fisheries that offer high quality angling opportunities (Figure 10).

There are over 80 lakes that support natural lake trout populations. Lake trout fisheries include Lake Temagami, Cross, and Diamond Lakes and within the local provincial parks: Smoothwater, Trethewey and Makobe Lakes. In the Temagami area, 65 lakes and 11 streams support brook trout, but only eight lakes and one river support rainbow trout. Lake whitefish is found in many of the same lakes that support trout populations.

Large lakes such as Cross, Lady Evelyn and Timiskaming—as well as hundreds of smaller lakes —support high quality walleye fisheries. Walleye (yellow pickerel) can be found in 94 lakes and a number of rivers. Northern pike can be found in 167, mainly small, shallow and weedy lakes and are noticeably absent from the northwest portion of the planning area. Smallmouth bass are present in 168 lakes principally in the southern portion of the Temagami area—and normally in association with walleye, northern pike and lake trout.

Numerous lakes along Highway 11 have been stocked to increase recreational angling opportunities.

Tourism

Tourism has been an important economic activity in the Temagami area for over a hundred years. From its beginning as a canoe camp destination, to hunting and angling opportunities, and later lodges and cottages, the Temagami area has supported recreational pursuits of people from different parts of Ontario, Canada, and the United States. Temagami's "wilderness" continues to attract recreational users, whose interests have now diversified to include such emerging activities as snowmobile touring, ecotourism and "adventure" tourism. Canoe camps continue to play a prominent role in bringing in children and young adults for unique wilderness canoeing adventures. Lodges and associated outpost camps are an important component of the recreational landscape in the Temagami area. Within the Temagami area there are four resorts, 13 fishing/hunting lodges, 18 outpost camps and 25 camps with housekeeping services. These commercial facilities typically operate from late May to early October, and the clientele—who come to fish, hunt or simply to relax in the outdoors—are primarily from the United States.

6.2 Unregulated Crown Land

The entire Temagami area supports a wide range of recreational activities including, but not limited to, back-country canoeing, hiking, hunting, fishing, cross-country skiing, power boating, dog sledding, snowmobiling and ATV riding. Recreational activity on unregulated Crown land areas is primarily focused in the Highway 11 corridor and adjoining forest access roads. The northern and western areas of the protected areas are less frequently visited due to limited access and distances from major roads. The unregulated Crown land area is also more conducive to motorized recreation than the protected areas that are more remote and environmentally sensitive. However, non-motorized recreation occurs on unregulated Crown land and most of the access points to protected areas originate in unregulated Crown land areas. For instance, Mowat Landing/Lady Evelyn Lake and Lake Temagami remain the most popular points of entry for canoeists and boaters.

6.3 Protected Areas

Lady Evelyn-Smoothwater Wilderness Park
The Lady Evelyn River was first designated as a Wild River (now called Waterway) class park in 1973.The park was expanded to its present size and designated a Wilderness class park in 1983. The area's rugged topography encompasses many high ridges such as Maple Mountain and Ishpatina Ridge. The park contains significant geological, biological and cultural features.

Lady Evelyn-Smoothwater has 235 km of canoe routes and over 150 campsites. Highlights include numerous waterfalls along the Lady Evelyn River and a number of large lakes. Generally, canoeing opportunities consist of flatwater paddling; however, during high water levels of the spring season, many rapids on the Lady Evelyn River may be run as Class I and II whitewater. Park canoe routes connect to Makobe-Grays, Obabika River, Solace and Sturgeon River provincial parks and other waterways on Crown land.

The park is bisected by a former logging road—the Liskeard Lumber Road—enabling access for anglers and canoeists within the park, as well as for hunters to access areas south of the park. Access is controlled by a gate located before crossing the North Lady Evelyn River. The gate is closed from June 15 to September 15 to restrict motorized access during the peak canoeing season. Road access for forestry and public recreation has been the centre of intense debate in the Temagami area. Road restrictions are outlined in An *Environmental Assessment for Primary Access Roads in the Latchford Crown Forest Management Unit—Red Squirrel Road/Pinetorch Corridor* (OMNR, 1988).

Interim access also exists for a snowmobile trail in the western portion of the park, from Smoothwater Lake south over historic portages that connect a chain of lakes lying east of Ishpatina Ridge.

Makobe-Grays River Waterway Park

This Waterway park flows northward into the Montreal River. It runs from the northern boundary of Lady Evelyn-Smoothwater Wilderness Park to the community of Elk Lake, encompassing a 200 metre setback from the river's edge along both shores. Along its 28 km length there are 12 campsites, numerous small waterfalls and scenic ravines. Canoeing consists mainly of flatwater with some moving water. During spring high water, numerous rapids may be run as Class I and II whitewater.

Obabika River Waterway Park

The park encompasses the southwest section of Lady Evelyn Lake, Sucker Gut, Willow Island, Diamond and Wakimika lakes as well as the meandering Obabika River flowing to the southwest. There is a 200 metre setback around all water bodies except for larger tracts in three locations: the peninsula west of Lady Evelyn Lake, the old growth pine area north of Obabika Lake, and a significant bog area northwest of Little Fry Lake.

Diamond and Obabika lakes contain historic and prehistoric cultural features. Forest access roads and river crossings receive low to moderate use by all-terrain vehicles and snowmobiles. The park's varied and rugged landscape contains 75 km of canoe routes and 95 campsites. A system of looped day-hiking trails, accessible only by water, lies within the Obabika Lake Old Growth Forest. This site includes the sacred and spectacular cliff of Chees-kong-Abikong.

Solace Waterway Park

This park encompasses a chain of lakes lying between a series of parallel ridges. A 21 km canoe route with 16 campsites, travel consists solely of flatwater with rugged portages. This route connects with Lady Evelyn-Smoothwater and Sturgeon River provincial parks and other waterways on Crown land. The area is also popular with anglers, who access the lakes by air.

Sturgeon River Waterway Park

This waterway park is approximately 70 km in length and includes 36 campsites. The park encompasses a 200 metre setback from the river's edge along both shores. Forest access roads and several river crossings receive moderate use by snowmobiles, all-terrain vehicles and four-wheel-drive vehicles to access areas north and east of the park. Flowing in a southeasterly direction, this waterway includes cliffs south of Paul Lake and a number of waterfalls. This waterway connects with routes in Lady Evelyn-Smoothwater, Solace and Obabika River provincial parks, as well as Crown lands.

The *Ontario's Living Legacy—Land Use Strategy* (OMNR, 1999) recommended an addition to the southern end of Sturgeon River Provincial Park. This new section lies outside of the Temagami planning area and was regulated in April 2005. Management of the addition will be guided by an Interim Management Statement (IMS).

Bob Lake Conservation Reserve

This CR is comprised of several corridors that create a protected buffer to Obabika River Provincial Park. It also protects canoe routes connecting to Diamond Lake and Lake Temagami. Recreational activities include canoeing, fishing, snowmobiling, hunting and wildlife viewing. Lying adjacent to the Obabika North Old Growth Forest in Obabika River Provincial Park, stands of old growth pine are also found within the CR boundaries. The Red Squirrel Road passes through the area and was built prior to the CR's designation; however, motorized access is restricted by the gate at Eagle Creek, over 10 km to the east.

East Lady Evelyn Lake Conservation Reserve

East Lady Evelyn Lake CR primarily includes the eastern portions of Lady Evelyn Lake. Recreational opportunities within the conservation reserve include fishing, boating, waterfowl hunting, canoeing and nature appreciation. Access is by air, or by water via Mowat Landing. There are a number of cottages, camps and lodges on land use permits as well as on patent land around the lake. The *Temagami Land Use Plan* directs that Lady Evelyn Lake should retain its remote tourism and recreation values. The area is part of a popular canoe route to Maple Mountain in adjacent Lady Evelyn-Smoothwater Park. Several other canoe routes connect to Sugar Lake CR and Crown lands to the south. Several historic and cultural sites have been located in the CR. The most unique features in the CR are the provincially significant aeolian sand dunes and an esker complex. Because of its susceptibility to erosion, overnight camping is prohibited on the sand dunes.

Jim Edwards Lake Conservation Reserve

This CR protects the Lady Evelyn River watershed and provides opportunities for non-motorized recreation. The area contains a number of cliffs, bedrock controlled valleys and scenic lakes. Access to the site by canoe is possible from Lady Evelyn-Smoothwater Park or by snowmobile in the winter. Public motorized access into the area is permitted via the Liskeard Lumber Road; however, access is only open from September 15th to June 15th. The direction of the *Temagami Land Use Plan* is to prohibit motorized access in Jim Edwards CR within 350 m of the Park boundary. The area includes eight portages and one campsite.

Makobe Grays Ice Margin Conservation Reserve

Makobe Grays Ice Margin CR is located south of the town of Elk Lake and south-east of Cooke Lake. This site straddles Makobe-Grays River Provincial Park. The two sections, one on the east and the other on the west, of the existing park were established to enhance the park. Entrance to the site is possible by river or through the use of two old logging roads entering the site from the east and west. This reserve provides visitors with access to view wildlife such as bears, hawks, moose, wolf and small game. Trapping and hunting of both small and large game occurs within this area and opportunities exist for berry picking, landscape viewing and photography.

North Yorston Conservation Reserve

North Yorston CR contains bedrock domes and fault controlled valleys. The area contains numerous lakes and streams that have lead to the establishment of 15 portages and four main canoe routes. The rugged terrain also gives the area good potential for backcountry hiking routes. Fishing is another recreational activity in the area; however, most of the headwater lakes are small and acid-stressed. Overall, the North Yorston CR receives low use due to remote road and water access. The area does have a high potential for expanded recreation use through the rehabilitation of cold water fisheries and increased maintenance and promotion of canoe routes.

Pinetorch Lake Conservation Reserve

Pinetorch Lake primarily provides recreational canoe route link connecting Lady Evelyn-Smoothwater and Obabika River provincial parks and Jim Edwards Lake CR. The CR also includes old red, jack, and white pine stands. The conservation reserve includes six canoe routes, 19 portages, and 9 campsites. Hiking, swimming, photography and nature study are other recreational activities in the area. There is a trail up to a fire tower that provides good views of the surrounding area. Acid precipitation has resulted in a number of "dead" lakes, but there are water bodies in the area that support warm water fisheries. Access into the area is generally by canoe in the summer or snowmobile in winter. Direction in the *Temagami Land Use Plan* restricts public motorized access into the area and a gate on the Liskeard Lumber Road (within Lady Evelyn-Smoothwater Provincial Park) is closed from June 15th to September 15th. Overall, Pinetorch Lake CR is a remote area that provides challenging canoe routes and outdoor experiences.

Smith Lake Conservation Reserve

Smith Lake Conservation Reserve is located west of Lady Evelyn-Smoothwater Provincial Park. It provides a good setting for remote tourism as there are no roads into the site. Access to the lakes is possible by portage and heritage trails from Lady Evelyn-Smoothwater Provincial Park in the east, by canoe from Upper Stull Lake in the south or by floatplanes which can land on both Smith Lake and Lulu Lake. Fishing, hiking, camping, hunting and canoeing opportunities exist within the CR. There is one main canoe route in the CR that is connected by a system of portages. Four campsites are found on Smith Lake, one of which is well used. Presently, remote fly-in tourism takes place on both Smith and Lulu Lakes, accounting for a large percentage of the fishing that occurs. ATVs can be used to access Smith Lake; however, overall ATV use is low. There are four heritage trails within the site that have been used by First Nations as portages or winter snow routes; these include: the eastern boundary of Parent Lake to Smith Lake; Lulu lake to Smith Lake; and both Lulu Lake and Smith Lake to Lady Evelyn-Smoothwater Provincial Park.

Sugar Lake Conservation Reserve

This CR is located south of East Lady Evelyn Lake CR and east of Obabika River Park. The area provides canoeing, fishing and hunting opportunities. Access to the area is by air or water only. Three private recreational camps exist in the reserve and there is some visitation to the reserve from tourist operators located in eastern Lady Evelyn Lake. The limited access to the area provides excellent backcountry recreational opportunities. Fourteen portages and 23 campsites are found in the CR. There are boat caches on the three larger lakes in the area: Goodfish, Angler and Sugar.

7.0 Constraint and Capability Analysis

Planning in the Temagami area will require the analysis and consideration of constraints and capabilities. *Constraints* are factors that limit possibilities whereas *capabilities* can be described as opportunities. It is important to consider the landscape, users and existing government policies in order to make appropriate resource management decisions. Constraints and capabilities have physical, social and economic dimensions.

Examples of possible *capabilities* to be considered include:

- terrain conducive to recreation
- water accessibility for recreation
- interconnecting waterways
- high quality sport fishing
- landscape diversity
- viewing opportunities (wildlife, landscape/cultural features).

Examples of possible *constraints* to be considered include:

- terrain limitations (e.g. steep shorelines, cliffs, rocky areas)
- biological limitations
- culturally sensitive sites
- experiential conflicts
- social limitations
- altered landscapes (e.g. recently burned or harvested areas).

The protection of representative ecosystems, as well as provincially significant natural and cultural features, is the primary objective of the planning process for parks and protected areas. By conducting an analysis of naturally occurring landform/vegetation associations, ecologists and planners can ensure that biological diversity is fully considered during the planning process.

Constraint and capability analysis helps determine areas that are suitable for limited development such as campsites as well as areas that need to be protected. Constraints and capabilities are important considerations, particularly in the designation of park zones to allocate park land and water resources to their

most appropriate use. This helps to ensure a "best fit" of resources and values in order to achieve the provincial parks' system objectives of protection, heritage appreciation, recreation and tourism. Some areas can be readily identified as having constraints due to their requirement for protection such as rare plant habitat or sites of cultural significance.

Management planning in the Temagami area must be consistent with previous land use decisions, government policy and legislation. Applicable area-specific land use policies from the *Temagami Land Use Plan* will be considered in this planning process. The *TLUP*, as well as the *OLL Strategy* are housed in the *Crown Land Use Policy Atlas*. In addition, legislation such as the Provincial Parks Act, Public Lands Act, Environmental Assessment Act and Endangered Species Act must be adhered to when making decisions.

An important concept when discussing constraints and capabilities is *carrying capacity*. Carrying capacity refers to the amount of use an area can sustain without degrading the environment. *Recreational carrying capacity* relates to the level of use a site or area can sustain while providing high quality recreational experiences and protecting the environment. It is defined as the maximum degree of the highest type of recreational use which a wilderness area can receive consistent with its long-term preservation. It incorporates both ecological and social considerations.

The capability of an area to sustain use involves not only biophysical parameters and ecological considerations, but *social factors* as well. The perceptions and expectations of wilderness users are an integral component of wilderness recreation carrying capacity, and relates to social factors such as perceptions of crowding and visitor experience.

Different recreational users of the Temagami area have different expectations of what type of experience they hope to achieve. Wilderness, solitude, nature appreciation and scenery are important factors for many visitors. Thus, different types of users—canoeists, boaters, house boat users, for example—have different tolerances to factors such as how many other people or boats they encounter in a day. Wilderness canoeists, for example, place a high value on solitude and prefer to have minimal contact with other users; there is an expectation for a general increase in isolation as one travels deeper into a wilderness area.

A Greater Ecosystem Approach

The management plans for the CRs and parks will deal specifically with the lands contained within the boundaries of the five parks and eight CRs. These protected areas share similar resource management concerns and recreational pressures. Management planning will, however, adopt an ecological approach, recognizing that natural processes do not conform to administrative boundaries. Within the context of the *greater ecosystem* approach, it is important to consider the links between the individual wilderness and waterway parks, conservation reserves and Crown lands in the surrounding area. These links include natural processes such as hydrology, fire and wildlife habitat, traditional Aboriginal activities and recreational uses that cross protected area boundaries or produce impacts within the protected areas. It is important to note that several conservation reserves were established to protect important values in adjacent parks such as headwaters, viewscapes and remoteness.

9. *1994 Temagami Economic Impact Study: Park & Crown Land Recreational Canoeing*, Lorne Johnson, University of Toronto, 1994.

8.0 Market Analysis

As wilderness becomes increasingly scarce, areas such as Temagami will become ever more popular and precious. It will become increasingly important to ensure that backcountry recreational use does not exceed its carrying capacity and to ensure the Temagami area's continued status as a wilderness canoeing and recreation area. Controversy over access and land use has elevated the level of publicity to national attention in the past decade. Ongoing debate over Native land claims, old growth forests and pitting preservation against industrial use has resulted in increased awareness and use of Temagami's protected areas and the surrounding Crown lands.

The five parks, eight CRs and adjacent Crown lands cater to a mixed tourism market, which include the wilderness canoeist and the fly-in resort/outpost guest. The main attraction of the Temagami area is accessible, high quality recreational opportunities in a relatively remote wilderness setting.

Several social trends have been identified that will influence economic activity in the plan area:

- increase in spending on tourism
- increase in second home or cottage ownership
- increased global travel
- increased interest in environmental experiences and challenges.

Increases in spending on tourism and cottage ownership can be attributed to the disposable income of the baby boom generation. All of these social trends are likely to have positive effects on tourism in the Temagami area.

The outstanding Temagami Land Claim involves the Temagami Aboriginal Community. Settlement of this claim will provide more certainty for the land base in the Temagami area. Economic partnerships have already developed between Aboriginal and non-Aboriginal communities with high anticipation of creating local employment and long term economic benefits for those involved.

The Aboriginal Communities have a tradition of stewardship which carries on today through ceremonies, culture and language. The spirit of the land is cared for by the original keepers of the land. Through these activities, the First Nations have a balance which includes enhancement of economic opportunities for natives; many of these initiatives include tourism-based activities. Whatever the economic development activity may be, it is done in a sustainable manner that will not only benefit today's people but also the future generations.

A 1994 study[9] estimated there were over 60,000 user-days of canoeing in Temagami in 1994. Youth camps make up over half of this total with 34,000 user-days. Youth camp activity, with an average expenditure of approximately $58/user-day, resulted in an estimated province-wide gross output of $4.2 million and 67 person years of employment.

The remaining 26,000 user-days were generated by regular vacationing canoeists, with an average expenditure of approximately $47/user-day).Their use generated over $2.6 million in gross output and 31 person-years of employment province wide in 1994. It is estimated that $780,000 and 10 person-years of employment were generated within the Temagami region, with the remainder occurring primarily in Southern Ontario.

The study estimated that roughly 60 percent of the canoeing activity in the Temagami area occurs on Crown land. This translates to approximately 36,000 user-days. The remaining 40 percent (approximately 24,000 user-days) takes place within Lady Evelyn-Smoothwater Provincial Park and the four adjacent waterway parks.

Resource Based Tourism

The Temagami area has 64 private sector commercial tourist establishments, two municipal campgrounds and one highway-accessible provincial park that provide tourism accommodation. Visitors to Temagami are estimated at 42% during the summer, 21% in the spring, 19% in the fall, and 18% in the winter. Sixty-seven percent of visitors come from Ontario. It is estimated that in 1997 visitors spent $20.0 million in the Temagami area. Using an economic multiplier of 4.0 person years of employment per $100,000 of primary visitor expenditures, the net result is 800 person years of employment.

Most clients of nearby commercial tourism camps are sport anglers, with some hunting parties in the fall. It is estimated that two thirds of the clientele visit during the first six weeks of the fishing season (May-June), while the balance of anglers visit in July and August.

Most canoeists visit Temagami during July and August. A high proportion of nearby lodge guests is from the U.S.A., while the origin of canoeists consists of approximately 80% resident and 20% non-resident visitors.

The five parks and eight CRs, in conjunction with the entire Temagami Crown land area, are expected to capture an increased share of the traditional wilderness canoeing market. This trend is indicated by a significant increase in interest in adventure tourism. Since the Ontario Parks office was established at Finlayson Point Provincial Park in Temagami in 1997, there has been a marked increase in the number of inquiries.

Area outfitters and tourism operators undertake major efforts in marketing the Temagami area's features and canoe routes. Publications, websites, trade shows, special events and offerings all provide more exposure and "brand" recognition of Temagami and the "Temagami Experience."

Currently, marketing of Temagami's provincial parks occurs through the Ontario Parks web site (www.OntarioParks.com) and parks representation at various sports shows in southern Ontario and in the mid-western United States. A park tabloid and fact sheets provide basic information. Ontario Parks has revised the original MNR district canoe route map, now published as *Temagami Canoe Routes—Planning Map*. It is sold at Finlayson Point Provincial Park and a number of retailers locally and across the province. A new *Adventure Map* series by Chrismar Mapping offers navigational, planning and interpretive information for the Temagami area. The first map in a series of four is currently in print.

Temagami Canoe Routes by Hap Wilson has had several editions since first published in 1978. It offers detailed information on a number of canoe routes—canoeists can combine sections of these routes, or explore other possibilities beyond those outlined. An updated and revised edition was released in 2004 under the title *Canoeing, Kayaking and Hiking Temagami.*

9.0 Issues and Opportunities

The integrated planning process will address a number of significant issues which are related to parks, CRs and Crown land recreation. The following list is a "scoping exercise"—it is by no means complete and is subject to public and stakeholder review. As the planning process continues, issues will be added or redefined. The next document that will be produced in the summer of 2005 will deal specifically with issues and opportunities. The topics mentioned below (as well as those received from public comments from this Background Information document) will be discussed in more detail in the Issues and Opportunities document.

Some of the following issues are unique to Waterway and Wilderness class parks, while others arise from past activities prior to park establishment that do not conform to park policy as outlined in *Ontario Provincial Parks: Planning and Management Policies* (OMNR 1992). Other issues apply specifically to conservation reserves or to recreational aspects of Temagami's Crown land. A number of issues are shared among all three planning components. ***Note:*** these issues are not ranked by order of significance.

Access

- uncontrolled road access to, and within, park boundaries
- existing road access through Lady Evelyn-Smoothwater Wilderness Park
- mechanized off-road travel—ATV and snowmobile access and effects on other land uses/values
- private and commercial aircraft access within the parks
- boat caches—access to more remote lakes and increased angling pressures
- public demand for motorized access to remote lakes
- ensure continued access to the land by First Nation peoples for traditional uses.

Adjacent Land Uses and Activities

- possible impacts of nearby resource extraction activities on protected area values
- possible impacts of protected area management/activities/values on adjacent land uses/activities
- supportive landscape management within the context of the greater surrounding ecosystems
- integration of planning for parks with adjacent conservation reserves (e.g. park zoning)
- implementation of recreation planning and management for Crown lands; integration with protected area management.

Area Social and Economic Opportunities, Benefits and Impacts

- opportunities for partnerships or business agreements with area First Nations, communities, municipalities and businesses in the operation and management of the backcountry parks
- concern that First Nation rights and traditional uses of the land are not diminished; ensure their capability to contribute to environmental stewardship and sustainability
- integration with operation/management initiatives between parks and adjacent Crown lands
- restrictions on existing land use permits (private and commercial) and non-conforming uses within the parks.

- opportunities for an expanded hiking trail system within the Temagami area; future hiking trail along the Lake Temiskaming shoreline.
- ecotourism and adventure tourism opportunities; balance with the protection of natural and cultural features as well as existing tourism values
- ability to accommodate different users such as lodge/outpost camp clientele and canoeists, so that conflicts between user groups can be minimized.

Protection

- research priorities
- angling pressures on park fisheries
- appropriate zoning designations within Wilderness and Waterway class parks; integration with planning for adjacent conservation reserves
- the Temagami area is rich in cultural and heritage values to both the Temagami and Matachewan First Nations as well as non-Aboriginal communities. Cooperation between the First Nations and other area communities will be necessary to ensure the protection of these values and resources
- identification, assessment and management of heritage resources within the protected areas
- a fire management strategy for a Wilderness class park.

Rehabilitation and Restoration of Ecosystems

- ecological restoration of fisheries/aquatic habitats within the parks; ensure the naturally reproducing wild population of aurora trout can be self-sustaining in their natural range
- removal and rehabilitation of old resource extraction road networks within the parks
- restoration and management of altered forest stands and plantations within the parks
- further research requirements in protected areas, e.g., predator/prey relationships.

Visitor Management and Customer Service

- education, information and enforcement within parks
- education and interpretation about traditional First Nation's uses of the land; foster understanding/ appreciation for Aboriginal communities as original stewards of the land
- needs assessments for backcountry users: youth camps, commercial outfitters, individual campers
- visitor distribution within the parks; integration with recreational use/travel patterns on adjacent Crown lands
- visitor registration and fee collection[10]; integration between parks and Crown land regarding visitor registration/fees
- standards for backcountry operations; current lack of maintenance of portages and campsites on Crown land
- low-impact wilderness travel; degradation of campsites due to garbage and human waste, vegetation damage
- aesthetic concerns and maintenance of quality experiences; retaining viewscapes on portages, lakes and rivers; noise associated with other land uses and its effect on recreational users.
- visitor safety
- conflicts between motorized and non motorized uses on Crown land and waters; safety/aesthetics
- safety concerns associated with winter trail development across frozen water bodies
- increased boat traffic and congestion on popular lakes; conflicts between motor boat operators and canoeists on some lakes; competition for campsites, especially on more accessible lakes such as Lake Temagami, can be significant
- effects of new road crossings on Crown land portage trails
- waste management and landfill use.

10. In May 2004, the five provincial parks became operational and interior camping fees are now in effect. These funds enable interior park wardens to undertake canoe route and campsite maintenance within the parks.

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Species at Risk

Ontario Parks (SARO list): www.ontarioparks.com/english/sar.html

Royal Ontario Museum-MNR: www.rom.on.ca/ontario/risk.php

Natural Heritage Information Centre: www.mnr.gov.on.ca/MNR/nhic/nhic.cfm

COSEWIC: www.cosewic.gc.ca

Federal Species at Risk: http://www.speciesatrisk.gc.ca/default_e.cfm

Appendix 2: Glossary

Access Point: A site, usually along or at the end of a road, used to gain access to backcountry areas. Access points take the form of trailheads, boat launches, road pullouts and water crossings. Typically for the Temagami area, access points enable water access by boat or canoe to recreational resources such as canoe routes, angling lakes, cottages and hunting areas.

Backcountry: A term usually applied to wilderness areas where there are no permanent access roads, developments or settlements. Camping facilities are generally primitive (fire pit, tent pads, pit privy) and few other facilities exist.

Boat Cache: A temporary or indeterminate storage site for boats/canoes adjacent to a water body. Typically boat caches are found at the "far end" of portages, enabling anglers to access lakes by foot or ATV which do not have direct vehicle access. Other boat caches are found on lakes which are typically accessed only by aircraft.

Carrying Capacity: A resource management concept that involves a number of key aspects such as level of use, long-term maintenance and the level of environmental quality. In recreation management terms, the maximum number of individuals that a given environment can support without detrimental effects.

Conservation Reserve (CR): A new form of protected area in Ontario regulated under the Public Lands Act. CRs complement provincial parks in protecting representative landscapes and ecosystems across the province, while allowing a range of existing uses (such as wildlife viewing, hunting fishing, hiking, boating) to continue. Commercial uses such as forestry, mining, hydro development or aggregate extraction are not permitted in CRs. Management direction for CRs is provided by Statements of Conservation Interest (SCI) or Resource Management Plans.

Constraints and Capabilities: A constraint is as a limitation or restriction whereas a capability is the power or ability to do something. For resource planning, constraints and capabilities are often influenced by natural features (e.g., topography, climate, vegetation) or by policies or regulations that provide direction on what can, and can not be considered during planning (e.g., Provincial Parks Act, *Ontario's Living Legacy Land Use Strategy*)

Crown Land: Land vested in Her Majesty in right of Ontario.

Daki Menan: The area considered the ancestral homeland of the Teme Augama Anishnabai. Today, this area is considered synonymous with the area covered in the Temagami Land Claim. See also *Traditional Family Lands*, as well as Figure 11.

Ecodistrict: An ecological landscape unit defined by subregional patterns of landforms, physiography, and topography. These physical factors result in modifications of local climate, abiotic landscape complexity and configuration, distribution of dominant surfical and soil materials, vegetation distribution and productivity. Ontario's 14 ecoregions are subdivided into 71 ecodistricts. Ecodistricts are usually several thousand square kilometers in size.

Ecoregion: A large ecological landscape unit that captures major subdivisions of Ontario, primarily identified by sub-continental climatic regimes. Ecoregions identify broad abiotic factors such as temperature and precipitation that influence patterns of primary productivity, biotic distribution, and soil development. Within Ontario there are 14 different ecoregions, ranging from the Hudson Bay Lowlands to the Carolinian Forest. Their sizes range from hundreds of thousands to tens of thousands of square kilometers.

Ecosite: A site-specific ecological landscape unit comprised of relatively uniform geology, parent materials, soils, topography, and hydrology, occupied by consistent complexes of dominant overstorey and understorey vegetation Ecosites range from less than one hectare to hundreds of hectares in size.

Endangered Species: Any indigenous species of flora or fauna whose existence in Canada is at risk of immediate extinction throughout all or a significant portion of its range due to the actions of humans.

Implementation Plan: A subsidiary planning document which takes direction from the park management plan. These plans deal with specific issues such as resource stewardship, park operations or development. They provide more detail to implement specific activities within a park as directed by an approved management plan. Examples include: cultural resources management, emergency plans, recreation management, fisheries, research, vegetation management, facility development and so on.

Interim Management Statement (IMS): An interim document used to guide park management until a full park management plan can be undertaken. An IMS is typically a concise document, often based upon minimal information. Its main focus is protecting park values and ensuring public safety.

Land Use Permit (LUP): A permit to occupy a specific site on Crown land for a specific purpose. It does not convey any right, title or interest in the resource being occupied. A *Commercial Land Use Permit* allows for commercial uses of the site to generate income. These typically consist of remote outpost camps that provide overnight accommodation for clients engaged in resource based activities such as hunting, fishing or dog sledding. A *Private Recreational Land Use Permit* allows the construction and use of a cottage or "camp" for private (non-commercial) recreational activities.

Licence of Occupation: A permit to occupy, similar to a LUP, but generally for longer time periods (e.g., 40 years). These are generally used in such cases as the flooding of land due to water control structures.

Nastawgan: The Ojibwe term for traditional travel routes throughout the Temagami area and Northeastern Ontario. These routes consist of waterways and portages (called *onigum*) as well as winter trails over land (*bon-ka-nah*) and frozen water bodies. Developed by the Teme Augama Anishnabai over thousands of years, many of the routes are still in use today.

Park Classification: No individual park can be all things to all people. Park classification organizes parks into broad categories, each with particular purposes and characteristics, as well as distinctive planning and management policies. There are six classes of park within Ontario's provincial park system: Wilderness, Nature Reserve, Historic, Natural Environment, Waterway and Recreation. The five parks included in the Temagami Integrated Planning process are Wilderness and Waterway class parks.

Park Zoning: The land base within a park is zoned on the basis of resource significance and recreational potential. Thus, a park's land and water resources are allocated based upon their significance for protection or their potential for recreation and development. In this manner, park lands and waters can be allocated to their most appropriate role in each park.

There are six possible zone types that can be applied during the management planning process. Depending on its classification, provincial parks may contain the following zones: Nature Reserve, Wilderness, Natural Environment, Historical, Access and Development (see Appendix 3 for a description of the different types of zones). Not all zones are applicable in all classes of parks. Planning and management policies appropriate to each type of zone are applied consistently throughout the parks system.

Protected Area: Lands and waters with defined boundaries established primarily to protect natural and cultural heritage features. These areas are protected by legislation, regulation or policy to control human use, occupancy or activity. Within Ontario, these typically include provincial parks and conservation reserves.

Provincial Park: A protected area regulated under the Provincial Parks Act. Provincial parks are established to ensure that features representing the most significant aspect of Ontario's natural and cultural history are protected—now, and for future generations. Ontario's system of parks strives to meet four key objectives: protection, heritage appreciation, recreation, and tourism.

Management Plan/Resource Management Plan: By policy, the management of provincial parks or conservation reserves is directed through Park Management Plans, Statements of Conservation Interest, or Resource Management Plans. These plans or statements provide strategic direction for the use and management of the landscapes/ecosystems being protected.

Park Management Plan: A document which defines the long-term protection, management and use of a provincial park. Management plans provide overall guidance in accordance with provincial policies.

Resource Management Plan: A document which provides direction for the comprehensive, long-term management of Conservation Reserves. Resource Management Plans (RMPs) are typically written for CRs with more complex planning issues. The equivalent of Park Management Plans, a resource management plan is prepared through the MNR planning process, which includes public consultation.

Statement of Conservation Interest (SCI): A document which provides management direction for *conservation reserves*. An SCI is used for CRs which do not involve complex issues; in these cases, a more comprehensive *resource management plan* is required (see above). Note that a resource management plan will be developed for the eight CRs in this planning process.

Temagami Area: The area defined in the *1997 Temagami Land Use Plan*. This includes most of the entire former Temagami District as well as a small portion of Kirkland Lake District to the north of Lady Evelyn-Smoothwater Provincial Park. Makobe-Grays River Provincial Park and Makobe Grays Ice Margin CR both lie within Kirkland Lake District. It also includes a portion in the southwest corner that was formerly part of the Sudbury District which was added to the Temagami Area of North Bay District in 1997.

Traditional Family Lands: *Daki Menan* is a 4000 square mile (10,360 km^2) territory that is home to the fourteen traditional families. Each family has there own territory that they utilized and continue to do so in a sustainable manner. See also Figure 11.

Traditional Use: Aboriginal peoples have used Temagami's lands and waters for thousands of years to sustain life as well as to meet their cultural and spiritual needs. Ancient patterns of land use revolved around seasonal cycles. This often dictated movement by families or individuals across the landscape to secure food, medicine, clothing, building materials and for a range of social/cultural activities. Many Native people continue to use the area's resources in a traditional manner for their economic and spiritual needs, and as an important connection to their culture.

Waterway Park: A class of provincial park which incorporates outstanding recreational water routes with representative natural features and historical resources to provide high quality recreational and educational experiences.

Wilderness Park: A class of provincial park of substantial area where the forces of nature are permitted to function freely and where visitors travel by non-mechanized means and experience expansive solitude, challenge and personal integration with nature.

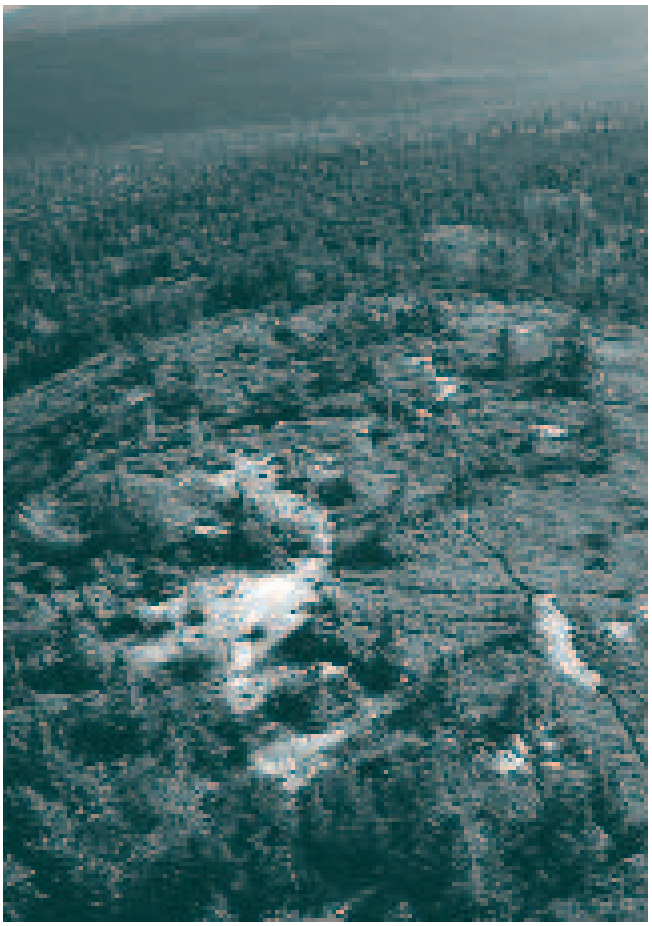

Table 4: Key Differences between Conservation Reserves and Provincial Parks

	Conservation Reserves	Provincial Parks
Legislation	■ Public Lands Act Regulation 805/94 (1994)	■ Provincial Parks Act (first passed in 1913)
Key Objectives	■ Protection, compatible recreation	■ Protection, recreation, education, tourism
Regulation	■ Public Lands Act Regulations (only 805/94 applies specifically to conservation reserves; otherwise regulations applying to Crown land in general apply to conservation reserves)	■ *Provincial Parks Act Regulations* (extensive regulations are in place to deal with recreational use)
Planning & Management Policies	■ *Conservation Reserves Policy* (1997) ■ For conservation reserves in the OLL planning area, policies contained in the *Ontario's Living Legacy Land Use Strategy*; and the *Temagami Land Use Plan* (1997) for conservation reserves in the Temagami area	■ *Ontario Parks Planning and Management Policies* (1978, updated 1992) ■ For parks in the OLL planning area, policies contained in the *Ontario's Living Legacy Land Use Strategy*
Management Planning	■ Statement of Conservation Interest (SCI) or a more detailed Resource Management Plan, which may include public consultation.	■ Park Management Plans are prepared with public consultation. ■ Interim Management Statement are prepared to guide park management until the more detailed plan can be completed
Management Responsibility	■ Planning and management is conducted by MNR District and Regional Offices (Field Services Division) ■ Program direction is provided by Ontario Parks	■ Ontario Parks (Natural Resource Management Division)
Revenue	■ Minimal – Fees are paid for any leases, land use permits, etc. but fees are not generally charged to recreational users. Temagami Integrated Planning will explore the feasibility of Crown land camping fees for backcountry maintenance.	■ Yes – fees are charged for use of parks that offer services and facilities; these fees support operation of parks

Table 5: Rare and Endangered Species in the Temagami Area*

Scientific Name	Common Name	OMNR Status[1]
Aeshna subarctica	Muskeg Darner	Rare[2]
Astragalus australis	Milk-vetch	Rare[2]
Botrychium rugulosum	Rugulose Grapefern	Rare[2]
Boyeria grafiana	Ocellated Darner	Rare[2]
Carex haydenii	Cloud Sedge	Rare[2]
Chlidonias niger	Black Tern	Special Concern[3]
Falco peregrinus anatum	Peregrine Falcon	Endangered – Regulated[4]
Felis [Puma] concolor couguar	Eastern Cougar (Mountain Lion)	Endangered – Regulated[4]
Gymnocarpium robertianum	Limestone Oak Fern	Rare[2]
Haliaeetus leucocephalus alascanus	Bald Eagle	Endangered – Regulated[4]
Hygrohypnum subeugyrium	A Moss	Rare[2]
Myotis septentrionalis	Northern Long-eared Bat	Rare[2]
Oxyura jamaicensis	Ruddy Duck	Rare[2]
Potamogeton confervoides	Algae-like Pondweed	Rare[2]
Salvelinus fontinalis timagamiensis	Aurora Trout	Endangered - Regulated[4]
Somatochlora elongata	Ski-tailed Emerald	Rare[2]
Somatochlora kennedyi	Kennedy's Emerald	Rare[2]
Somatochlora tenebrosa	Clamp-tipped Emerald	Rare[2]
Somatochlora walshii	Brush-tipped Emerald	Rare[2]
Stylogomphus albistylus	Least Clubtail	Rare[2]
Stylurus notatus	Elusive Clubtail	Rare[2]
Stylurus scudderi	Zebra Clubtail	Rare[2]
Sympetrum danae	Black Meadowhawk	Rare[2]
Williamsonia fletcheri	Ebony Boghaunter	Rare[2]
Woodsia glabella	Smooth Woodsia	Rare[2]

* Data from this list is specific to the Temagami area and is derived from Natural Heritage Information Centre website element occurrences and the *Species at Risk in Ontario List* (April 26, 2004).

1. OMNR Status: Species are reviewed provincially by the Ontario Ministry of Natural Resources' Committee on the Status of Species at Risk in Ontario (COSSARO). Species may also be reviewed nationally by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and this information can be found at: www.cosewic.gc.ca

2. Rare: Species listed as rare have generally been recorded or found less than 100 times. Information about these species is collected by the Natural Heritage Information Centre (www.mnr.gov.on.ca/MNR/nhic/nhic.cfm). These rare species have not yet been evaluated by the Ontario Ministry of Natural Resources' Committee on the Status of Species at Risk in Ontario.

3. Special Concern: COSSARO evaluated species that has characteristics that make it sensitive to human activities or natural events.

4. Endangered (Regulated): COSSARO evaluated species that is facing imminent extinction or extirpation in Ontario and has been regulated under Ontario's Endangered Species Act.

Provincial Park Zoning

Nature Reserve Zones protect the provincially significant earth and/or life science features within a park, and may include a protected buffer area in which a minimum of development is permitted. Such development is generally restricted to trails, necessary signs, interpretive facilities (where warranted) and temporary facilities for research and management.

Wilderness Zones include wilderness landscapes of appropriate size and integrity to protect natural and cultural values, and to support extensive types of backcountry recreation such as canoeing or hiking. Development is limited to backcountry campsites, portages, trails and signs necessary for route identification. Wilderness campsites are canoe-in or hike-in; established at a very low density. They offer primitive facilities (e.g. fireplaces and pit privies), in keeping with the character of the landscape which the zone protects.

Historical Zones encompass the provincially significant cultural resources of a park. They generally focus on a specific site (e.g. occupation site, building) and that site's relationship to the surrounding landscape, so they may include a protective buffer around the main feature in the zone. Development is limited to trails, necessary signs, interpretive, educational, research and management facilities and historical restoration or reconstruction where appropriate.

Natural Environment Zones include natural landscapes which permit the minimum level of development required to support low-intensity recreational activities. Development is limited to backcountry campsites, portages, necessary signs and minimal interpretive facilities.

Access Zones serve as staging areas, a means of both providing and regulating use in areas of the park geared towards extensive recreation. Generally, development is limited to roads, visitor control structures and group campgrounds. Provision may be made for limited orientation, interpretive or educational facilities, though generally more for self-use rather than through structured personal service. Limited facilities for research and park management may be present.

Development Zones contain areas geared towards the support of intensive car camping and day-use activities. They constitute a relatively small portion of most parks. Development may include roads, visitor control structures, beaches, picnic areas, car campgrounds, commercial service facilities, and orientation, interpretive, educational, research and management facilities.