

Summary of Kennisis Watershed & Lakes Management Plan September 2007



Prepared by: The Kennisis Lake Planning Steering Committee
in conjunction with French Planning Services Inc.

Sponsored by: The Kennisis Lake Cottage Owners' Association

Contact: KennisisLakePlan@sympatico.ca

© Kennisis Lake Cottage Owners Association

Summary of Kennisis Watershed & Lakes Management Plan

About This Summary

This is a summary of the approved version of the Kennisis Watershed & Lakes Management Plan. It replaces the May and August 2007 draft summary versions that were distributed in conjunction with an extensive consultation process.

Supplementary maps and reports relating to the Plan will be released on an occasional basis. Please see www.kennisis.ca for details. Comments on this document may be sent to KennisisLakePlan@sympatico.ca

© Kennisis Lake Cottage Owners Association

Front Cover: *The photograph on the front cover was taken by Lake Steward, Cam Douglas in the fall of 2006. It is a view of the Kennisis Watershed looking almost due north from the southernmost point of the watershed with Lipsy Lake in the immediate foreground. The image is intended to reflect that the document is about the entire Kennisis Watershed, although the focus is on the Kennisis Lakes.*

Summary of Kennisis Watershed & Lakes Management Plan

TABLE OF CONTENTS

1	INTRODUCTION	4
1.1	THE PURPOSE OF A WATERSHED & LAKE MANAGEMENT PLAN	4
1.2	THE KENNISIS WATERSHED & LAKES	4
1.3	THE KENNISIS WATERSHED & LAKES MANAGEMENT PLAN.....	4
1.4	WHAT THE KENNISIS WATERSHED & LAKES PLAN IS NOT	5
1.5	HOW THE KENNISIS WATERSHED & LAKES PLAN WAS DEVELOPED	5
1.6	SPONSORS AND SUPPORTERS OF THE PLANNING PROCESS	6
1.7	SOURCES OF PUBLISHED INFORMATION.....	6
1.8	THE LAKE PLAN IS JUST THE BEGINNING	6
1.9	DISCLAIMER.....	7
2	VALUES, VISION & PRINCIPLES.....	8
2.1	COMMUNITY VALUES	8
2.2	VISION FOR THE FUTURE.....	9
2.3	GUIDING PRINCIPLES	10
2.4	PERSONAL AND COLLECTIVE ACCOUNTABILITIES	11
3	LAKE DESCRIPTION.....	12
3.1	GENERAL LOCATION	12
3.2	KENNISIS LAKES CHARACTERISTICS	13
3.3	KENNISIS WATERSHED.....	14
3.4	OWNERSHIP OVERVIEW.....	15
4	NATURAL HERITAGE FEATURES	16
5	PHYSICAL ELEMENTS.....	16
6	SOCIAL ELEMENTS.....	16
6.1	RECREATIONAL BOATING.....	16
7	LAND USE.....	18
7.1	SUMMARY OF LAND USE	18
7.2	DESIGNATED PUBLIC-USE LANDS.....	19
8	RECOMMENDATIONS & ACTION PLAN.....	20
8.1	A COMMUNITY APPROACH	20
8.2	PRIORITY ISSUES.....	20
8.3	RECOMMENDATIONS.....	22
8.4	ACTION PLAN (NEXT STEPS).....	30
	ABBREVIATIONS.....	30

Summary of Kennisis Watershed & Lakes Management Plan

1 INTRODUCTION

1.1 THE PURPOSE OF A WATERSHED & LAKE MANAGEMENT PLAN

The purpose of a Watershed & Lake Management Plan is to recognize and protect the unique character of a watershed and the lakes contained therein. Ways to ensure the long-term protection, maintenance and restoration of natural, social and physical features are recommended. Because most people tend to live around one or more lakes within a watershed, these plans are frequently referred to as “Lake Plans”.

Lake Planning is a community-based process that considers the interests of all stakeholders within the watershed surrounding a particular lake. These stakeholders include shoreline owners and residents, commercial operators, private and crown land managers and lake users.

1.2 THE KENNISIS WATERSHED & LAKES

The Kennisis watershed occupies a unique location in Central Ontario. From the watershed’s northern boundary, water flows one of three ways: west to Georgian Bay; east to the Ottawa River; or south through the Kennisis Lakes and the Gull and Trent River systems to Lake Ontario. As headwater lakes, the Kennisis Lakes have no upstream sources of pollution to contend with and their pristine nature is a valuable legacy to protect for future generations both within the immediate watershed and downstream to Lake Ontario.

1.3 THE KENNISIS WATERSHED & LAKES MANAGEMENT PLAN

Section 2 of the Kennisis Watershed and Lakes Plan describes a series of principles and targets that are important in order to ensure the health and sustainability of our lakes, streams and rivers for future generations. These in turn lead, in later sections of the Plan, to the identification of a series of issues, options and recommended actions.

Sections 3 through 6 of the Plan provide a general description of the Kennisis Lakes and identify the significant natural, physical and social characteristics that make our lakes and the surrounding watershed desirable places to live, work and visit. A key influence is the well-established ‘cottage owners community’ which brings with it a whole sub-culture and an array of aspirations and expectations.

Section 7 deals with land-use planning, designated ‘public-use’ lands and the regulatory aspects of zoning and waste disposal. In Section 8, the Plan attempts to synthesize the wealth of information in the preceding sections into a coherent set of issues and recommended actions.

Some of the recommended actions will be presented to the Municipality of Dysart et al with regard to enhancing land-use policies and tools to protect the special features of the Kennisis environment. However, the majority of recommended actions are for everyone to consider because they are focused on Stewardship and Education actions designed to protect the area’s superb quality of life.

Summary of Kennisis Watershed & Lakes Management Plan

1.4 WHAT THE KENNISIS WATERSHED & LAKES PLAN IS NOT

Every effort has been made by the Kennisis Lake Plan Steering Committee to ensure that the production of this document is NOT a self-serving exercise to advance the special interests of those lucky enough to already own a cottage on one of the Kennisis Lakes. Instead, the community of cottage owners has tried to rise above their own special interests and consider the broader issues that impact the natural environment and the overall health of the local ecosystem. In this effort they have been aided by a wide array of stakeholders that includes local businesses, all levels of government, and others who visit the region for a variety of recreational opportunities.

1.5 HOW THE KENNISIS WATERSHED & LAKES PLAN WAS DEVELOPED

In the summer of 2004, the members of the Kennisis Lake Cottage Owners Association (KLCOA) endorsed a proposal from the Lake Steward to form a Steering Committee to develop a Lake Plan. The volunteer Steering Committee engaged the services of French Planning Services Inc. to provide professional consulting assistance. Based on the valuable experience gained by those who have developed lake plans for other regions of Ontario, background data were collected, a number of stakeholder workshops were held and a wide-ranging mail-in survey of issues was conducted.

These inputs formed the basis for the identification of key issues, options and possible solutions. A further round of consultation then allowed the Steering Committee to confirm priorities and to build consensus around a series of recommend actions aimed at ensuring the long-term sustainability of the Kennisis Watershed and Lakes for future generations. These actions encompass concern for such things as improved water quality, wildlife habitat, recreational opportunities, and appropriate residential and commercial development.

Details of the 'Residents' and 'Commercial' surveys conducted during the summer of 2005 are included in the Appendices as well as summaries of the 2005 stakeholder and residents workshops, and summaries of additional workshops held during the summer of 2006.

In May of 2007 the Draft Lake Plan document was released. 1,200 copies of the Lake Plan Summary were printed and efforts were made to distribute a copy to every cottage property on the Kennisis Lakes as well as all stakeholders. The summary and complete versions of the Plan were also posted on the KLCOA website. Feedback was encouraged by mail, e-mail, on a Facebook website, and at two 'open houses' held at the Haliburton Forest. A presentation was made to Municipal Council and discussions held with the municipal planning department. On July 3, Council briefly reviewed the Draft Lake Plan recommendations and advised of their continuing interest in the lake planning process for the Kennisis Lakes.

In August of 2007, as a result of comments received during the consultations, a revised Draft was released on the KLCOA website and a synopsis of changes made to the May 2007 Draft was prepared and provided to those attending an open

Summary of Kennisis Watershed & Lakes Management Plan

meeting held in conjunction with the KLCOA Annual General Meeting on September 1, 2007.

At the meeting which was open to members as well as non-members of the KLCOA, the Plan was approved by a majority (73%) of the 130 votes cast.

1.6 SPONSORS AND SUPPORTERS OF THE PLANNING PROCESS

The Kennisis Watershed and Lakes Management Plan was sponsored by the KLCOA, whose members provided the majority of funding and volunteer support. Significant in-kind support was provided by The Haliburton Forest and Wildlife Reserve Ltd. Extensive work in 2004-2005 by the KLCOA Lands Tasks Committee was invaluable in developing the section on 'Designated Public-Use Lands'.

Mapping data was obtained free of charge from the Ontario Ministry of Natural Resources (MNR) under the terms of an Interim Data Sharing Agreement and customized for the Lake Plan. We acknowledge the support of MNR's Geographic Information Branch with thanks.

Additional cash contributions were provided by the Municipality of Dysart et al.

1.7 SOURCES OF PUBLISHED INFORMATION

A list of reference materials is provided at the end of this document. Many individuals, businesses, not-for-profit and government organizations provided both encouragement and valuable information regarding one or more aspects of the Lake Planning exercise. They included:

- The Municipality of Dysart et al
- The Township of Algonquin Highlands
- The County of Haliburton
- The Ontario Ministry of Natural Resources
- The Ontario Ministry of the Environment
- The Ontario Ministry of Northern Development and Mines
- The Ontario Provincial Police (Marine Unit)
- Fisheries and Oceans Canada
- Parks Canada Agency: Trent Severn Waterway
- The Coalition for Equitable Water Flow
- Haliburton Highlands Land Trust

Because the Lake Plan is an on-going process, several contributors will inevitably have been omitted: the Steering Committee nonetheless appreciates and values ALL who have provided input.

1.8 THE LAKE PLAN IS JUST THE BEGINNING

Lake Planning is a *process* and so the production of a Kennisis Watershed and Lakes Management Plan is only the first step in an on-going community effort to maintain and enhance the natural, social and physical environment that is the Kennisis experience.

Summary of Kennisis Watershed & Lakes Management Plan

1.9 DISCLAIMER

The maps and figures presented in this document are for reference purposes only. No representation is made or warranty given as to the accuracy or completeness of any content. The user assumes all risks of use. Neither the Lake Planning Steering Committee nor the KLCOA assumes responsibility for any loss resulting from such use. Maps are produced by KLCOA based on data provided under Licence with the Ontario Ministry of Natural Resources © Queen’s Printer for Ontario, 2007.

Kennisis Lake Planning Steering Committee	
Ron Butcher	Chair
Nancy Anderson	Social Elements
Cameron Douglas	Lake Steward, Executive Liaison, Land Use, Waste Disposal (Septics & Landfill)
Jeff Gardner	Survey, Public Lands Use and Maps
Cathie Heppell	Administration and Historical Elements
Paul Potter	Social Elements
Jim Prince	Natural Heritage & Physical Environment
Chris Riddle	Editor and Water Levels
Peter Schleifenbaum	Natural Heritage & Physical Environment
Grif Speers	Natural and Environmental Heritage
Jan Townley	General support
Ann Vanstone	Communications



Norah’s Island looking north (courtesy Cam Douglas)

2 VALUES, VISION & PRINCIPLES

2.1 COMMUNITY VALUES

The purpose of this Lake Plan is to identify, protect and improve the important natural, physical, and social values and characteristics of the Kennisis Lakes.

The planning process and the execution of the Plan are designed to find common ground for the diversity of needs and interests that exist among those who have a stake in, and an impact on, the continuing health of the Kennisis Lakes. The Plan will also assist the various stakeholders, including the appropriate levels of government, in determining land use policies that will protect the special properties of the lakes that attracted many of us to the Kennisis Lakes in the first place.

The Lake Plan is a cornerstone to protecting what we, in common *value*. More than anything else, the vast majority of our community values the preservation and improvement of the natural environment.

The 2005 Survey, and the 2006 Property Owner workshops, determined there was a strong consensus with regard to the things that people value. Figure 2.1 ranks the qualities and activities that survey respondents said were either very or somewhat important.

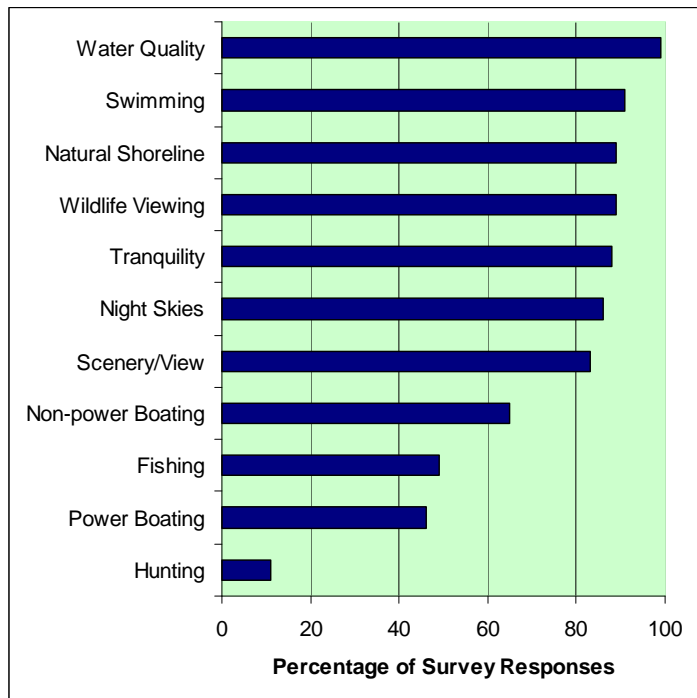
Figure 2.1 Ranking of Lake Quality Values

Important Qualities:

- Water Quality 99%
- Natural Shoreline 89%
- Wildlife 88%
- Tranquility 88%
- Night Skies 86%
- Scenery 83%

Important Activities:

- Swimming 90%
- Canoeing/Sailing 65%
- Fishing 49%
- Power Boating 46%
- Hunting 11%



Summary of Kennisis Watershed & Lakes Management Plan

2.2 VISION FOR THE FUTURE

Three questions influenced the development of the Lake Plan:

1. What will Kennisis Lake look like 50 years from now?
2. What do we value sufficiently that we feel is worth protecting?
3. How can we ensure that future generations will be able to enjoy what we have today?

The answers to these questions led to the following vision statement:

Figure 2.2 Vision Statement

Our Community Envisions the Kennisis Lakes to be a place where:

The beauty of the landscape, the tranquility of the surroundings and the quality of the water are protected and preserved;

Precedence is given to activities that maintain the natural and social qualities of the lake over activities that have the potential to degrade environmental sustainability;

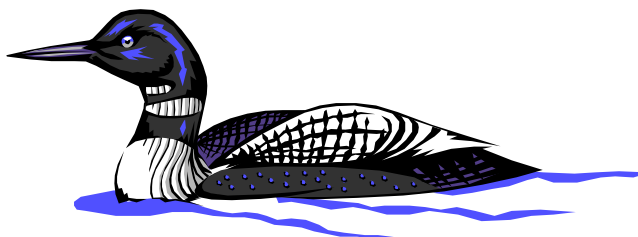
Wildlife, fish and plant habitat are safeguarded;

The lake is a shared experience, where respect and dignity are shown to others and expected in return;

Our community balances the needs of those that desire tranquility with the needs of recreational users;

Public spaces are maintained for everyone to enjoy; and

The community is actively involved in stewardship; and promotes education as a way to ensure respect for their neighbours and the law.

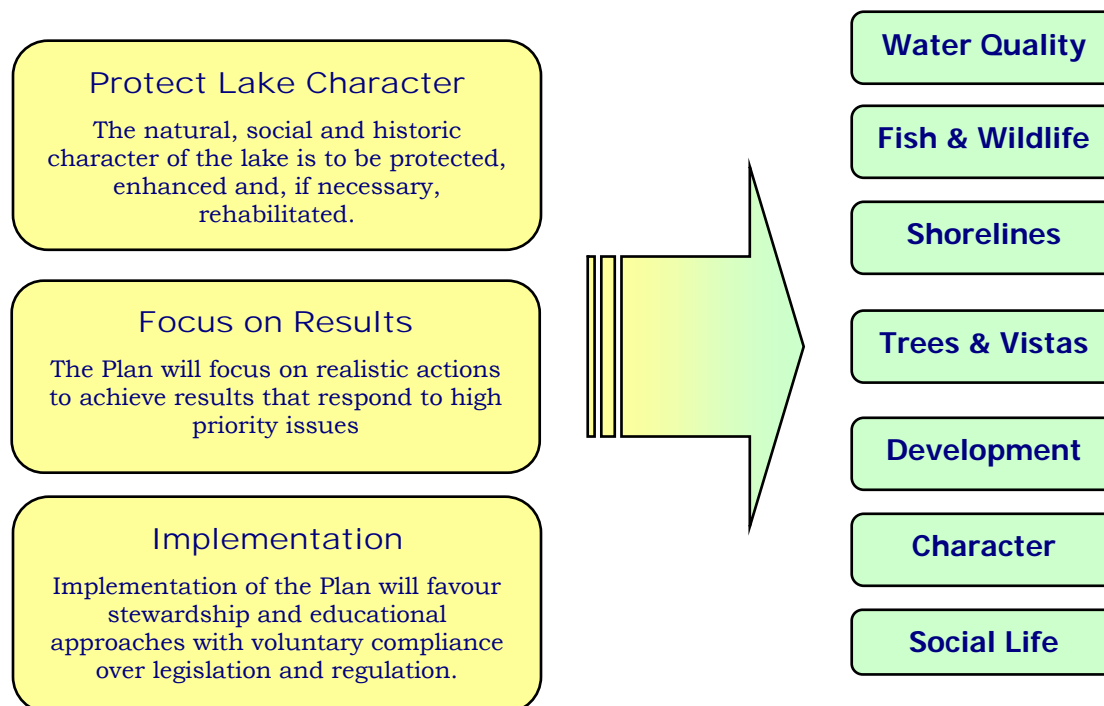


Summary of Kennisis Watershed & Lakes Management Plan

2.3 GUIDING PRINCIPLES

A set of guiding principles was established to focus the Lake Plan on several key values and start the process of making the Vision a reality.

Figure 2.3 Guiding Principles and Key Elements



Typical implications of the guiding principles for each key element are as follows:

Water quality – That the water of the Kennisis Lakes not contain contaminants in excess of the natural historic levels (i.e. the level of contaminants that would occur in nature prior to human habitation) nor in excess of current officially regulated standards;

Fish and wildlife – That the Kennisis Lakes support a sustainable fish population including optimum habitat for their naturally reproducing lake trout and maintain stability in the bio-diversity of wildlife species and their habitat. That the further introduction of “invading species” such as zebra mussels be prevented;

Natural shorelines – That the protection and rehabilitation of the lake shoreline and river banks, described as the “ribbon of life” that supports a diverse range of fish and wildlife species, be promoted to increase the amount of natural shoreline;

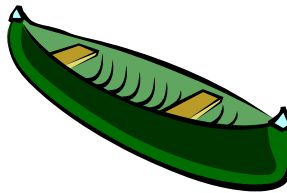
Summary of Kennisis Watershed & Lakes Management Plan

Trees and vistas – That the natural vista from the Kennisis Lakes be maintained and that buildings and structures have a minimal impact on the natural appearance of the shoreline and on the viewscape from the lakes;

Economic and property development – That a cooperative working relationship exists between residential, recreational and commercial members of the community to ensure that proposed development and activities respect the environment and character of the watershed, as well as maintain property values;

Historical, cultural and natural character – That the historical, cultural and natural character of the watershed is recognized, protected and restored, where appropriate; and

Social life – That a range of social and recreational activities are promoted consistent with the natural character of the Kennisis watershed, thereby preserving the health and ambience of the Kennisis Lakes, and fostering a sense of community.



2.4 PERSONAL AND COLLECTIVE ACCOUNTABILITIES

To protect the things we value and to achieve our vision, we all have important roles to play, both as individuals and as a community:

Cottagers have an obligation to protect the natural environment and demonstrate those community values which will help the community to realise its Vision;

The KLCOA needs to monitor changes and respond promptly to environmental and social needs;

Commercial Operators and Land Owners need to respect the environment and the desires of the community to ensure that any further commercial development, construction, and change to the environment is respectful of the communities' stated values and vision;

Government organizations need to listen to the community, respond to its needs and protect the environment as a public trust;

Recreational Users, Visitors, Landlords & Renters need to be aware of, and encouraged to act in accord with the values of the community; and finally

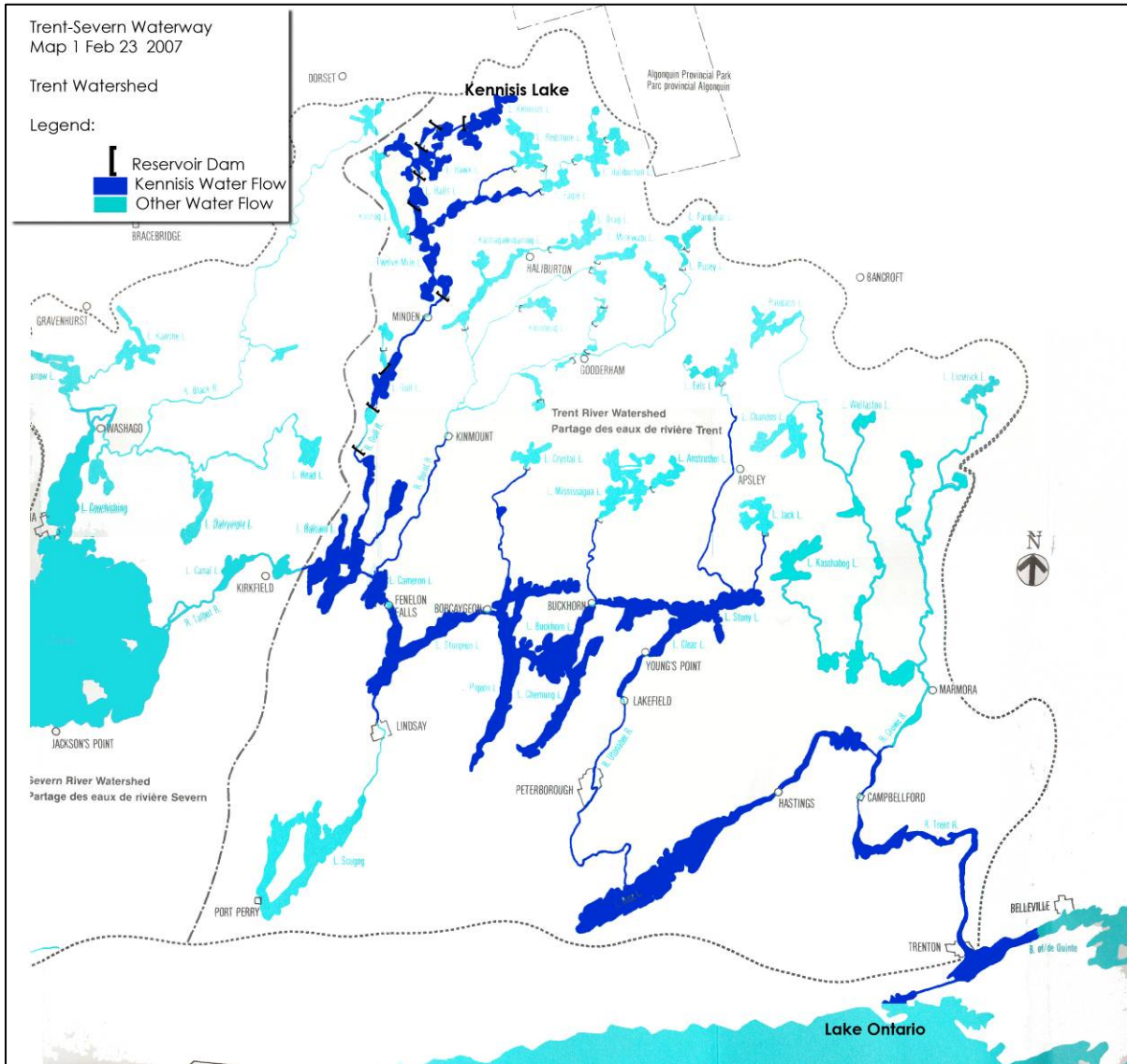
All of us need to be open to learning how best to be good stewards of the Kennisis Lakes watershed and to be willing to coach, mentor and train **young people** to be the future custodians of this wonderful resource.

3 LAKE DESCRIPTION

3.1 GENERAL LOCATION

At a regional level, the Kennisis Lakes are headwater lakes for the Gull River Watershed, which is one of eleven river watersheds that comprise the large drainage basin of Lake Ontario (Map 1).

Map 1 The Trent Watershed



Adapted from information provided by the Trent Severn Waterway

The dark areas indicate the flow of water from Kennisis Lakes through the Trent Watershed to Lake Ontario.

Summary of Kennisis Watershed & Lakes Management Plan

At its northern boundary the Kennisis watershed abuts three other watersheds: one is the Redstone watershed which, like Kennisis, drains into the Gull River and feeds the Trent side of the Trent-Severn Waterway; another drains to the west via the Hollow River through Lake Kawagama and on into Georgian Bay; and another drains water to the east via the Galipo and Madawaska Rivers, on into the Ottawa River.

Little Kennisis Lake drains into Kennisis Lake, which empties into Red Pine Lake via the only outflow, the Kennisis River. Downstream from Red Pine Lake the river connects Nunakani, Big and Little Hawk, Halls, Boshkung and all other Lakes within the Gull River system. It is estimated that over 60 million cubic metres of water flow through Kennisis Lake annually (Michalski, 1996).

The Gull River passes through Gull Lake which empties into Balsam Lake at the bottom of the Gull River watershed. From Balsam Lake water flows east to Lake Ontario via the Kawartha Lakes and the Trent and Otonabee Rivers. The Trent River begins at the outflow of Rice Lake and flows southeast towards the Bay of Quinte, Lake Ontario. Balsam Lake is the highest point of the Trent-Severn Waterway; from here boat traffic is able to descend west towards Georgian Bay via the canal system that includes the Black and Severn Rivers.

3.2 KENNISIS LAKES CHARACTERISTICS

Kennisis and Little Kennisis Lakes are both deep, cold-water lakes situated on the Canadian Shield, which is dominated by insoluble, Precambrian granite. Both lakes are generally characterized by very soft water and high transparency due to low concentrations of nutrients; a consequence of the area's geology. The size and shape of both the watershed and the lake and the flushing rate are also important parameters when characterizing a lake's water quality (Figure 3.1). Lakes with long residence times such as Kennisis (flushing rate 0.19/year or turnover rate of 5.3 years) have a higher potential to recycle nutrient inputs year after year while lakes with short residence times will flush nutrients faster than can be utilized.

Figure 3.1 Kennisis Lakes Parameters

Parameter	Kennisis Lake	Little Kennisis Lake
Surface Area (ha)	1,417	231
Lakeshed area (ha) excluding lake	7,500	8,150
Lake Volume (m ³ x 10 ⁶)	332.05	34.81
Maximum depth (m)	68	44
Mean depth (m)	23.4	15.1
Flushing rate (times per year)	0.19	0.85
Turnover time (years)	5.26	1.15
Total Annual Outflow (m ³ x 10 ⁶)	63.87	28.69
Height above Mean Sea Level	370 m (1212 feet)	
Latitude and Longitude	North 45° 13' West 78° 38'	

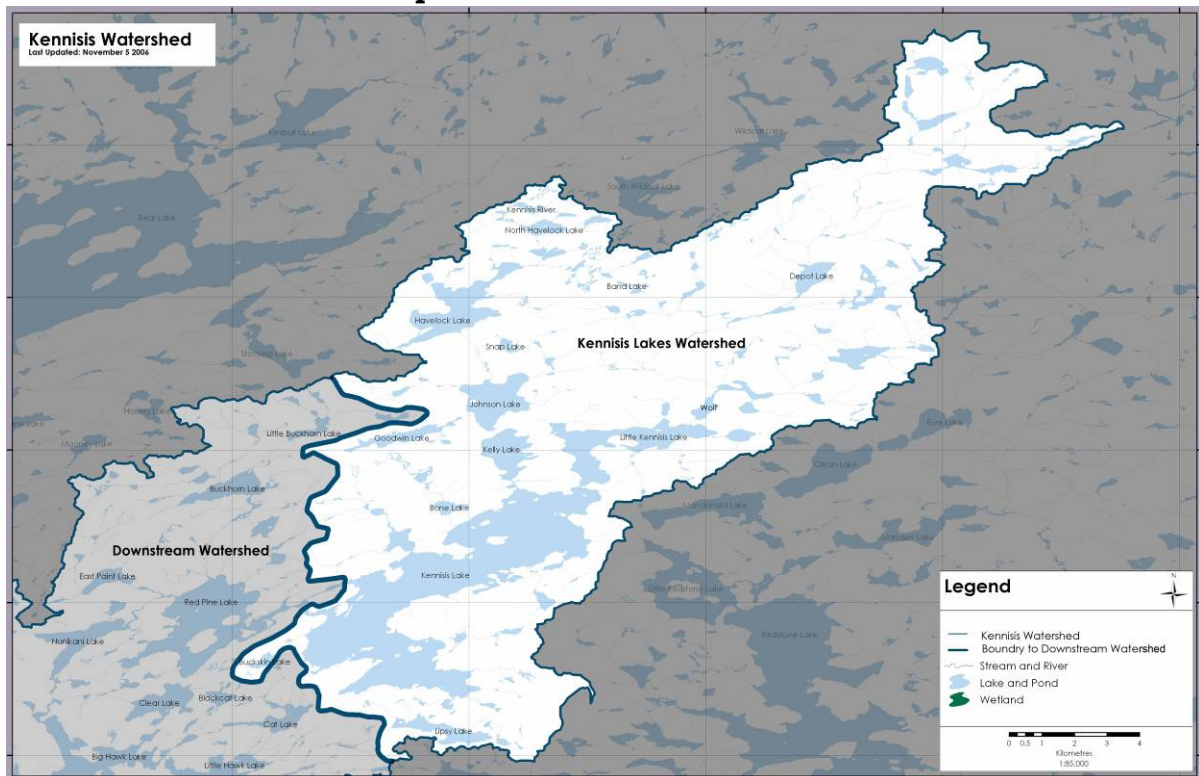
Sources: Michael Michalski Associates, 1996. Peter Schleifenbaum, Parks Canada & EcoPlans Study

Summary of Kennisis Watershed & Lakes Management Plan

3.3 KENNISIS WATERSHED

The Kennisis watershed (Map 2) encompasses some 174 square kilometres (17,400 hectares) and extends into the Haliburton Forest and Wild Life Reserve Ltd.

Map 2 The Kennisis Watershed



Its northernmost drainage areas form part of the Algonquin Dome with elevations of up to 540 meters. A total of some 15,100 hectares (approximately 35,000 acres) of predominantly forested land drains into the Kennisis Lakes. Of paramount importance is the Wolf Lake drainage into Little Kennisis Lake. Almost one half of the entire Kennisis Lake watershed, namely 7,200 ha, drains through Wolf Lake into the north-east end of Little Kennisis Lake. Almost the entire area of this drainage is situated on the private lands of Haliburton Forest and Wild Life Reserve Ltd.

In total, water from 8,150 ha drains into Little Kennisis Lake. The secondary drainages are Dog Lake (ca. 150 ha), Ted's Pond (ca. 100 ha), various creeks on the north-west and west side of Little Kennisis Lake (ca. 300 ha) as well as 3 creeks on the south side of the lake with app. 400 ha of drainage.

All of the waters of Little Kennisis Lake flow through the narrows at its southernmost end and into Kennisis Lake.

The Little Kennisis Lake watershed, despite the significant size difference to Kennisis Lake, is slightly larger than that of the bigger lake. Kennisis Lake proper only has a watershed itself of some 7,500 ha. Its most prominent tributary is the Kelly Lake watershed with close to 3,000 ha. Again, the forested lands of this

Summary of Kennisis Watershed & Lakes Management Plan

watershed are almost exclusively in the ownership of Haliburton Forest and Wild Life Reserve Ltd. Other, secondary drainages into Kennisis Lake are Lipsy Lake at its south-west end (ca. 1500 ha), creeks in the south-central portion of the lake (ca. 1.000 ha), Paddy's Bay (ca. 600 ha) and Bone Lake (ca. 400 ha), both situated along Kennisis' north shore, and finally the Birchy Lake drainage on the south shore.

3.4 OWNERSHIP OVERVIEW

A detailed description of land ownership, zoning and use within the Kennisis Lakes watershed is provided in section 7 of the on-line version of this document. Specific zoning information is available from the Municipality of Dysart et al (<http://www.dysartetal.ca/frame12viiia.asp>) and township zoning maps are available on CD-ROM from the municipality.

In general terms, regarding the ownership of lands immediately adjacent to Kennisis Lake and Little Kennisis Lake, it is noted that:

- almost the entire shoreline of the Kennisis Lakes is privately owned and zoned for waterfront residential use;
- there are a few areas designated as 'open space' or under 'environmental protection';
- much of the back-lot space around the Kennisis Lakes is zoned 'rural' and a good part of it is owned by the Haliburton Forest and Wild Life Reserve Ltd.;
- some areas near the Marina and Haliburton Forest are zoned for 'tourist commercial' or 'highway commercial' use;
- the municipal landfill is zoned for 'industrial disposal'; and
- there is an area adjacent to County Road 7 and Birchy Lake that is zoned for 'extractive industrial'.

Much of the rest of the Kennisis sub-watershed lies within the privately owned Haliburton Forest and Wild Life Reserve Ltd.

A number of canoe routes, snowmobile, ski and hiking trails pass through the area and provide a modest network of historic rights-of-way.

On March 23, 2007, the ownership of the largest island on Kennisis Lake was transferred to the Haliburton Highland Land Trust with the name Norah's Island.

Although there is very little Crown Land within the Kennisis sub-watershed, immediately downstream from the Kennisis Dam is an extensive area of Crown Land associated with the Leslie M. Frost Natural Resources Centre. [Following an extended closure of the Centre, in March 2007, it was announced that the Province had signed a long-term lease with FCI Group to operate the Leslie M. Frost Centre. The lease provides for environmental and outdoor education programs. It is understood that public access to walking, hiking, and ski trails near the Frost Centre property, which had been maintained through a long-term licence with the Township of Algonquin Highlands, will continue.]

To the northeast the lands of the Kennisis watershed abut Algonquin Provincial Park. There are no known First Nation reserves in the watershed.

Summary of Kennisis Watershed & Lakes Management Plan

The 'access' and 'water levels' components of this section of the draft Lake Plan document are available in the complete (on-line) version of this document.

4 NATURAL HERITAGE FEATURES

This section of the draft Lake Plan document is available in the complete (on-line) version.

5 PHYSICAL ELEMENTS

This section of the draft Lake Plan document is available in the complete (on-line) version.

6 SOCIAL ELEMENTS

The complete Social Elements section of the draft Lake Plan document is available in the complete (on-line) version of this document. The following is an abstract.

6.1 RECREATIONAL BOATING

Boating is one of the most important activities on the Kennisis Lakes after swimming. Survey respondents indicated participation rates of 92% for swimming, 74% for canoeing and 70% for power-boating.

6.1.1 Boating Use

Survey results indicate an average of four boats per cottage. Two-thirds of these are non-motorized, mainly canoes and kayaks. It is estimated that in 2005 there were some 1400 motorized boats on the two lakes and that nearly half of these were boats equipped with motors under 25 hp. Some 84% of these 'small' motors were 2-strokes. Table 6.1 provides the breakdown of motor boats as reported in the survey.

Figure 6.1 Number of power boats on the Kennisis Lakes by engine size

Boat Type (Engine Size)	Inboard	2 Stroke	4 Stroke	Total	%	Ext*
Motorboats under 25 hp	11	180	27	218	46%	654
Motorboats 25-100 hp	11	80	22	113	24%	339
Motorboats 101-200 hp	54	25	20	99	21%	297
Motorboats over 200 hp	16	4	2	22	5%	66
Personal Watercraft	3	16	2	21	4%	63
Total	95	305	73	473	100%	1419
Per cent	20%	65%	15%	100%		
<i>* Extrapolated to entire lake population</i>	285	915	219	1419		

Summary of Kennisis Watershed & Lakes Management Plan

6.1.2 General Concerns with Recreational Boating

Throughout 'cottage country' there are several common concerns with the increase in recreational boating and a general desire to seek a balanced approach to dealing with these concerns.

6.1.3 Boating Code of Conduct

The resolution of boating concerns has proven to be contentious for other lake associations and lake planners alike. The approach that appears to have had the greatest success is an educational approach based around a well-publicised 'code of conduct'.

Figure 6.2 Proposed Kennisis Boaters Code of Conduct

Kennisis Boaters Code of Conduct
'Friendly Boating Practices on the Kennisis Lakes'

Follow the Safe Boating Guide and obtain your Pleasure Craft Operator's Card – learn how to safely operate your boat.

Minimize your wake especially in narrow channels and near shore so that natural shorelines are not eroded, loon and duck nesting sites are not disturbed and your neighbours' floating docks and parked boats are not bounced around and damaged.

Reduce your speed especially in narrow channels and near shore where other boats and swimmers could be in danger and remember that within 30 metres of the shore your speed should be less than 10 km/hr (it's the law).

Head for the centre of the lake when travelling at speed or when water skiing or tubing - don't ride parallel to the shoreline.

Give everyone a wide berth and travel slowly when pulling away from docks, launching ramps or swimming areas.

Respect your neighbours' TRANQUILITY by moving around the lake rather than operating on one small area.

Protect the environment by treating bays as no wake zones, operating in water over 1.2 metres (4 feet) deep to avoid disturbing the lake bottom, stowing garbage until you return to shore, and avoiding spillage of gas and oil into the water during refuelling.

When anchored take care not to obstruct navigation for other boats.

Clean your boat and trailer when transporting them to other lakes and when bringing them into the Kennisis lakes to avoid transporting invasive species. Remember to drain your bilge on shore away from the lake and empty holding tanks for onboard toilets in a proper facility.

Remember that drinking and boating is dangerous and illegal.

Summary of Kennisis Watershed & Lakes Management Plan

7 LAND USE

The complete Land Use section of the draft Lake Plan document is available on-line. The following is an abstract.

7.1 SUMMARY OF LAND USE

The shoreline areas of Big and Little Kennisis Lakes are now highly developed with more than 1,000 cottages and year round homes. Cottage development began in the 1950s. By the end of the 1960s, all but the West Shore had been opened up and built upon. In the late 1990s and ensuing years, development approvals were obtained to open up 107 new lots on the West Shore, and as of 2006, construction had begun on approximately 60% of the lots.

Very few cottages were occupied year round in the 1950s and 60s. A steady trend since then has seen smaller, seasonal cottages knocked down and replaced with year round homes as working and retired owners moved from the “the city” to live year round at the lake. Six per cent of dwellings on the two lakes are now occupied year round. Survey results indicate that a further 10% who now occupy seasonally said they were considering moving to the lake for year round “permanent” use.

Figure 7.1 provides a “snapshot” of the types of waterfront land use on the Kennisis Lakes.

Figure 7.1 Shoreline Development on the Kennisis Lakes (2002)

	Kennisis Lake	Little Kennisis Lake	Total
Seasonal Dwellings	641	235	876
Permanent Dwellings	44	14	58
Vacant	74	36	110
Resorts and Marinas	2	1	3
Total	761	286	1047

The number of people living on and using the lake can have a direct effect on water quality and can impact on social elements such as decreased natural landscapes, as well as increased noise, recreation and boating activity. Longer stays at the cottage increase the amount of phosphorus generated through sewage. The survey results were used to estimate the “population” on the lakes during the different seasons and are shown in Figure 7.2

Figure 7.2 Kennisis Lakes Population by Season (2005 est.)

Season	Population
Peak summer	2500
Early Fall	450
Winter	650
Spring	400

Summary of Kennisis Watershed & Lakes Management Plan

7.2 DESIGNATED PUBLIC-USE LANDS

Five parcels of land on the Kennisis Lakes have been designated for non-commercial, public-use. They are listed below with a number that corresponds to the identified location in figure 7.3.

Figure 7.3 Public-Use Lands

Bullfrog Bay (1)

(aka Wilderness Area),
owned by KLCOA

East Blueberry Island (2)

owned by Dysart et al

West Blueberry Island (3)

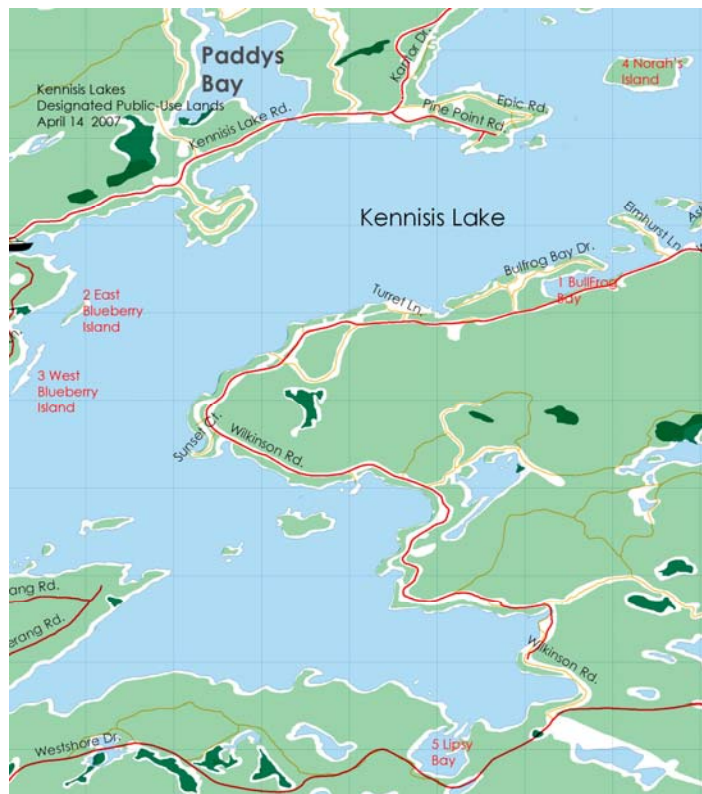
owned by Dysart et al

Norah's Island (4)

Owned by the Haliburton
Highlands Land Trust (HHLT)
- to be managed in
partnership with KLCOA

Lipsy Bay (5)

owned by Dysart et al



The development of much of the shoreline of the Kennisis Lakes has meant that there are fewer and fewer public 'places to go' on the lake. Traditionally people have enjoyed visiting locations away from the cottage in order to: picnic, swim, enjoy nature, take a break during a canoe-trip, camp, meet friends, find solitude etc.

Thus careful stewardship of the public-use lands is a high priority.

Based on feedback from the community a 'policy framework' has been developed (see Section 8, priority 3). Using this framework, specific policies have been developed for the five designated public-use lands identified above. These will be reviewed with the community and with the Municipality of Dysart et al prior to implementation.

8 RECOMMENDATIONS & ACTION PLAN

8.1 A COMMUNITY APPROACH

In the introduction to this lake plan document (section 1 & section 2) the values and vision for a community-based approach were articulated.

Through the surveys and workshops, as well as informal discussions, it is clear that the community has become engaged. The challenge for the future is to build and expand upon the strong base of community support and to engage additional participants in the implementation of the recommendations. At the same time a number of opportunities have been identified to reach out to a broader community and develop new partnerships such as may be represented by a proposed Gull River Regional Stewardship Council or the Coalition for Equitable Water Flow.

The lake planning process has identified many issues and even more options for dealing with the issues.

The recommended options that are listed in the following section all reflect high priority issues. Overwhelmingly the preferred approach is one of EDUCATION and COMMUNICATION coupled with STEWARDSHIP. In only a few cases are REGULATORY actions proposed.

Some of the options developed in the Lake Plan are not being recommended for immediate action – there are just too many. A number of these are nonetheless believed to have merit and should be revisited ‘over time’.

8.2 PRIORITY ISSUES

Twelve high priority issues have been identified that reflect the values and concerns expressed by the Kennisis Lakes community. Each issue affects the natural, physical, or social environment of the Kennisis Lakes. The statements in Figure 8.1 are intended to capture the essence of each issue.

Summary of Kennisis Watershed & Lakes Management Plan

Figure 8.1 Twelve Priority Issues

1. Water Quality

The impact of property development, waste disposal and boating is a threat to the **water quality** of the Kennisis Lakes.

2. Development

Over-**development** has a negative impact on the natural environment, degrades water quality and harms the social environment by reducing the number of 'places to go' to enjoy a wilderness experience.

3. Public-Use Lands

We no longer have enough public spaces on the Kennisis Lakes and there is a lack of consensus within the community as to how the '**public-use**' lands that we do have should be shared.

4. Natural Shorelines

The environmental and aesthetic value of **natural shorelines** is threatened by removal of vegetation and the introduction of man-made structures.

5. Water Levels

Fluctuating **water levels** create navigational hazards, have a negative impact on the natural environment, cause problems for water-access properties and require the construction of extensive docks.

6. Power Boating

Inconsiderate **power boating** pollutes the lake, damages the shoreline, puts swimmers at risk, and shatters the tranquility of the lake.

7. Wildlife

The preservation of **wildlife** habitat is threatened by development and increased human activity.

8. Tranquility

Excessive noise from boats, snowmobiles, traffic, and cottage sites reduces the **tranquility** and 'quiet enjoyment' of the natural environment at the lake.

9. Night Skies

Excessive lighting negatively impacts enjoyment of the **night skies** and the natural environment.

10. Traditional Rights-of-Way

Property development is causing **traditional rights-of-way** such as portage and hiking trails to be re-routed or abandoned: this reduces recreational opportunities for enjoyment of the wilderness and reduces the number of 'places to go'.

11. Sustainable Forest Management

The community is not aware of the importance of **sustainable forest management** in the Kennisis watershed.

12. History

We are not aware of the **history** of the Kennisis Lakes and are missing an opportunity to learn from the past.

Summary of Kennisis Watershed & Lakes Management Plan

8.3 RECOMMENDATIONS

Several options for dealing with the priority issues are presented in the complete (on-line) version of this document. The **recommended** options for dealing with each issue are now presented along with an Action Plan.

The majority of recommendations relate to education, communication and stewardship: only a few anticipate the need for regulatory action.

One recommendation cuts across several issues and is presented first.

Principal Recommendation

#1 Produce a Practical Stewardship Guide for the Kennisis Lakes

Create a practical Stewardship Guide to encourage cottage owners, renters and others to become good stewards of the land by promoting awareness about the impact of their activities on water quality and the natural environment.

The Guide will focus on environmental stewardship and especially the importance of natural shorelines. It will include information on 'how to':

- reduce or eliminate laundry and dishwasher detergents containing phosphorus;
- eliminate the use of lawn fertilizers and other garden chemicals such as pesticides and herbicides;
- select the best of the new septic technologies;
- properly drain a hot tub; and
- maintain and restore natural shorelines.

A special section will provide orientation to cottage country for new owners and renters.

Priority 1 - Water Quality

#2 Water Testing

Continue a water quality monitoring program through MOE's Lake Partner program and produce an annual report of water quality testing results and make this available to all property owners on the lake, Dysart et al municipal officials and other stakeholders. Be willing to invest KLCOA funds to do this.

#3 Septic systems and Grey water

Educate cottager owners to identify if their septic or grey-water disposal system is malfunctioning, and encouraged them to fix/replace problematic systems.

Over time, working with other lake associations in the form of a (proposed) Gull River Regional Council, require that septic re-inspection be a mandatory condition of sale of a cottage. In the mean time, seek the support of real estate agents in recommending to all prospective purchasers that they insist on a septic system inspection.

Summary of Kennisis Watershed & Lakes Management Plan

#4 Pesticides, Herbicides and Fertilizers

In addition to providing education and stewardship, be willing to support the introduction of a by-law eliminating or restricting the use of pesticides, herbicides and fertilizers in the Kennisis watershed.

#5 Municipal Landfill

Work with the Municipality of Dysart et al to support the leachate monitoring program at the Kennisis municipal landfill and to find ways to encourage the proper disposal of hazardous waste for example by accepting such material at the Kennisis Lake municipal landfill site on a regular basis (more than once a year).

Priority 2 – Development

#6a Support the enforcement of existing zoning bylaws:

6a.1 Regarding Back-lots: Encourage the Municipality of Dysart et al to enforce the existing bylaw regarding back-lot development and not to allow any reduction in minimum lot size for back-lots.

6a.2 Regarding redevelopment of legal cottages within the 0-20m (0-66 ft) setback: The Municipality of Dysart et al is encouraged to enforce the existing bylaw for structures on waterfront residential lots within the 0-10m and 10-20m (0-33ft and 33-66ft) setback.

6a.3 Regarding boathouses and covered boat slips: Provide educational materials to the community regarding the zoning bylaw provisions for accessory buildings and marine facilities, specifically including information on minimum water setbacks and the existing prohibition on covered boat slips.

#6b Encourage the Municipality to consider bylaw amendments:

In conjunction with the next review of the Municipality of Dysart et al's Official Plan in 2009, and the subsequent updating of the zoning bylaws:

6b.1 Regarding protection of the shoreline vegetation zone: Encourage the Municipality of Dysart et al to enact a tree-cutting bylaw relating to the removal of trees and vegetation on waterfront properties.

6b.2 Regarding applications to sub-divide: Encourage the Municipality to enact a zoning bylaw amendment increasing the minimum shoreline frontage for new lots on Little Kennisis, Big Kennisis and Paddy's Bay from 45 m to 100m. (This new frontage requirement should not apply to the two large lots on Cat Bay that are already subject to more restrictive severance requirements.)

#6c Establish General Development Principles

Increase awareness of the community's development values by establishing and publishing a set of "Development Principles" for the Kennisis Lakes that would be shared with the community and filed with the Municipality of Dysart et al as a 'benchmark' for planning decisions. Over time, develop a

Summary of Kennisis Watershed & Lakes Management Plan

capacity to respond to individual property owners seeking advice on environmentally-sound approaches to development.

The “Development Principles” should reflect the values endorsed in the Lake Plan. Where conflicts arise between development and environmental stewardship a balanced approach will be sought with the emphasis on environmental stewardship (the precautionary principle) with a goal of maintaining or developing a natural diverse habitat for future generations to enjoy.

The Development Principles include:

- Natural Vegetation: Avoid significant removal of natural vegetation in a 15m shoreline buffer zone, save for an allowance up to 5m wide for access to the shore and dock area.
- Environmental Impact: Minimize the environmental impact of development on: streams, wetlands, wildlife and fish habitat and require formal evaluation of any such features in the development approval process.
- Variiances: Only allow variances to the existing bylaws for structures on waterfront residential lots within the 0-20m (0-66 ft) setback if there are compelling circumstances.
- Viewscape: Minimize visual disturbance of the natural shoreline and the horizon. Existing legal shoreline structures, such as boathouses should be low profile and neutral in colour.
- Avoiding Shoreline Hardening: Maintain natural shoreline habitats by avoiding ‘shoreline hardening’ through the creation of manmade structures such as retaining walls.
- Intensification of Development: Maintain, but do not intensify, the existing level of commercial development of waterfront property on the Kennisis Lakes.

Summary of Kennisis Watershed & Lakes Management Plan

Priority 3 - Public-Use Lands

#7 Designated Public Use Lands

Adopt the following policy framework for public use lands:

Designated Public-Use Lands Policy Framework

Regardless of ownership, 'designated public-use lands' are to remain as natural open space for use by the general public.

Designated public-use lands are to be managed so as to ensure that their natural environment is protected, preserved and sustained according to sound environmental stewardship principles.

Where conflicts arise between public-use and environmental stewardship a balanced approach will be sought with the emphasis on environmental stewardship (the precautionary principle) with a goal of maintaining or developing a natural diverse habitat for future generations to enjoy.

Public-use lands policies must consider the practical limitations and capabilities of the land owners to maintain the designated lands on a day-to-day basis.

Regarding the Blueberry Islands:

Post one discrete sign near the fire pit on each island, stating:

- Daytime use only / No Overnight Camping
- Campfire in designated fire pit only
- Users are encouraged to bring their own firewood
- Please remove all garbage

Post small discrete signs at both ends of West Blueberry Island stating:

- Please respect the safety of swimmers - slow down.

Ownership transfer from the Municipality to KLCOA or a Land Trust should be deferred until community reaches a broader consensus on island usage and other issues are considered, including:

- Liability Insurance
- Fire protection
- Land use consensus

Regarding the KLCOA Wilderness Area – Bullfrog Bay

The signs identifying the wilderness area should be replaced.

Regarding Norah's Island

In accordance with the terms of the draft agreement between KLCOA and the Haliburton Highlands Land Trust, an area should be designated where people may picnic.

Summary of Kennisis Watershed & Lakes Management Plan

In addition, a discrete sign should be posted near a designated fire pit stating:

- Daytime use only / No Overnight Camping
- Campfire in designated fire pit only
- Users are encouraged to bring their own firewood
- Please remove all garbage

#8 Land Trusts

Promote the creation of additional Land Trusts and Conservation Easements within the Kennisis watershed.

Priority 4 - Natural Shorelines

#9 Landscape Alternatives

Develop an education program to inform property owners about landscape alternatives to manicured lawns, paved driveways and other impervious features, non-native species, waterfront retaining walls and sandy beaches to help reduce undesirable and inhospitable artificial landscapes along the shoreline.

#10 Natural Landscape Remediation and Model Sites

Take specific action to promote natural landscaping, for example: (1) through advice on remediation of problem sites in cooperation with amenable landowners; or (2) by establishing model sites in appropriate areas of the public-use lands such as in Lipsy Bay or on Norah's Island.

Improve areas of both the littoral and riparian zones with input from Conservation Authorities or MNR. For example: (1) provide in-water rehabilitation by adding downed native logs and other woody debris, as well as carefully placed rocks near the shoreline, to create micro-habitats for aquatic species and to protect the natural substrate; and (2) create a buffer of native plants, shrubs and trees at shoreline sites to discourage erosion and prevent sediment runoff.

Priority 5 - Water Levels

#11 Promote Sound Water Management of the Trent-Severn System

Continue to participate in the activities of the Coalition for Equitable Water Flow in order to promote communications with Parks Canada and other stakeholders and to work collaboratively on the development of educational materials regarding the importance of sound water management.

#12 Navigational Hazards

Publish and maintain an up-to-date navigational hazards map for boaters.

Work to ensure the proper marking of navigational hazards on the Kennisis Lakes (rocks, shoals, narrow channels and the approaches to bridges).

Summary of Kennisis Watershed & Lakes Management Plan

Encourage the appropriate federal agency to take responsibility for marking hazards on the lake caused by lowering the water level.

#13 Suitable Dock Design

Over time, distribute a pamphlet containing appropriate existing information and advice on environmentally appropriate dock designs for challenging locations due to water level fluctuation, including appropriate materials to use.

#14 Monitoring Impacts of Water Level Changes

Over time, document and monitor impacts on plants, fish and animal life due to changing water level. Similarly, document and monitor areas of erosion and approach landowners with possible solutions to protect their property and the environment.

Priority 6 - Power Boating

#15 Boating Code of Conduct

Adopt the 'Boating Code-of-Conduct' (section 6.1.3 and Figure 6.2) and promote 'friendly boating' with a focus on safety by publishing the code so it is available to residents and visitors along with a boating map through rental agreements, real estate agents, the OPP marine unit and the marinas.

#16 Promote Use of Environment-friendly Motors

Promote the phasing-out of old, polluting 2-stroke motors in favour of new, environment-friendly 2-stroke and 4-stroke motors on the lake; in the interim promote the use of environment-friendly 2-stroke lubricants.

#17 Invasive Species and Boat Cleaning

Increase awareness of the threat from invasive species such as zebra mussels through educational materials, including the posting of a sign on County Road 7 to alert those entering the watershed.

Seek the creation of a boat cleaning station at a 'choke point' such as West Guilford to reduce the risk of contamination of the Kennisis watershed by invasive species.

#18 Dock Watch

Over time, consider issuing 'cottage watch' signs for mounting at the end of docks or on shore

Priority 7 – Wildlife

#19 Haliburton Forest

Support educational opportunities with the Haliburton Forest that promote the preservation of wildlife habitat and link to initiatives that encourage cottage owners to maintain natural vegetation at their shoreline. Over time, expand this into a comprehensive rare and exotic species inventory for the watershed.

Summary of Kennisis Watershed & Lakes Management Plan

#20 Protection of Rare Species

Develop an education program in conjunction with MNR regarding the protection of rare species' habitat (including threatened and endangered species) and provide examples of how to naturalize private property to encourage rare species establishment. Over time, work with the municipality to ensure that the official plan and zoning bylaws recognize and protect significant habitat.

#21 Lake Trout

Develop an ongoing partnership between the KLCOA and the Haliburton Highlands Outdoor Association's Haliburton Fish Hatchery in support of Lake Trout and game fish preservation. For example, promote and participate in creel census projects and publicize the results

Priority 8 - Tranquility

#22 Quiet Time

Promote Sunday morning before 10 a.m. as 'quiet time' on the Kennisis Lakes.

#23 Noise By-law

Inform residents about the municipal noise bylaw (88-18), identify ways to reduce noise (e.g. boat mufflers), and document the process to follow to report noise bylaw infractions.

Over time, work with the Municipality of Dysart et al to improve compliance with, and enforcement of, the noise bylaw and encourage the Municipality to amend the noise by-law to specifically include limits (time and duration) for boats with motors that exceed a defined decibel limit.

#24 Photography Competition

Over time, run a photography competition for the best pictures capturing the tranquility of the lake and youth engaged in stewardship.

Priority 9 - Night Skies

#25 Exterior Lighting

Through the KLCOA, provide educational materials about reducing night-time exterior lighting; for example, provide sketches of how to design installations, list products to use and places to buy them.

Over time, conduct a night-time light inventory to establish a baseline from which yearly progress can be tracked: develop a strategy to eliminate light pollution "hot spots."

Over time, work with the Municipality of Dysart et al to update lighting by-laws in order to require or encourage light abatement and reduce 'light trespass'. Specifically require that a property owner may only light their own property and that illumination of adjoining properties be prohibited. Require

Summary of Kennisis Watershed & Lakes Management Plan

that all lighting located within 50 ft (12m) of open water should be a low cut-off type.

Priority 10 - Traditional Rights-of-Way

#26 Maintain trails and portage access points

Through volunteer efforts, maintain local canoe and snowmobile routes and hiking trails and work with the municipality to re-establish a trail to circumnavigate the lake by foot or bicycle.

Maintain shoreline access points for portage and hiking trails and other rights-of-way around the Kennisis Lakes and post signs at the shoreline marking access points.

#27 Public Launch Facility

Request that the Municipality of Dysart et al upgrade and maintain the public launch facility adjacent to the Kennisis Marina

#28 Keep Rights-of-Way Accessible

Request that the Municipality of Dysart et al, or appropriate agencies, enforce regulations to maintain rights of way, including recognized portages, in the Kennisis watershed.

#29 Places to Go

To reduce pressure on over-used areas such as the Blueberry Islands, alternative locations should be publicised as 'places to go' to enjoy the natural environment. These should include Norah's island and the hiking trail to the Clear Lake Conservation Reserve.

Over time, through the KLCOA, create a local canoeing and hiking trails map that includes a broad range of 'places to go' including camping sites, Buckskin Lake and the Clear Lake Conservation Reserve, the Haliburton Forest, and nearby parts of the Leslie Frost Centre lands.

Priority 11 - Sustainable Forest Management

#30 Haliburton Forestry Partnership

Support the Haliburton Forest in initiatives that promote sustainable forest management; for example partner with educational organizations to develop and deliver indigenous tree education programs – forest tours etc.

Priority 12 – History

#31 Kennisis History Project

Establish a 'history project' working group with the aim of producing a "History of the Kennisis Lakes" and to include approaches that will help future generations learn from the past.

Summary of Kennisis Watershed & Lakes Management Plan

8.4 ACTION PLAN (NEXT STEPS)

Once the Lake Plan is formally endorsed by the KLCOA membership, a significant communications effort will be required to start the implementation process, to marshal significant volunteer resources and to keep all stakeholders, including the municipality informed.

Several of the key issue areas have been the subject of individual U-Links projects and the subsequent reports are expected to help pave the way to successful implementation.

Those recommendations that fall under the jurisdiction of the Municipality of Dysart et al will need to be explained to municipal officials and presented to Council.

Stewardship, communication and education actions will require a coordinated volunteer effort.

In every case, it is proposed that a broad cross-section of the community, and especially youth, be involved. In implementing the recommendations it will also be important to find ways to measure and celebrate success.

This is just the beginning!

ABBREVIATIONS

CEWF	Coalition for Equitable Water Flow
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
DFO	Department of Fisheries and Oceans (federal) (aka Fisheries and Oceans Canada)
DOC	Dissolved Organic Carbon
FOCA	Federation of Ontario Cottagers' Associations
ha	hectare (100 hectares = 1 square kilometre)
HHOA	Haliburton Highlands Outdoor Association
KLCOA	Kennisis +Lake Cottage Owners Association
MOE	Ministry of the Environment (Ontario)
MNR	Ministry of Natural Resources (Ontario)
NHIC	Natural Heritage Information Centre
OMB	Ontario Municipal Board
PWQO	Provincial Water Quality Objectives
SARA	Species at Risk Act
TKN	Total Kjeldahl Nitrogen
TOC	Total Organic Carbon
TSW	Trent Severn Waterway
U-Links	U-Links is a project of the Haliburton County Community Co-operative and is supported by Trent University and the Township of Minden Hills. U-Links fosters interaction between university and community resources.

Summary of Kennisis Watershed & Lakes Management Plan

Table of Contents of Complete Watershed & Lakes Plan

LIST OF MAPS

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

1	INTRODUCTION
1.1	THE PURPOSE OF A WATERSHED & LAKE MANAGEMENT PLAN
1.2	THE KENNISIS WATERSHED & LAKES
1.3	THE KENNISIS WATERSHED & LAKES MANAGEMENT PLAN
1.4	WHAT THE KENNISIS WATERSHED & LAKES PLAN IS NOT
1.5	HOW THE KENNISIS WATERSHED & LAKES PLAN WAS DEVELOPED
1.6	SPONSORS AND SUPPORTERS OF THE PLANNING PROCESS
1.7	SOURCES OF PUBLISHED INFORMATION
1.8	THE LAKE PLAN IS JUST THE BEGINNING
1.9	DISCLAIMER
2	VALUES, VISION, PRINCIPLES & TARGETS
2.1	COMMUNITY VALUES
2.2	VISION FOR THE FUTURE
2.3	GUIDING PRINCIPLES
2.4	PERSONAL AND COLLECTIVE ACCOUNTABILITIES
3	LAKE DESCRIPTION
3.1	GENERAL LOCATION
3.2	KENNISIS LAKES CHARACTERISTICS
3.3	KENNISIS WATERSHED
3.4	OWNERSHIP OVERVIEW
3.5	ACCESS
3.6	WATER LEVELS
4	NATURAL HERITAGE FEATURES AND AREAS
4.1	WATER QUALITY
4.2	VEGETATION
4.3	WETLANDS
4.4	STREAMS
4.5	FISH COMMUNITY
4.6	WILD LIFE AND WILDLIFE HABITAT
4.7	INVASIVE SPECIES
4.8	RARE SPECIES AND SPECIES AT RISK
4.9	CLIMATE CHANGE
4.10	NATURAL ENVIRONMENT ISSUES AND OPTIONS
5	PHYSICAL ELEMENTS
5.1	PHYSIOGRAPHY AND SOILS
5.2	CLIMATE
5.3	FLOODPLAINS
5.4	MINERALS AND AGGREGATES
5.5	NARROW WATER-BODIES
5.6	STEEP SLOPES AND CLIFFS
5.7	FORESTRY
5.8	PHYSICAL ENVIRONMENT ISSUES AND OPTIONS
6	SOCIAL ELEMENTS
6.1	RECREATIONAL BOATING
6.2	LANDSCAPE AND AESTHETICS
6.3	TRANQUILITY AND NIGHT-SKIES
6.4	SOCIAL ENVIRONMENT ISSUES AND OPTIONS
7	LAND USE
7.1	SUMMARY OF LAND USE
7.2	DESIGNATED PUBLIC-USE LANDS
7.3	WASTE DISPOSAL
7.4	DEVELOPMENT PLANNING
7.5	LAND USE ISSUES & RECOMMENDATIONS
7.6	EXTRACTS FROM THE MUNICIPALITY OF DYSART ET AL. ZONING BYLAW
8	RECOMMENDATIONS & ACTION PLAN

Summary of Kennisis Watershed & Lakes Management Plan

- 8.1 A COMMUNITY APPROACH
- 8.2 PRIORITY ISSUES
- 8.3 RECOMMENDATIONS
- 8.4 ACTION PLAN (NEXT STEPS)

GLOSSARY

REFERENCES/BIBLIOGRAPHY

9 APPENDICES

- 9.1 SUMMER 2005 RESIDENT'S SURVEY
- 9.2 SUMMARY OF COMMERCIAL STAKEHOLDERS' SURVEY & WORKSHOP
- 9.3 SUMMARY OF RESIDENTS' WORKSHOP - JULY 16, 2005
- 9.4 SUMMARY OF LANDS MANAGEMENT WORKSHOP
- 9.5 SUMMARY OF MUNICIPAL SERVICES WORKSHOP
- 9.6 SUMMARY OF SEWAGE DISPOSAL WORKSHOP
- 9.7 SUMMARY OF MUNICIPAL PLANNING WORKSHOP
- 9.8 SUMMARY OF NATURAL ENVIRONMENT WORKSHOP
- 9.9 SUMMARY OF EDUCATION & PERSONAL WATER CRAFT WORKSHOP
- 9.10 SUMMARY OF QUALITY OF LIFE WORKSHOP

LIST OF MAPS

- The Trent Watershed (section3.2)
- The Kennisis Watershed (section3.3)
- The Kennisis Lakes (Big and Little) (section3.5)
- Kennisis Lakes Water Depth & Navigational Hazards (section3.7.1.3)
- Sensitive Areas – Narrow Channels, Steep Slopes and Wetlands (section4)
- Viewscape (section6.3)
- Wildlife and Natural Features (section4.6)
- Recreational Features (section6)

LIST OF FIGURES

- Figure 2.1 Ranking of Lake Quality Values
- Figure 2.2 Vision Statement
- Figure 2.3 Guiding Principles and Key Elements
- Figure 3.1 Kennisis Lakes Parameters
- Figure 3.2 Open Spaces on Kennisis Lake
- Figure 3.3 Historical Variation of Annual High and Low Water Levels
- Figure 3.4 Seasonal Water-Level Fluctuation
- Figure 3.5 Schematic of Dams of the Trent-Severn Waterway
- Figure 3.6 Announcement of Trent Severn Waterway Study
- Figure 3.7 Select Recommendations from CEWF February 2007
- Figure 4.1 Provincial Water Quality Objectives for the Kennisis Lakes
- Figure 4.2 Water Clarity and Chlorophyll a vs. Lake Type
- Figure 4.3 Shoreline Zones
- Figure 4.4 Trees, Shrubs and Herbs Common to the Watershed
- Figure 4.5 Fish Species Common to the Kennisis Lakes
- Figure 4.6 Mammals in the Kennisis-Hawk-Boshkung Watershed
- Figure 4.7 Birds in the Kennisis-Hawk-Boshkung Watershed
- Figure 4.8 Reptiles and Amphibians in the Kennisis et al (2 HF-08)
- Figure 4.9 Provincially Significant and Locally Rare Fauna
- Figure 5.1 Dorset Climate data as published by Environment Canada
- Figure 5.2 Sensitive Areas – Narrow Channels and Steep Slopes
- Figure 5.3 Native Tree Species of the Haliburton Forest
- Figure 6.1 Number of power boats on the Kennisis Lakes by engine size
- Figure 6.2 Proposed Kennisis Boaters Code of Conduct
- Figure 7.1 Shoreline Development on the Kennisis Lakes (2002)
- Figure 7.2 Estimated population on the Kennisis Lakes by Season (2005)
- Figure 7.3 Public-Use Lands
- Figure 7.4 Policy Framework for Designated Public-Use Lands
- Figure 7.5 Distance (in feet) of leaching bed from the shoreline
- Figure 7.6 Age (in years) of Septic System
- Figure 8.1 Twelve Priority Issues