# A Delicate Balance

## The Glear, Ston (e)y and White Lake Plan



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## **Community and Government Support**

The CSW Lake Plan received initial financial and administrative support from the Stony Lake Heritage Foundation and cottage associations, incremented by additional funding from the Ontario Trillium Foundation and the donations of numerous individuals. As well, other agencies, groups and individuals provided significant financial and in-kind resource support, including the Department of Fisheries and Oceans (DFO), Stoney Lake Triathlon, Ston(e)y Lake Environment Council, several private donations and additional monies raised within the lake associations.

We are extremely grateful for the cooperative help from many agencies, academics and professionals, including:

> Department of Fisheries and Oceans Trent-Severn Waterway (Parks Canada) Ministry of Natural Resources Peterborough and Bancroft Districts Ministry of the Environment Natural Heritage Information Centre Otonabee Region Conservation Authority Peterborough County Planning Department and Health Unit Kawartha Heritage Conservancy Trent and York Universities, University of Toronto and Sir Sandford Fleming College The Townships of Douro-Dummer, North Kawartha, Smith-Ennismore-Lakefield and Galway-Cavendish and Harvey Stony Lake Heritage Foundation Association of Stony Lake Cottagers Upper Stoney Lake Association Kawartha Park Cottagers' Association White Lake Association Birchcliff Property Owners Association Kawartha Lake Stewards Association Cottage Associations' volunteers and lake-based researchers

### Acronyms Appearing in Report

ANSI	Areas of Natural & Scientific Interest
CA	Conservation Authority
CSW	Clear/Ston(e)y/White Lake
DFO	Department of Fisheries and Oceans
DPS	Development Permit System
ESA	Environmentally Sensitive Area
FMP	Forest Management Plan
GTA	Greater Toronto Area
KHC	Kawartha Heritage Conservancy
KLSA	Kawartha Lake Stewards Association
MNR	Ministry of Natural Resources
MoE	Ministry of the Environment
OFAH	Ontario Federation of Anglers and Hunters
OP	Official Plan
ORCA	Otonabee Region Conservation Authority
Р	Phosphorus
PPS	Provincial Policy Statement
PWCO	Provincial Water Quality Objectives
PSW	Provincially Significant Wetland
PWC	Personal Water Craft
SAR	Species at Risk
TSW	Trent-Severn Waterway

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## Our Vision ... Past and Future



The purpose is for the preservation of the natural beauty of Stoney Lake and its environment, the protection of fish and game, the maintenance of proper sanitary conditions, the protection of property of cottages and campers, the procuring and maintenance of such transportation and other facilities as are in the best interests of those residing upon or visiting the lakes, and otherwise providing such arrangements and regulations for the security, comfort, pleasure and profit of all who sojourn from time to time on Stoney Lake or in its neighborhood.





Our vision is of a place where water quality, wildlife habitat, natural beauty, recreational opportunities and peaceful tranquility are improved and conserved in perpetuity for all human and wildlife generations to come.

Our Values Include...

Water Quality Natural Environment Peace and Tranquility The Kawartha Heritage Landscapes and Shorelines

...CSW Lake Plan

**The GOAL of the CSW Lake Plan** is to protect the lakes' special areas and features while improving the sustainability of the lake system through community stewardship, land use planning, and policy approaches.

The intent is to encourage local municipalities to clarify and harmonize existing municipal policies and practices which specifically address the sustainability of our unique natural and cultural landscape. Education and promotion of best practices for lake residents and commercial operators will complement these policies.

...the CSW Lake Plan is a living document that will continue to evolve over time as individual circumstances and issues occur and new information becomes available!

...the long-range plan is the creation of lake stewardship working groups or action committees resourced to implement the Lake Plan recommendations. Targets, timelines and funding are now being defined.

**The Scope** (Study Area) **of the Lake Plan** includes all stream and river systems that flow into Upper Stoney, Stony, Clear and White Lakes. Background information has been collected on the entire watershed.

The Clear, Ston(e)y and White Lake Plan was prepared through a communitybased process, led by the Stony/Upper Stoney Lake Environment Council, Upper Stoney Lake Association, Association of Stony Lake Cottagers, and White Lake Association, with support from the Stony Lake Heritage Foundation. Input was gathered from all lake residents, commercial operators, recreational lake users and government stakeholders.....

anyone who has a stake in the future health of the lakes and watershed.

## Our Lakes' Heritage

Ston(e)y, Clear and White Lakes are part of the Kawartha Lakes which lie north and east of the City of Peterborough in East-Central Ontario. The Kawartha Lakes form part of the Trent Severn-Waterway (TSW), connecting Lake Ontario with Georgian Bay (See Map 1, Ppage 13). The word *"kawartha"* is derived from an Anishnabe word *kawatha* meaning *bright waters and happy lands*. White Lake is fed from Upper Stoney through the Indian River, but is not strictly considered as part of the Trent Waterway.

The region has been inhabited for thousands of years. Gordon Berry and Leslie Wootton outline what they call *The Five Invasions* in their book *Upper Stoney Lake: Gem of the Karwathas*.

The first to arrive were the native peoples searching for a place to live. Having a spiritual view of the land, they took only what they needed to survive, leaving the land largely unblemished for the next generation. Their name for Clear and Ston(e)y Lakes was Salmon Trout Lake. From ancient times, the lakes had been a haven for the sick and the wounded. Remains of native life can be found in several locations around the lakes, the best-known being the Petroglyphs. There are also the remains of a longhouse on property purchased from the Quackenbush family and remnants of an earlier settlement in Gilchrist Bay. Loggers followed, interested only in the beautiful white pines they harvested and sent downstream to be made into masts, ships and lumber. Their methods, clear-cutting of the land and failure to replant, resulted in the loss of lake trout from the lakes, as well as causing soil erosion, leading, in part, to the horrific fires of the early 1800s.

Third came the settlers, removing the forests to plant crops and establish pastures for their animals and food. Their arrival changed the land, but established a sustainable economy.

The fourth group, campers, established temporary homes and enjoyed the lakes for their natural beauty.

More recently, the campers, now cottagers, have come again in greater numbers and with a different attitude. They realize the environment is under stress and only a communitywide stewardship can establish watershed sustainability.



## **The CSW Lake Plan** A Stewardship Guide for Clear, Ston(e)y and White Lakes

The Clear, Ston(e)y and White (CSW) Lake Plan is dedicated to those who came before us on these lakes and those who will follow us. This introduction is a recognition and a thank-you to those who have worked before us and those who have worked with us to keep our lakes healthy.

#### A Need to Preserve

The First Nations left a very small footprint on this land and water. Succeeding waves of industry and settlement have not followed their example. As early as 1890, we read of the Association of Stony Lake Cottagers who outlined the need to preserve the quality of the water and the natural beauty of the lands covered in our study.

#### How To Preserve

Research has produced an increasing amount of data showing us how to maintain, even to improve, our natural and cultural heritage. It is now up to us, the stakeholders of this treasure, to do our part. Indeed, each of us has a part to play. Lake residents cherish the area for its good water, lifestyle and the memories they have of years past *at the cottage*. Local fisherman, canoeists, kayakers and sailors use the water for recreation. Realtors, contractors, and tourist operators make all or part of their living from working around the lakes. Municipal councils can assist in the protection of our lands by working cooperatively to harmonize planning policies.

#### Lake Plan Purpose

The Clear, Ston(e)y and White (CSW) Lake Plan (2008) is the most recent study and compilation of data on our lakes. The Lake Plan reflects input from all stakeholder groups. And more than that, the Plan suggests actions that all stakeholders can follow to preserve what we all cherish.

The Lake Plan was produced with the involvement of many people and groups gathering background material for us to examine over the years. To these people, we give our thanks. We also recognize and thank the many who have contributed hundreds of volunteer hours to coordinate the study. You know who you are. Our gratitude and thanks also go to the groups, associations and individuals who have provided financial support throughout the process.

Margaret Mead once said:

A small group of thoughtful people can change the world. Indeed, it's the only thing that ever has.

Let's be one of these groups!

## Formation of the CSW Lake Plan Steering Committee

The Clear, Ston(e)y, and White (CSW) Lake Plan was initiated by the Stony/Upper Stoney Lake Environment Council, a group of lake residents interested in conserving and improving the health of the lakes. The Environment Council engaged in research and planning, including initial production of GIS (Geographic Information Systems) computer-based mapping in collaboration with the Trent-Severn Waterway and the Ministry of Natural Resources (MNR) between 1995-2004.

A formal meeting initiated by the Environment Council was held in April of 2004. Many stakeholders, including cottagers, yearround residents, real estate people and contractors, attended this meeting. An urgency was expressed by the participants to begin coordinated long-term efforts to protect our environment in contrast to the previous ad hoc responses to specific issues. A call for a proactive rather than a reactive approach was loud and clear.

As a result of the 2004 meeting, the Environment Council invited all relevant stakeholders with an interest in the lakes to a meeting in Peterborough on March 10, 2005 chaired by French Planning Services . The participants were unanimous in agreeing that a coordinated effort on the part of all stakeholders was required to plan the future of our lakes (see Appendix for list of attendees).

A Steering Committee was established as an outcome of this meeting. Membership on this Committee includes representatives from the four municipalities (see Appendix) with jurisdiction on parts of the lakes, five separate lake associations (see Appendix), the Environment Council, Stony Lake Heritage Foundation, cottagers and year-round residents on and off of the lakes with an interest in the process. Additionally, the Steering Committee has invited a number of people with relevant extensive experience to participate as Advisory Committee members. Several of these resource people have remained to become regular Committee members.

The Steering Committee has met more than 20 times in the preparation of this report.

The Steering Committee promoted the Lake Plan's focus on the appreciation and protection of the lakes' natural and cultural heritage by fostering awareness, promoting stewardship initiatives, and providing recommendations to municipal planning policies to guide sustainable land use and development. This approach was confirmed through consultation with shoreline residents and businesses. The commitment of the Steering Committee and the devotion of individual volunteers has been the catalyst for the CSW Lake Plan's completion.

## **Community Consultation and Priority Issues**

PRIORITY ISSUES IDENTIFIED AT WORKSHOPS

Monitor, Protect and Enhance Water Quality

Maintain and Restore Natural Shorelines, Wetlands and Forests

Ensure Quality of Life

Protect and Enhance Fish & Wildlife Habitat

Encourage and Promote Sustainable Year-round Development

Promote Education of Stakeholders

Improve Communication with Stakeholders

Develop and Maintain Good Working Relationships with each Township

> Promote Safe Use of Recreational Vehicles

### The Planning Process

The lake planning process was preceded and supported through research and planning efforts by the Stony/Upper Stoney Lake Environment Council in collaboration with the TSW and MNR.

The formation of a multi-lake, regional water quality initiative, the Kawartha Lake Stewards Association formed in 2001, has provided water quality sampling for the lakes and regularly consults with the MOE and other academic partners in the analyses of these data. Additional technical and planning support has been provided by the Kawartha Heritage Conservancy.

### **Resident Workshops 2005**

Workshops are an integral part of the lake planning process, enabling everyone who lives, cottages, works or plays on the lakes to participate in the process.

Residents who live on and around Upper Stoney, Stony, Clear and White Lakes were invited to attend one of two workshops on August 14, 2005 at the USLA Pavilion at Crowes Landing and the ASLC's Juniper Island Pavilion. The purpose of the resident workshops was to provide information about the lake planning process and promote discussion among the residents to identify important values and special features that support the current high quality of life in the watershed community, and the issues that impact these values. Ideas discussed regarding potential solutions provided guidance for identifying priorities and the development of the appropriate strategic actions.

### **Commercial Operators Workshop 2006**

A third workshop was held January 21, 2006 for commercial operators, municipal politicians and employees, and government agencies. The purpose of the meeting was to provide an opportunity for these groups to be introduced to the lake planning process and to offer their ideas regarding the process. Interestingly, the same values and priorities expressed by residents in the two earlier workshops were mirrored in feedback from the commercial stake-holders.



The underlying message from the commercial participants was that recommended actions be achievable and that the Lake Plan be as simple as possible.

Together, the Steering Committee and the lake community developed consensus on the key issues that would drive the Lake Plan recommendations for all current and future lake residents and community users, including: additions to municipal planning policies to guide sustainable development, stewardship approaches, and targets and objectives to measure success of lake planning over time.

## **Reviewing Background Information**

The collection and analysis of background information was primarily completed by lake residents and volunteers of the lake associations in partnership with French Planning Services Ltd. The CSW Steering Committee felt that this was the best way to minimize costs as well as to promote and maintain a high level of expertise on the lake. Our consultants at French Planning Services Ltd. provided support in project management and technical expertise in biology and planning, as well as input to the analysis and mapping of research findings.

The volunteers focused on the collection of existing information from agencies and lake-based initiatives, including biological inventories of fish and wildlife habitat, wetlands and shoreline vegetation, initial computer mapping, and local knowledge regarding the cultural heritage and historical development of the lakes' watershed.

Current land use changes and challenges, including resource extraction, lot counts and zoning, impacts of redevelopment and high density development, and long-term impacts of climate change were also investigated with the aid of local lake-based and agency experts. Once this information was collected, the committee could then identify information gaps and prioritize the collection of new information within the available financial and people resources of the associations and input from our consultants.

Collecting background information helps to identify important values, development constraints and land use considerations. Detailed mapping provides a means to focus and integrate important data. The information and data collected from the public consultation and the background reports is synthesized into the lake plan, and is used to develop and confirm a detailed list of actions.

### LAKE-BASED STUDIES

Historical MNR Fisheries Data (1982-1997) Historical MOE Water Quality Monitoring Reports (1966-1995) TSW Wetland Study (Chamberlain 1990) Geomatics Study of Boating and Development (1991) Stony Lake Lifeline Study (TSW; Gartner Lee; R. Moore 1996-1997) Volunteer Residents' Monitoring of Aquatic Vegetation and Loon and Osprey Nesting (1990s) Stony/Upper Stoney Lake Environment Council GIS Mapping (1998-2006) University of Toronto and MNR Walleye and Cold Water Fisheries Studies (2005-2006) Kawartha Lake Stewards Water Quality Studies, with Trent University Phosphorus Loading Modeling (2001-2008)

CSW Wetland Rapid Assessment Protocol and GIS Mapping (2007 funded by DFO)

## Context

### Our Watershed

Our lakes share water with the Kawartha Lakes system, which are fed by the Gull-Burnt River system, originating upstream in the Haliburton Highlands. While most lakes have only one outlet, the water from Clear and Ston(e)y Lakes flows out through two river systems, the Otonabee and Indian Rivers. These systems empty into Rice Lake and feed the Trent River downstream into Lake Ontario.

The lakes are geographically located about 30 kilometres northeast of Peterborough. The Townships of Douro-Dummer, North Kawartha, Smith-Ennismore-Lakefield and Galway-Cavendish and Harvey all have jurisdiction over some part of the lakes. The fact that these four townships each have their own zoning by-laws leads to differences in construction standards, setbacks and other areas affecting development on the lakes.

## The Land Between

In several recent publications, our area has been referred to as *The Land Between*. The Land Between (shown on Map 1, next page) is a transitional area between two ecological systems (i.e. Southern Ontario and the Canadian Shield), thereby supporting a remarkable diversity and abundance of plant and animal species. This corridor runs from Georgian Bay to the Frontenac Arch near Kingston, with the middle third of the area falling within the Kawarthas.

A variety of bird, mammal and reptile species, including Ontario's only lizard - the Five-lined Skink (endangered nationally and under review provincially) - congregate in this area to take advantage of the diversity of resources and special nature of the area's limestone bedrock pavement (alivars), granite barrens, highly interspersed wetlands and other water resources. Many species are at their southern or northern range limits along this transition zone. Each of the CSW Lakes prominently demonstrate these features.

> The Land Between contains a band of highly concentrated biological diversity and the CSW watershed lies at the centre of it all!

### LIST OF INFORMATION COLLECTED

#### NATURAL ELEMENTS

Research summary and GIS mapping of the watershed, wetlands, fisheries, vegetation, water quality, and wildlife

Role of natural elements in providing critical habitat and sustainability for all species

Policy protection for natural features

Species and spaces currently "at risk" Analysis of areas requiring protection and strategies for success

#### PHYSICAL ELEMENTS

Narrow water bodies Steep slopes Flooded areas and areas prone to flooding Access Watershed conditions Mineral and aggregate resources Forestry Water level operating regime

#### SOCIAL ELEMENTS

Historic and cultural sites Boating and snowmobile use Important landscapes Recreational opportunities Historical development Neighbourhood character Night light survey

#### LAND USE ELEMENTS

Inventory and trends County/Township Official Plans Zoning by-laws Land use influencing water quality Shoreline protection Lake capacity Development permit system Sewage disposal Development site plan control



## Lake Character and Water Quality

### Lake Character

We can really look at the lakes as four lakes rather than three; the Upper and Lower basins of Ston(e)y being almost separate bodies and about equal in size. They are both studded by many small and large islands, freestanding reefs and sunken shoals.

The northern landscape is predominantly coniferous trees, rock barrens and wetland habitats. The southern landscape is characterized by deciduous forests, existing and historical agricultural activity, development, and limestone aggregate extraction. Both lakes have quiet back bay areas with important wetland and fish habitat.

Clear and White Lakes lie south of the Canadian Shield, and

orested-wetland habitat

therefore, resemble the southern shoreline of Ston(e)v Lake. Clear Lake is dominated by deciduous mixed forests, several shallow areas ideal for fish habitat, a few wetlands interspersed between islands and along the western shoreline, and cultivated landscapes. White Lake is a shallow basin influenced by a river inflow and outflow, and shorelines dominated by coniferous mixed forests, fish habitat, and a large wetland area near the inflow of the Indian River and along the northern shoreline. Both lakes' shorelines are significantly more heavily developed compared to Ston(e)y Lake.



### Water Levels

When Francis Young arrived with an early immigration wave in 1825, he settled at the rapids near the south end of Clear Lake and immediately commenced the construction of a wooden dam to control the water flow to a grist mill and sawmill which he subsequently built. The wooden dam was replaced with a concrete dam which raised the waters of Ston(e)y Lake about 1 metre above that of the early 1900s. It is primarily the Young's Point dam that maintains the water levels in Ston(e)y and Clear Lakes. However,

a small dam at Gilchrist Bay controls the outflow of some water into White Lake and the Indian River.

In the 50 years following the building of the dam, lake levels fluctuated a great deal due to snow and rain and the requirements of the logging and mill owners. Shortly before 1890, the present levels on the lakes were established with the construction of the Trent Severn Waterway, which connects Lake Ontario to Georgian Bay via inland lakes and rivers.

The water levels of Ston(e)y and Clear Lakes are regulated by the Trent-Severn Waterway, and are therefore subjected to water fluctuations to maintain water levels for navigational purposes and inhabitants downstream. Normal water levels are maintained by manual operation of control gates at Burleigh Falls for inflow and Young's Point for outflow.

Artificial management of water levels has caused historical flooding, decreased mean depth and increased littoral areas where aquatic plants can proliferate, creating new fish habitat for warm-water species. The variation of water levels may change due to climate change (warmer and dryer growing seasons) or other natural processes and land use changes.

White Lake is an unregulated lake fed by internal springs and a significant flow from Stoney Lake at the south end of Gilchrist Bay where water levels are controlled by a weir dam. White Lake water levels are remarkably steady with the broad shield rock surface at the entrance to the Indian River outlet serving as a natural control.

## Water Quality

### Water Quality is the #1 Issue

Surface water quality (lake water) is consistently identified as the issue of greatest concern in our stakeholder surveys and workshops. Lake users are unanimous in valuing clean water; it is essential for recreation and supports a healthy wildlife population. Our surface water quality is determined by the water flowing into our lakes from a variety of sources: streams and rivers, surface runoff, industrial effluents, precipitation and groundwater.

Groundwater issues, recently spotlighted in Ontario due to the Walkerton tragedy, are being addressed by the Source Water Protection Act. The Otonabee Region Conservation Authority (ORCA) is currently working with our township councils to incorporate recommendations from the Trent Conservation Coalition's Trent Basin Groundwater Study. These are intended to ensure plentiful supplies of clean groundwater for the future.

### How do we measure water quality?

The Ministry of the Environment is responsible for monitoring, regulating and enforcing the protection and management of water quality and quantity in the province. The Ministry has established thresholds for water pollutants including nutrients (phosphorus, nitrogen), contaminants (heavy metals, pesticides), pathogens (bacteria) and many other parameters (pH, dissolved oxygen). These are designated as Provincial Water Quality Objectives (PWQO).

Two important pollutants in inland lakes are phosphorus and E.coli bacteria. Phosphorus concentrations should not exceed 20 micrograms per litre or 20 parts per billion (ppb). Levels above these amounts can result in foul-smelling nuisance algae blooms and deterioration of recreational and aesthetic values. Research shows that a shift towards a turbid, algae-dominated lake system is extremely difficult to remediate. E.coli measurements are best known for their use by public health officials, who will post beaches as unsafe to use when counts exceed 100 E.coli per 100 millilitres of water.





The Kawartha Lake Stewards Association (KLSA) is a group of shoreline residents who monitor the water quality of the Kawartha lakes, from Balsam Lake downstream to Katchewanooka Lake. They focus on the more easily measured criteria: water clarity (or Secchi depth measurement), phosphorus and E.coli bacteria. They have found that phosphorus levels in parts of our lakes can exceed 20 ppb in July and August and there are reports of sporadic elevated E.coli readings.

#### Sources of Phosphorous

Phosphorus is derived from both natural and human sources. Natural sources include soil, streams, wetlands, vegetation, lake sediments and rocks. Human sources include fertilizer, sewage treatment plants, agriculture, septic systems, urban runoff (lawns and storm water drains) and atmospheric deposition. Some phosphorus flows downstream out of the system, but most settles in the sediments and becomes part of the internal phosphorus cycle.

### Sources of E.coli Bacteria

Bacteria growth may be due to an increase in wildlife excrement or increased use of lakes by humans. Human factors include lake bathing and discharge of grey and black water from boat holding tanks.

### Secchi Measurements

A Secchi disk is used to measure how deep a person can see into the water. The larger the Secchi depth, the clearer the water is. Water clarity may be affected by three different factors – algae, sediment and/or water colour. The 2004 KLSA report quotes a Maine, USA study that found property values began to decrease as Secchi measurements fell below 4 metres.





### How are our Lakes Doing? A Summary of Key Measurements

- E. coli levels are reassuringly low, predominantly under 20 E. coli/100ml. Sporadic elevated readings are attributed to waterfowl and/or runoff from heavy rains into a constricted bay.
- Our lakes receive high-phosphorus water from the southern part of our watershed (i.e. Pigeon River, Scugog River) and low-phosporus water from the north (i.e. Gull and Burnt River, and Jack's and Eel's Creek).
- Lakes which receive water predominantly from the north, such as Upper Stoney Lake, have phosphorus levels below 10 ppb throughout the summer.
- Stony Lake, Clear Lake and White Lake receive most of their water from the Trent-Severn Waterway. Phosphorus levels in these lakes can rise in July and August to 20 ppb or more.
- There are a variety of sources contributing to total phosphorus concentrations and many can be traced back to human activity.
- Upper Stoney Lake has Secchi measurements over 4 metres. Stony, Clear and White Lakes are generally less than 4 metres.

#### Measurements suggest that our lakes are presently on the positive side of a delicate water quality balance. Education, vigilance and best management practices

are the keys to maintaining this balance.

### **RECOMMENDATIONS — WATER QUALITY**

- 1. Deliver the message to lake residents and users that water quality is a key indicator of the health of the lakes' ecosystem and a significant influence on our property values and tourism industry.
- 2. Encourage residents to implement best management practices:
  - Create or allow a natural shoreline with an adequate buffer zone to capture runoff.
  - Avoid all fertilizer use on lawns, and chemicals or soaps in or near the water.
  - Perform ongoing maintenance and inspection of our septic systems.
- 3. Encourage our four townships to recognize the Lake Plan watershed philosophy in promoting lakeshore-specific legislation (policies and by-laws).
- 4. Work with local and regional government and organizations to implement the Clean Water Act for source water protection on the lakes.
- 5. Conduct inventories for all streams feeding into the lakes.
- 6. The Lake Plan will endeavour to qualify as a recipient of the Trent-Severn Waterway Panel's proposed investment support for stewardship activity.
- 7. The Lake Plan will develop stewardship incentives for community success in achieving lake water improvement against specific goals and measures.

## Aquatic Plants – Weed Control

### **OBSERVATIONS AQUATIC PLANTS**

At present, there is a great deal of anecdotal evidence, but very little hard data due to insufficient monitoring with standard weed-monitoring protocols.

### RECOMMENDATIONS AQUATIC PLANTS

- 8. Participate in the Kawartha Lake Stewards Association aquatic plant project and promote the use of the KLSA Aquatic Plant Management Manual to be distributed in 2009.
- 9. Consult with the appropriate authorities to address watershed septic issues, including maintenance, inspection and installation.
- 10. Facilitate shoreline protection programs emphasizing naturalized buffer zones encouraging 10-metre vegetation and 30-metre no construction guidelines.



A primary concern to lake users over the years has been the proliferation of macrophytes (aquatic plants or weeds). It is difficult to establish just what the future trends might be. Phosphorus is a big factor in the increased growth of plants, as well as ice and snow cover and water levels. Climate change and invasive aquatic species may also be contributing factors. Warming and drying climate trends influence weather patterns, including drought conditions followed by intense storms and flash floods. Less water enables plant growth at greater depths from the shoreline, and more nutrients, less ice cover, and warming temperatures influence the growing season. Aquatic invasive species may find new areas to inhabit, increasing the overall variety and density of plant growth.

Zebra mussels have made such a difference to water clarity to the point where weeds can now propagate in much deeper waters. Zebra mussels increase water clarity by feeding on algae. Clearer water enables sunlight to penetrate deeper, stimulating plant growth.

### Importance and Management of Aquatic 'Weeds'

Shoreline and in-water vegetation is a vital component of aquatic systems because plants create oxygen and nutrients which help maintain water quality and healthy aquatic systems. Plants that extend from the riparian, in-land portion of the shoreline to the shallow, littoral in-water areas help to stabilize shorelines from erosion and retain sediments from surface runoff for source water protection. These areas are also important fish, reptile, amphibian and wildlife habitat and travel corridors. Protecting these areas from de-vegetation, surface hardening or inappropriate development maintains the overall health of the lake.

On the other hand, excessive plant growth, often described as "weeds" due to their nuisance to residents, may alter the ecological health and dynamics of the lake and interfere with its enjoyment. Increased nutrients, contaminants, pathogens, water extraction, invasive species and climate change all impact the water quality and the aquatic community. The proposed action is to support a KLSA study of several waterfront locations to better determine the nature and extent of plant growth present (i.e., species of plants), perceived trends, residents' actions directed to the problem and the extent to which residents support corrective measures. This would be combined with a study of aquatic plant management techniques and an evaluation of their suitability for our lakes.

### Blue-Green Algae (Cyanobacteria) and their Toxins

There have been a few reports on Stony Lake of a substance that appeared to be blue-green algae blooms during the late summer - a dense pale green scum sitting on top of the water with a noticeable odor. This is markedly different from the submerged jelly-like algae bloom also frequently seen in late summer. Health Canada information fact sheets provide information about this issue. Lake residents should monitor their local waters and if the algae is spotted, it should be collected and brought to Lakefield Research or Peterborough Health Unit for analysis.

## Natural Heritage

Our lakes are very rich in natural heritage......

All of the varied species of plants and animals and their habitats are considered to be natural heritage. This *biodiversity* of plants and animals and their habitat is a valuable resource which should be a legacy left for future generations. Biodiversity provides land and water protection, recreational opportunities, and sustains our quality of life. Biodiversity is non-renewable or, at best, extremely difficult to restore once it is lost. Its preservation is key to the balance of nature in our own lake communities and beyond.

## Understanding our Natural Heritage

Before the Provincial Policy Statement of 2005, the mapping of important natural heritage features existed to varying degrees and their features were protected by separate policies. The Provincial Policy Statement (2005) is the current policy tool used by planners to direct appropriate land use decisions. Policy direction states that *natural features and areas shall be protected for the long term*. The following important natural features and areas were mapped using existing provincial, municipal and locally

collected data:

- Fish Habitat
- Species-at-Risk (SAR) Occurrences
- Important and Unevaluated Wetlands
- Areas of Natural and Scientific Interest (ANSI)
- Important Wildlife Habitat (including deer yards, moose management planning area, raptor nests, heron colonies and rare species)
- Crown Land Provincial Parks, Conservation Reserves and Game Preserves Conservation Authority Lands
- Environmentally-Sensitive Areas
- Special Features Land Between, Conservation Blueprint and Big Picture Wildlife Core and Corridor Habitat - those landscape features which provide sustainable habitats supporting biodiversity because of their size, shape and connectivity

## Natural Heritage Protection Policy

Conserving and protecting the watershed's natural heritage from development (new or expanded housing or shoreline improvements such as docks or boathouses), pollution and inappropriate land use activities helps to ensure its long-term biological diversity and ecological functionality. This also serves to buffer the impacts of climate change and air-borne pollutants. Natural heritage protection also preserves recreational and economic opportunities, as well as our valued quality of life.

Provincial agencies and non-government conservation initiatives, including projects called the Land Between, Big Picture and the Conservation Blueprint, have identified core habitat and areas of high concentration of biodiversity for protection. Natural heritage features in our watershed that are within Provincial Parks, Conservation Reserves and Preserves, Otonabee Region Conservation Autority lands, and Areas of Natural and Scientific Interest, as well as Fish and Species at Risk Habitat, receive full or partial protection in Ontario.

Unfortunately, many of the important habitats identified on Map 2 (Page 19) lie outside of protected areas. Their conservation relies solely on stewardship efforts by individual property owners, or official plan policy and enforcement of zoning by-laws by local municipalities and conservation agreements promoted by local land trusts such as the Kawartha Heritage Conservancy or the Otonabee Region Conservation Authority. At this time, many of these lands' protective status within the study area remain unknown and require future assessment once revised official plan(s) and zoning schedules are made available. Excellent opportunities for land conservation and stewardship exist in these formal, legal arrangements called *conservation agreements*, typically a partnership between a landowner



and a land trust or conservation authority. Our local land trust, the Kawartha Heritage Conservancy, is currently working with lake residents who have arranged to preserve and steward their land through an outright donation of land or an *easement* where KHC monitors and maintains agreed uses and restrictions placed on the land in perpetuity.

In addition to the Provincial Policy Statement (2005), there exists other provincial and federal legislation which provide regulations for management and conservation of our natural heritage such as: the Fisheries Act, Species at Risk Act, Fish and Wildlife Conservation Act, Provincial Parks Act, Crown Forest Sustainability Act, Planning Act, Public Lands Act, Aggregate Act, the Environmental Protection Act and the Endangered Species Act.

### **OBSERVATIONS—NATURAL HERITAGE**

The core and corridor habitats in The Land Between play an important role in contributing high levels of biological diversity.

Potential threats to this vulnerable area, and natural heritage in general, include:

- The lack of ecological inventories and mapping
- Inconsistencies among municipalities with regard to
   land use planning and environmental protection
- Unplanned or unlimited development and growth
- Road networks
- Resource extraction
- Climate and land use changes
- The lack of awareness with respect to human impacts
   on natural heritage features

Many core habitat areas are outside of the protected areas and rely on stewardship efforts of individual property owners.

## **RECOMMENDATIONS—NATURAL HERITAGE**

- 11. Continue to work with the Ministry of Natural Resources, Trent-Severn Waterway and conservation authorities to better define, map and protect our natural heritage including consolidation of natural resources issues dealt with in various schedules and policies of local and county official plans.
- 12. Provide information to property owners and engage them in best management and stewardship of natural features found on their property and to consider long-term conservation options and incentives.

Intact core habitat areas and important natural cover areas that buffer the adjacent lands are important for wildlife conservation, as well as natural corridors which provide wildlife protection and enable movement across the lakes and between core habitats. Some species need to migrate long distances between critical habitat to fulfill ecological needs or to avoid overcrowding.

### AREA MAMMALS

White-tailed Deer Moose Raccoon Black Bear Lynx\* Mink Bobcat\* Northern River Otter\* American Marten\* Fisher Beaver Muskrat Porcupine Striped Skunk Bats\* Weasel species\* Eastern Chipmunk Red Fox Coyote Grey Wolf Woodchuck Mice Moles Shrews Voles Snowshoe Hare Eastern Cottontail Red and Grey Squirrels Northern and Southern\* Flying Squirrels

denotes species are rare or at risk

### Wildlife

Wildlife is an important ecological component of any watershed. The sidebar on the opposite page shows some of the mammals found in our area.

### **OBSERVATIONS—WILDLIFE**

There are several deer yards within the watershed, including a large one encompassing much of the northern shoreline of Ston(e)y Lake, which extends into the Peterborough Crown Game Preserve and the Petroglyphs Provincial Park. This area is also a wintering habitat for the black bear, grey wolf, bald eagle and golden eagle. Deer use these yards as shelter and a food source during the harsh winter months.

Complete lists of local reptiles, birds and mammal in the CSW study area are available online at the Natural Heritage Information Centre and the Ontario Breeding Bird Atlas websites, or through consultation with the CSW steering committee.

Shoreline development, lead sinkers and jigs, water level fluctuations, watercraft and nest predators put loons, other waterfowl, reptiles and shoreline wildlife at risk of population declines.

### Wetlands

Wetlands are classified as open water, marsh, swamp, fen or bog and are a vulnerable and critical part of our natural heritage.

Wetlands are nature's filters, purifying water sources from the surrounding landscape. Wetlands control floods and erosion through shoreline stabilization and the slow release and recharge of surface and ground water. These ecosystems provide critically important habitat for fish and wildlife and provide recreational and educational opportunities for children and adults. Unfortunately, wetlands are seriously threatened natural features within the TSW system.

### WETLANDS PLANNING ISSUES

Wetland Ownership and Management

Protective Zoning

Zoning for Lakebed Federal Lands

Consistency in Shoreline Development Setbacks

Information on Reported Harvests of Wild Rice, Fish, Amphibians, Reptiles and Waterfowl

### RECOMMENDATIONS WILDLIFE

13. Provide information to, and engage lake users, including residents and commercial operators, in best management practices including the public's responsibility for observing, monitoring and reporting species.

14. Continue to work with MNR and TSW to update information on wildlife species and their critical habitats.

### THREATS TO WETLANDS

Introduction of Silt and Other Contaminants Due to Shoreline Development

Removal of Shoreline Vegetation or Buffer Strips

> Dredging of Wetland and Tributaries

Loss or Alteration of Wetland Habitat

Changes to Weather Patterns, Including Precipitation and Temperature

Changes to Water Quality

**Invasive Species** 

Over the past 75 years, incremental wetland loss (about 32% between 1962 and 1978) and damage has occurred on both Ston(e)y and Clear Lake from shoreline dredging, filling and nutrient enrichment (Chamberlain 1990; Gibson 1991). Further important loss of wetlands will result in the decline of biological diversity, water quality, manageable water flows, recreational and educational values and fishing/wildlife viewing. As lake stewards, we must provide protection against disturbance and loss of all wetland habitat.

### **Provincially Significant Wetlands**

There are six Provincially Significant Wetlands (PSW) on or adjacent to the shorelines of Ston(e)y and Clear Lakes. There are also several other Provincially Significant and Locally Significant Wetlands that have been inventoried by the MNR within the study area boundary (Map 3, next page). These are Crown and private lands protected by the Provincial Planning Act - Provincial Policy Statement wherein a 120-meter buffer is subject to an Environmental Impact Study prior to approval for development. The municipalities, in keeping with their amended official plans, must implement planning policies to be consistent with the Provincial Planning Statement (PPS), 2005. (see PPS, Section 2.2.1)

### Locally Significant Wetlands

Locally significant wetlands and the 120-metre adjacent lands from a PSW boundary are subject to proposed development if an environmental impact assessment proves no negative impact to the form or function of the wetland (Map 3). Assigning appropriate municipal zoning of *Environmental Protection* or *Hazard* to wetland areas would provide additional protection.

### **Unevaluated Wetlands**

In the fall of 2007, a rapid assessment of shoreline wetlands was generously funded by DFO and conducted by two biologists and several association volunteers. New wetland areas, previously recognized as fish habitat only, were mapped in the shallow bays and outflows of the CSW study area.

Other wetlands along the shoreline and in the northern areas of the study area have yet to be assessed due to lack of funding and resources. Without a wetland evaluation or appropriate zoning, these wetlands remain unprotected (Map 3).



### OBSERVATIONS WETLANDS

Over the past 75 years, incremental wetland loss has occurred (32% between 1962 and 1978). There are 6 provincially significant wetlands on Ston(e)y and Clear Lakes.

Many other wetlands have yet to be protected via evaluation and policy. See Policy Protection Table in Appendix for details of policy on wetlands.

A recent inventory and evaluation of the wetlands was initiated in the fall of 2007 and continues this summer, funded by DFO and the Stony Lake Heritage Foundation (see Map 3). This study provides new mapping data which will inform provincial and municipal planning for protection of the wetlands.

### RECOMMENDATIONS WETLANDS

- 15. Work to locate, verify, evaluate, map and protect all remaining wetlands via municipal and provincial policy.
- 16. Promote public education about importance and conservation of all natural habitats including wetlands.



Map 3 - CSW Wetlands

## Fish Community

The lakes support a cool/warm water fishery including muskellunge, walleye, largemouth and smallmouth bass, yellow perch, pumpkinseed, rockbass, blue gill, bullhead, black crappie and carp.

Several of these species, including walleye, have been introduced to Ston(e)y Lake.

Muskellunge, however, are naturally found in the lakes, but their population remains low at least partly due to environmental stresses including habitat alteration and the presence of invasive species. For example, zebra mussels increase water clarity, having an adverse effect on zooplankton and small fish communities via predation. Loss of these species eventually affects the food chain. In turn muskie populations are at risk. The migration of northern pike from other reaches of the TSW system is also a potential future stressor.

Historic records indicate that our lakes and streams once provided a good habitat for 28 species, including cold water species such as lake herring, lake white fish, lake trout, Atlantic salmon and freshwater shrimp. However, changes in land use and resultant impacts to water quality, water level and temperature changes and doubtless other factors have resulted in a dramatic decline approaching complete loss of these species. Although bass, walleye, muskel-lunge and brook trout were stocked during the 1900s, this practice has been discontinued.

Upper Stoney Lake also maintains some cold water habitat for its lake herring and lake whitefish population. An MNR netting program in 2005 confirmed the presence of both species.

### Fish Habitat, Streams and Rivers

### Fish Habitat

The preferred habitats for muskellunge and largemouth bass are the vegetated or mudbottomed wetland-type areas for breeding, nurseries and feeding. Walleye breed in fastmoving pebbly or rocky shoreline areas and rivers, devoid of dense vegetation. Smallmouth bass are often observed in or near walleye habitats. These fish prefer hard-bottomed areas of clear water, with clean gravel, sand or rocky substrate found in quiet bays, island shoals and undisturbed shorelines.

Important wetland and shoreline habitat for muskellunge is shown on Map 3. Sporadic data collected by the Trent-Severn Waterway, Ministry of Natural Resources, and locally funded independent studies were incorporated in our mapping efforts. The darker areas indicate historic spawning beds for muskellunge and the adjacent areas indicate protective *buffer zones* for consideration in any further development or change to the lake. Muskellunge may become lost to our lakes – like the lake trout – if management efforts fail to protect this species.

Map 4 (on the next page) also shows a Fish Sanctuary area, in which fishing is prohibited from the opening of the panfish season (end of April) for an extra week after the walleye season opens on the second Saturday in May. This is consistent with other fast water sanctuaries in the area, and protects walleye as they gather before, during and post-spawning. This type of protection is part of the Ministry of Natural Resources Kawartha-wide initiative to focus on the decline in walleye.









### **OBSERVED THREATS TO FISH AND FISH HABITAT**

**Modification of fisheries habitat:** alterations to shoreline and lake bed via filling, dredging, removal of aquatic vegetation, channelizing, docks and boathouses and retaining walls, and the removal of natural habitat such as stumps, logs, and rocks. Most notable is the incremental loss/change in habitat for our valued "indicator species" - those species which indicate an environmental condition such as a disease outbreak, pollution, species competition or climate change. Indicator species can be among the most sensitive species in a region, acting as an early warning to monitoring biologists. In our region, muskie is the indicator species; and there are documented declines in catch of both muskie and walleye.

**Over-fishing, poaching or angling out of season of all fish species:** particularly walleye and panfish.

*Impacts of invasive species:* increasing clarity of the water by zebra mussels permits deeper light penetration which encourages plant growth and increases water load concentration of Nutrients. Loss of deep-water dissolved oxygen and deep-water fish habitat disrupts the natural food chain and increases competition for forage fish. An acceptable baitfish species education program would help minimize the risk of introducing other invasive species.

**Excessive nutrient loading and pollution:** from fertilizing lawns, grey water dumping or release from holding tanks, and septic systems causing excessive weed growth.

*Climate change:* increasing water temperatures favouring other species and causing weed growth.



#### **Streams and Rivers**

Streams and rivers are a significant feature of the landscape and an integral source of water to the lake. Both systems provide important habitat for fish and wildlife, as well as freshwater from ground sources.

#### **OBSERVATIONS—STREAMS AND RIVERS**

There are a total of 35 streams connected to Ston(e)y and Clear Lakes, including Eel's, Jack's, Perry's and Julia Creeks, and two outflows via the Indian and Otonabee Rivers. Several of these streams are intermittent; that is, a stream which dries up for three months or more of the year. All of the streams occur on privately-owned land.

Only three streams have been assessed for thermal regimes (temperature of the water) which defines fish habitats; two feeding Big Duck Pond and one feeding Hull Bay.

Inappropriate development and human activity may threaten stream fish habitats and communities through the loss of riparian vegetation, removal of structural habitat (woody debris and rocks), sedimentation, nutrient impacts, channelization, herbicides, pesticides infilling, dredging, damming and changes in flow regime.



### **RECOMMENDATIONS STREAMS AND RIVERS**

- 22. Promote naturalized buffer zones for streams; 15 metres for warm and 30 metres for cold waters.
- 23. Expand stream inventories to identify and map important fish habitat.





### Species at Risk

Species at Risk (SAR) include animals and plants that are rare, threatened or endangered. Their existence depends on the protection and maintenance of their breeding habitats, including foraging and migration corridors. There are currently six bird and six reptile species listed *at risk* in the CSW watershed, and at least 10 more listed species that have historically lived in or may be inhabiting areas within the watershed. Locating and identifying rare species helps to protect their habitat, local biodiversity, and the lakes' natural heritage.

For more information concerning species at risk, including protection policy, designation status, i.e., threatened, endangered, etc., or distribution in your areas, please consult the following websites: Species at Risk Act Registry (SARA) at <u>www.sararegistry.gc.ca/;</u> the Committee on the Status of Endangered Wildlife in Canada at <u>www.cosewic.gc.ca/;</u> MNR's Committee on the Status of Species at Risk in Ontario COSSARO at <u>www.mnr.gov.on.ca/mnr/speciesatrisk/status.html</u>; and the Trent-Severn Waterway Wildlife Action for Habitat Health at <u>www.waterwaywildlife.com/species.php</u>.

### **OBSERVATIONS— SPECIES AT RISK**

There are numerous Species at Risk in the area due to the wide biodiversity of natural vegetation and habitats

Some species have been temporarily or permanently lost due to habitat changes. Conversely, some species have been informally sighted, but not formally identified by MNR staff biologists, and thus are not registered on the current list for our area

By building awareness and implementing community-based habitat restoration and protection programs, some of these species may return to the CSW watershed

### **RECOMMENDATIONS—SPECIES AT RISK**

- 24. Identify, evaluate and designate species at risk and other significant wildlife habitat in township official plans, environmental schedules and by-laws. Promote policy protection for locally, regionally and provincially rare species in our watershed.
- 25. Encourage residents to observe and report sightings of wildlife, including new species and sensitive habitat.



### **CSW SPECIES AT RISK**

#### CURRENT SAR INHABITANTS

Bald Eagle Golden Eagle Peregrine Falcon Red-shouldered Hawk Short-eared Owl Black Tern Blanding's Turtle Stinkpot Turtle Northern Map Turtle Eastern Hog-nosed Snake Eastern Milksnake

#### HISTORICAL SAR INHABITANTS -GONE DUE TO HABITAT LOSS

Loggerhead Shrike Least Bittern Cerulean Warbler

#### POTENTIAL SAR AND RARE SPECIES INHABITANTS -NEEDS VERIFICATION Great Gray Owl Red-headed Woodpecker Louisiana Waterthrush Southern Flying Squirrel Eastern Wolf



## **Invasive Species**



Banded mystery snail













Exotic or invasive species are non-native species that have been introduced into local habitats and can have devastating effects on the overall health of an aquatic ecosystem.

Most often, aquatic invasive species have been introduced to inland lakes during fish stocking or have migrated via the Trent-Severn Waterway. The connectivity of the CSW Lakes via rivers and boaters facilitates the spread of these species through such practices as bait bucket dumping, ballast water dumping, and failure to clean boats prior to launch.

The following species are confirmed invaders of our lake. (species photos at left appear in order of list)

Chinese mystery snail (OFAH) Banded mystery snail (MLA) Spiny water flea (OFAH)

- also confirmed in Clear Lake - yellow iris (MLA) Flowering rush (MLA) Eurasian water milfoil (MLA) Rusty crayfish (OFAH) - also confirmed in White Lake Zebra mussel (confirmed in all three lakes)

Purple Loosestrife

OFAH=Confirmed in the Ontario Federation of Anglers & Hunters database MLA=Confirmed by biologist and lake resident Martha Allen

Zebra mussels are the most well-known of all invasive species. Their filter-feeding behaviour increases water clarity and their excrement increases the level of P in the lake, which encourages algae and other plant growth. Zebra mussels especially encourage the growth of nuisance algae, including Cladophora. Cladophora looks like long green hair and it attaches itself to rocks and sediments along the shoreline.

Records do not indicate current distribution. They represent only observations that have been submitted by researchers and the public. A few more species may very likely occur in the CSW Lakes. One invasive identified by an MNR survey in 2005 is the rainbow smelt.

### **OBSERVATIONS—INVASIVE SPECIES**

There are eight confirmed invasive species in our lakes.

**RECOMMENDATIONS — INVASIVE SPECIES** 

26. Build township and landowner awareness with action plans to prevent the introduction, and encourage the removal of, invasive species in the watershed. Consult the Invasive Species Awareness Program, a partnership between MNR and the Ontario Federation of Anglers and Hunters, for additional information.

## Physical Features, Forest, Minerals and Aggregates

## **Physical Features**

The physical environment of the CSW watershed is defined by the local geology, soil and climate that characterize the natural and developed landscapes we observe today. The variety of landscapes includes wetlands, forests, bare rock ridges, agricultural fields and cropland. Streams along the shorelines and uplands of Ston(e)y, Clear and White Lakes define the physical constraints to land use and the attraction for resource extraction and residential development. There are physical constraints to land use, including resource extraction and residential development, dependent on the nature of the landscapes or landforms.

## **Crown Forestry and Tree Cutting By-laws**

There are different government control mechanisms regulating tree cutting and forestry operations in Crown forests and in privately owned forests. Within the CSW study area, Crown lands are managed under the Bancroft Minden Forest Management Plan (FMP), which has a southern limit of the north shore of Ston(e)y and Buckhorn lakes. All lands south of this line are under some form of private ownership and are not regulated by FMPs.

Trees play an important role in sequestering (carbon sinks) carbon and heat released into the atmosphere from respiration, soil decomposition and greenhouse gas pollution. In light of global warming and a changing climate, protecting trees and treed land-scapes is extremely important.

Currently, no tree-cutting by-laws are in force in the CSW watershed for private lands. The Official Plan of the County of Peterborough encourages landowners to recognize the importance of forested landscapes, to retain existing tree cover where deemed practical and to manage resources in accordance with proper forest management practices.

## Soil, Minerals and Aggregates

The rock barren shorelines, forests and wetlands of the CSW watershed include shallow glacial tills, remnants of rock and finely ground material, largely of granite origin, deposited by the glaciers thousands of years ago. The soils in the northern areas are shallow, stony, sandy and acidic, with low fertility and frequent bedrock outcrops. In the southern areas, soils reflect the underlying sedimentary limestone bedrock. Marl ponds are located in these areas and indicate calcium-rich, alkaline soils.

Aggregates, such as clay, sand, gravel, granite rock, limestone, and other *rock* materials used for construction, manufacturing and maintenance purposes, are plentiful. Several quarry pits are currently in operation in the watershed along the southwestern and eastern shorelines, including portions of the northeastern watershed in Galway-Cavendish and Harvey, for limestone extraction. For more information regarding stone producers in the watershed, please visit the Ministry of Northern Development and Mines web site at <u>www.mndm.gov.on.ca/mndm/mines/mg/dimstone/</u> alphprod e.asp.





Deposits of important minerals such as metallic and non-metallic ores, have been mapped along the northwestern shorelines of Ston(e)y Lake within the boundaries of the Enhanced Management Area in the Kawartha Barrens.

### Mining and Extraction

Prior to about 1917, the disposition of lands included both surface and mineral rights. Thus, many old family parcels on these lakes may include both surface and subsurface rights. Elsewhere, these rights are separated, and the mineral rights are owned by the Crown unless already privately acquired. Mineral rights can be acquired from the Crown by obtaining a Prospectors License and staking a claim according to regulations defined in the Mining Act of Ontario. The regulations typically contemplate a square claim of 16 hectares (40 acres) with boundary lines of 400 metres.

The staking of a claim is generally intended for mineral exploration purposes, not for the acquisition of mineral rights on small private land ownerships. To hold the claim for more than one year requires the performance of at least \$400 worth of approved assessment work each year.

Prospectors are entitled to reasonable access to their claims, but must notify the surface owner in writing before any work is initiated.

Ston(e)y Lake and its surrounding area has had a long history of mineral exploration, including largescale production of nepheline syenite and small-scale production of mica, corundum and granite, and minor amounts of limestone and gravel. Blue Mountain, a few kilometres northeast of Ston(e)y Lake, is composed of nepheline syenite, a rock not common in the earth's crust, and at this location uniquely white in colour and unusual purity. Opened in 1935, it is the first such deposit to be developed worldwide and is a significant additive in the making of glass and ceramics as well as being an industrial filler in paints and plastics. Subsequently, deposits have been developed in Norway and Russia.

- Mica and corundum were quarried in the watershed over 100 years ago. Sheets of
  white mica were traditionally used as stove fronts and corundum was used as an industrial
  abrasive because of its great hardness.
- Nepheline-syenite quarrying began in 1935 and is still operating.
- Four granite quarries were in operation on Ston(e)y Lake dating back to the 1870s on Quarry Island and on the west side of Eagle Mount Island in Lower Stony. Pink-gray granite from both of these sources was fashioned into cobblestone and embedded instreets to help secure the streetcar tracks in Toronto. Two more quarries were established in the 1940s to fashion gravestones and facades for urban centre buildings.
- The limestone bedrock south of the Shield and in sporadic distribution north of the lakes is generally suitable for the production of crushed rock used in construction.
- The eastern shore of Clear Lake is characterized by a limestone bluff; however, high land values and the proximity to the lake and residences make this site unsuitable for a stone quarry.
- Local mineral deposits of mica and corundum attracted brief interest during the 1930s and '40s but mining was not renewed. There is virtually no chance for future mining due to current technologies that enable synthetic production of several mineral forms including corundum.



## **Resource Extraction Threats**

Limestone and gravel quarrying increases with development demands (roads and buildings) and may pose a threat in the study area. Hillside sites and close proximity to road networks are usually preferred for extraction. A reasonable distance from residents and environmentally-sensitive areas is important due to ensuing negative impacts from blasting, dust, silt runoff, noise, trucks and groundwater seepage - quarries are abandoned once the water table has been reached. Limestone deposits are widespread in the watershed and extraction may pose a threat to those natural features currently unprotected by provincial policy including Provincially Significant Wetlands and core habitat for Species at Risk in the North Kawartha and Douro-Dummer municipal boundary areas.

## **Other Physical Landform Constraints**

Narrow water bodies, steep slopes, floodplains and Environmentally Significant Areas (ESA) pose constraints to development due to hazards to human safety, conservation of local character, or protection of significant features. Narrow water bodies are defined as aquatic areas with less than a 150-metre (500 feet) width from shore to shore. The confined nature of these areas results in the perception of increased density and less private recreational space for boating and swimming. Floodplains are limited due to wetland and lowland areas, but have not been mapped.

The viewscape is the area surrounding the lakes that can be seen from any point along the lake's shoreline. These areas typically encompass a 1-kilometre buffer from the lake's shoreline or map the highest point of land surrounding the lake. Identifying and protecting our lakes' viewscape is important for long-term maintenance of the natural beauty surrounding our lakes.

## Landscape and Aesthetics

Lake residents highly value the diverse and beautiful natural shorelines and forested landscapes which provide habitat for fish and wildlife. Significant portions of the shorelines and upland terrestrial lands remain undeveloped, and these vegetated shorelines, natural sand beaches, steep rock ridges, wetlands and the forested upland contribute to the natural beauty of this area. High profile development and resource management activities such as aggregate extraction or clear-cut forestry practices could seriously impact these values.

## Noise and Light Pollution

The quiet and darkness of the shorelines is an important social component of cottagers' enjoyment of the lakes. Excessive and unnecessary lighting detracts from the natural ambiance of the lakes and results in reduced visibility of the starscape. Unnatural lighting also affects sensitive lake biological systems, such as disrupting feeding and breeding behaviours of nocturnal and crepuscular species, e.g., bats, moths, walleye. For more information on light pollution, please visit the International Dark-Sky Association web site at www.darksky.org/. Recommendations Resource Extraction AND Landform Constraints

- 27. Develop protective measures at the municipal level, working within MNR policies and standards, to ensure that resource extraction land uses do not encroach in residential and environmentally sensitive areas.
- 28. The viewscapes (including scenic features) of the lakes should be recognized in the Official Plan(s). New pits, quarries or mining sites should be prohibited in this area.

### Recommendations Noise and Light Pollution

29. Encourage property owners to minimize noise and light pollution.

## Social and Community Values

### Historical and Cultural Sites

There are many local natural, historical and cultural sites that help to connect us to the land and to the history of the area. If they are to be protected for the next generations, it is important to continue to develop an awareness and appreciation of these unique features. The following list includes *places of interest* on our lakes according to our community.

### Historical Points of Interest

Petroglyphs Provincial Park\* Pavilion and store\* on Juniper Island St. Peter's on-the-Rock Church\* Locks at Young's Point\* Locks at Burleigh Falls\* Mount Julian\* (1860)/Viamede\* (1890) Burnham Lodge Historical private cottages and houses

### **Geographical Points of Interest**

Big and Little Duck Ponds\* **Burleigh Falls\*** Casement, Doe, Hollywood, Picnic and Roxburgh Islands\* Crowe's Landing\* Eagle Mount Island Eel's\* and Jack's Creeks\* and Fairy Lake\* Fiddler's and Mackenzie\* Bays Fraser Property Hell's Gate\* High Falls\* and trails Indian River\* Warsaw Caves McCracken's Landing\* Drowned lands - first growth stumps **Quarry Beach\*** 

### **Recreational Areas**

Crowe's Landing Pavilion Juniper Island\* Stony Lake Yacht Club

 The asterisk notes Points of Interest that are featured on the centre-page Map.

### RECOMMENDATION CULTURAL SITES

30. Work to formally designate and protect our local historical buildings and trails.





Viamede Resort, Stony Lake



### **Recreational Boating**

Ston(e)y and Clear Lakes are at the heart of the Trent-Severn Waterway. The main channel for boats passing south through the Trent-Severn Waterway has boats entering Ston(e)y at Burleigh Falls, following the channel through Hell's Gate into Clear Lake and exiting downstream at Young's Point. Only a small percentage of boats venture outside this route and most of these have the large service docks at Viamede as their destination; a few houseboats spend a day or two cruising the lakes.

Many cottagers on the three lakes own a variety of craft due to the opportunities provided for recreational activities on the lakes. Most common are the small runabouts, but there are certainly many larger touring boats, canoes, paddle boats and kayaks. Many cottagers also have sailboats, personal water craft (PWC) and skiffs. Some residents have restored older craft which are brought out on special occasions. The Lake Plan supports the Ontario Marina Operators Association's Clean Marina Program.

### Snowmobiles

During the winter, there is a monitored snowmobile trail from White Lake to Ston(e)y Lake through Gilchrist Bay to Viamede and from Viamede to Reid's Store.

### **OBSERVATIONS BOATS AND SNOWMOBILES**

Excessive boat speeds and unsafe operation of any vehicle may endanger lives and the natural environment, including loon chicks and nesting habitat

Air and water pollution result from the burning or spillage of gas

### Importance of Social Events

Life on the lakes would not be what it is without the many social events enjoyed by the residents. These events include gatherings where generations of families meet to update one another about their goings-on. Many families have kept in touch over several generations through these informal events.

There are, additionally, a number of more formal events available to those interested. Each of the associations sponsors a variety of activities. Depending on the association, events can include sailing, swimming, dances, regattas, nature walks and barbeques. These activities bring people together, developing a sense of community over the years.

### RECOMMENDATIONS BOATING AND SNOWMOBILING

- 31. Promote safe and appropriate use of all recreational vehicles.
- 32. Encourage new technology and best practices in using and maintaining vehicles, including "new" 2-stroke and 4-stroke marine engines.

### Recommendations Social Events

- 33. Continue to promote communication and social interaction among our stakeholders.
- 34. Involve the community network of lake residents in the lake planning process to establish a pool of volunteers for implementation of the Lake Plan recommendations.

## Land Use

### Land Use Facts and Trends

The CSW Lake Plan watershed area includes the Townships of North Kawartha, Douro-Dummer, Smith-Ennismore-Lakefield and Galway-Cavendish and Harvey, all within the County of Peterborough. Almost all of the shoreline is privately owned with 83% developed residential, 15% vacant lots, 1% commercial and 1% agriculture. There are also Aboriginal Land holdings.

Some background facts and trends relevant to land use planning in our watershed, depicted in Map 5 (next page), include:

- Clear and Ston(e)y Lakes have over 2,000 developed waterfront properties; White Lake has 209.
- There is little potential for the creation of additional shoreline lots so most new development will be in the form of conversions, infilling, redevelopment and clusters involving several small lots.
- There are large areas of vacant and farm land surrounding the lakes. There are very few active farming lands immediately adjacent to the lakes.
- Our shoreline accommodates 30 commercial properties (in red on Map 5.
- There is one active mining operation at the east end of Upper Stoney Lake, and a few pink and grey quartz and limestone quarrying and abandoned pits located south of Ston(e)y Lake and west of Clear Lake.
- High property values will encourage development where small commercial operations are no longer viable.
- Important waterfront economic and social activities, such as tourism, depend on maintaining our natural characteristics.
- 8% of urban (Greater Toronto Area GTA) households own leisure property. An increase in this percentage and the GTA's forecast growth will bring more people to our watershed.
- An increasing number of retiring baby boomers are making their permanent homes on waterfront property.
- The forces of population change are unavoidable; however, development can be shaped to better reflect the need to protect our natural and cultural heritage.

Do our waterfront property owners count? Yes.

Waterfront property makes up over 45% of the property count in our four Lake Plan townships.

### RECOMMENDATIONS LAND USE

35. Encourage the townships to recognize the watershed, and especially the lake wide study area of the CSW Lake Plan as the significant planning context. Ensure Official Plan policy regarding land use at the county level provides a harmonized policy around the lakes consistent with watershed sustainability as a guide to development and redevelopment on the lakes.

36. Work with township councils to consider watershed sustainability criteria in the minor variance approval process.



## Lake Capacity

### What are the Issues?

Stakeholder meetings helped define 6 specific land use issues facing our community:

- The lakes may have exceeded their recreational carrying capacity
- Conversion from cottage to year-round residence
- Historic lot frontage less than current standards
- High density/cluster development proposals
- Hardened shorelines, i.e. stone or cement walls
- Different by-laws exist for new development versus the conversion from existing dwellings

## Do our lakes have the carrying capacity to sustain further development?

Our Lake Plan surveys identify recreational water quality as the number one watershed issue. From a land use point of view, it is a township responsibility to protect our lakes' capacity. Our local Official Plans acknowledge this with words like "*The preservation of water quality and the natural environment along the lakes and water courses of the township is of particular importance…*" (Douro-Dummer 2007). The municipalities are also entrusted with the protection, improvement and restoration of water quality as defined by the Provincial Policy Statement (Sec.2.2.1).

One technique available to help accomplish this task is to establish a measure of water quality and a scientifically accepted capacity model for our lakes by which development proposals would be judged. The District of Muskoka uses chlorophyll a content and other jurisdictions use phosphorus content as a measure.

Some municipalities use a surface area ratio. The Seguin Township OP adopted a recreational carrying capacity model based on the 1970 Lake Alert Program. Their model defines a net lake surface area and a permitted density of one residential unit for every 1.6 hectares. If we were to apply this model to our lakes, it would suggest that all three lakes presently exceed their recreational capacity.

White Lake and Gilchrist Bay may be our simplest water bodies for which we could apply lake capacity analysis as a development guideline. The Kawartha Lake Stewards Association's phosphorus test and monitor program could serve as the basis for constructing a trial water quality benchmark. Ultimately, we need to develop a capacity model based on nutrient content specific to our water bodies. Nutrient studies in the past have required the resources of the relevant ministries and academia as well as township leadership.

The Ministry of the Environment is in the process of completing a Lakeshore Capacity Assessment Handbook (2008) to serve as a planning tool by providing guidance on evaluating the impacts of shoreline development on the water quality of inland lakes on the Precambrian Shield. The Lake Plan will encourage our townships to participate in this consultative process with the intent of adopting this potential new planning tool to the extent it applies to our watershed.

Water movement does not stop at political boundaries and may encompass all or part of several municipalities.

> ...Peterborough County OP 2005

### **RECOMMENDATIONS CARRYING CAPACITY**

37. Investigate the usefulness of lake capacity modeling in the evaluation of future waterfront development applications.

SUMMARY OF LOT COUNT ON CLEAR, STON(E)Y AND WHITE LAKES								
	Residential		Vacant		Com- mercial	Farm	TOTAL	
	Main Iand	Island	Main land	Island				
Upper Stoney	508	99	70	41	4	2	724	
Stony	369	295	78	71	14	13	840	
Clear	360	32	33	2	5	2	434	
Ston(e)y and Clear Lakes Total # of Lots	1,237	426	181	114	23	17	2001*	
Percentage of Total Lots	1,663/2001* (83 %)		295/2001* (15 %)		23/200 1* (1 %)	17/200 1* (1%)	(100%)	
White Lake Total # of Lots	188	0	16	2	0	3	209	
Percentage of Total Lots	188/209 (90 %)		18/209 (9 %)		•	3/209 (1 %)	(100%)	
* Includes three additional lots categori	zed as "o	ther prop	erties": 、	Juniper Is	land and S	St. Peter's-	on-the-Rock	

## **Official Plans and New Initiatives**

### What is our County and Township Planning Process and How Do We Participate?

The calendar year 2008 presents a particularly good opportunity for public input to our community planning. The stage was set with the 2005 Provincial Policy Statement, followed by the Peterborough County Official Plan Amendment in 2006 and most recently by Official Plan Amendments for each of our four townships. The plans are intended to guide the future growth and development of the townships while respecting preservation of water quality and the natural environment along the lakes and watercourses. These plans, although prepared for a 20-year time period, are to be reviewed by Council at five year intervals.

The County of Peterborough Official Plan (OP) has taken a watershed-based strategic approach to land use planning and water management. Development decisions that enhance natural shorelines (open space buffers and no tree cutting) and those other qualities that contribute to the area's character as well as promoting property stewardship, are key principles in the new OP. The Plan is meant to be a guide to the townships. Therefore, the lower-tier OPs and development decisions must conform to the intent of the County OP. All OPs must also be consistent with the Provincial Policy Statement (2005), which provides full and partial protection to natural heritage and water quality from development in the watershed.

Some new township policies and goals reflect today's increasing concern with environmental issues. Currently, township councils are preparing to amend zoning by-laws to reflect the new Official Plan policies and better reflect today's issues, which is perhaps a two-year process. Public input is part of this process. There could not be a better time for input derived from the comprehensive Lake Plan and for resident participation to support the Plan's intent.

PE	RCENTAGE ( CUR FRO	CHANGE IN R RENT VALUE M 2003 BASE	ESIDENTIAL PR ASSESSMENT TO 2005 BASE	OPERTIES		
MUNICIPALITY	2005 WATERFRONT PROPERTY COUNT	2003 - 2005 WATERFRONT PROPERTY % CHANGE IN CVA	2005 NON- WATERFRONT PROPERTY COUNT	2003 - 2005 NON- WATERFRONT PROPERTY % CHANGE IN CVA	2003 - 2005 % VARIANCE	% WATEFRONT
SMITH ENNISMORE LAKEFIELD	2,974	24.46%	5,326	18.75%	5.71%	36%
NORTH KAWARTHA	3,079	37.44%	1,538	16.94%	20.50%	67%
DOURO-DUMMER	1,327	29.49%	2,136	14.85%	14.64%	38%
GALWAY-CAVENDISH-HARVEY	4,855	29.38%	2,309	19.81%	7.56%	68%
PERCENTAGE CHANGE IN V F (cumulati	WATERFRON ROM 1999 BA	IT RESIDENT ASE TO 2005 over the last	AL PROPERTIES BASE BY MUNIC two consecutive	S CURRENT VAI CIPALITY e assessments)	UE ASSES	SSMENT
MUNICIPALITY		1999 - 2003	2003 - 2005	total % chg	COUNT	
SMITH ENNISMORE LAKEFIELD		40.37%	24.46%	27.38%	2,974	
NORTH KAWARTHA	35.07%	37.44%	72.51%	3,079		
DOURO-DUMMER		49.45%	29.49%	78.94%	1,327	
GALWAY-CAVENDISH-HARVEY	N/A	27.38%	27.38% (03-05 only)	4,855		
				TOTAL COUNT	12,235	

Note: Waterfront property includes all properties bordering on water in the township.

### **Minor Variance Application**

The developed shorelines of White and Clear Lakes, and to a lesser extent Ston(e)y Lake, lend themselves to requests for cottage conversions but with minimal lot size and setback limits no longer permitted by today's Official Plan(s). Property owners use minor variance approval to obtain building permits even though their property does not comply with today's zoning by-laws. Councils' Committees of Adjustment are faced with issues of grandfathering rights, building on existing footprints, and retaining neighbourhood character even if it means minimal water yard setbacks, reduced side yard setbacks, and increased lot coverage.

Today's approvals may not be minor, may not be environmentally appropriate, and may not meet the general intent of our new OP. In both new building and conversion situations, potential impacts to buffer zones including tree cutting, rock blasting, excessive filling and grading need to be fully evaluated , then limited or prohibited, dependent upon the planning policy and context. If a waiver to the new OP 30 m water yard setback must be agreed to, then perhaps there are trade-offs to be required. For example, a commitment to improve the lakeside buffer zone with native grasses, shrubs and trees – a combination of plant materials for naturalization of this important area.

For more information or consultation of the County and Township Official Plans, please refer to the References listed at the end of this document.

### RECOMMENDATIONS New Land Use Policy

- 38. Create a Lake Plan advisory committee committed to proactive support of the Provincial, County and four Townships Official Plan (OP) and Zoning By-law amendment processes with an emphasis on "harmonization" of watershed related issues.
- 39. Develop a system to monitor township decisions and foster engagement of residents in local decisions affecting the lakes and watershed.
- 40. Initiate specific policy for future residential and commercial redevelopment, including adapting the "new development" guidelines to "old property conversions", and a policy to limit excessive lot coverage.

### New Actions for New Issues

Four recently introduced planning initiatives offer new opportunities moving forward: by-law harmonization, a Development Permit System, digital mapping, and the Trent-Severn Waterway's report "It's All About the Water".

### Zoning By-law Harmonization

Our four township councils have prepared a shoreline development zoning requirements comparison spreadsheet including minimum lot sizes, frontages, setbacks, garage and accessory buildings, boathouses, etc. With public support, best practices will prevail.

### Development Permit System (DPS)

A new provincial planning tool available for the municipalities combines zoning, site plan and minor variance applications into one integrated, more efficient process. The DPS contains provisions to regulate site alterations and vegetation removal particularly around shorelines. Proponents of the DPS, including Lake of Bays Township, suggest introducing this system could be the most significant activity the Lake Plan might undertake.

### **Digital Mapping**

For the first time, all four of our township OPs have adopted a common computer-based digital mapping protocol making detailed identification and location of significant environmental sites practical on the mandatory OP Environmental Protection Schedule. Following mandated qualification procedures, we can now catalogue environmentally sensitive areas such as our unclassified wetlands - a first step to protection.

### It's All About The Water

The 2008 report by the Panel on the Future of the Trent-Severn Waterway outlines 26 recommendations, in part addressing the "citizens" perception that the water quality in this vast system is deteriorating" and "a growing recognition by Canadians that water is

a finite resource". Their recommendation #7 encourages expansion of Federal stewardship obligations by directing investments toward supporting "on the ground" initiatives like our CSW Lake Plan organization. The Lake Plan will strive to qualify as a recipient of TSW support.

### RECOMMENDATIONS NEW INITIATIVES

- 41. Recognize the Ontario Government's 2006 regulation permitting a combination of zoning, site plan and minor variance application into an integrated "Development Permit System".
- 42. Work with Peterborough County to recognize the CSW Lake Plan in its Official Plan as a legitimate "Secondary Plan".

First sign of Winter on the lake



## Action Plans - Key Recommendations

The following six recommendations/action items have been developed through consultation with the residents, commercial operators, and provincial and municipal governments. These recommendations serve as the basis for long-term implementation of the Lake Plan by stewardship / action committees.

**Please note:** This list of six recommendations is a condensed version of the complete, detailed list of 42 recommendations found throughout the CSW Lake Plan. The complete version of 42 recommendations, together with more detailed information and appendices on the Lake Plan can be accessed on the Stony Lake Website <u>www.stonylake.on.ca</u>

### ACTION 1

Engage the community network of lake residents and commercial operators in the lake planning process to establish a pool of volunteers, including youth and young adults, committed to the implementation of the Lake Plan recommendations with a goal of a sustainable watershed.

### ACTION 2

Create a Lake Plan task force committed to proactive support of the Provincial, County and four Townships Official Plan (OP) and Zoning By-law amendment processes while exploring expansion of the townships' influence on protecting wildlife and natural habitat (i.e. tree cutting, heritage protection, citizen advisory committees).

### ACTION 3

Continue to work with the County and the four Townships to ensure that land use policy and regulations (i.e. Official Plan and Zoning By-law) are consistent with watershed sustainability and provide a guide for future development and redevelopment, especially with regard to:

> Water Quality Natural Shorelines Wetlands Fish and Wildlife Habitat Species at Risk Habitat Resource Extraction Viewscapes Cultural Sites Setting Appropriate Lake Capacity Limits Future Residential and Commercial Redevelopment

### ACTION 4

Provide information to property owners and commercial operators and engage them to care for shorelines, surrounding fish and wildlife habitats, and promote safe use of all recreational vehicles through:

Shoreline Naturalization Programs Wetland and Woodlands Septic Re-inspection Programs Streams and Rivers Invasive Species Safe Boating Program

### ACTION 5

Continue to promote communication and social interaction among our stakeholders.

### ACTION 6

Continue to partner with agencies and organizations such as the Department of Fisheries and Oceans, Ministry of Natural Resources, Trent-Severn Waterway, Trent University, Sir Sandford Fleming College, Kawartha Heritage Conservancy, Kawartha Lake Stewards Association and our townships with an objective to better identify our natural heritage and watershed features including water quality, stream inventories, fish and wildlife, species at risk, and wetlands with specific plans for evaluation, designation, recognition and protection.

## Appendices

#### **Municipal Government**

County of Peterborough <u>www.county.peterborough.on.ca</u> Township of Douro-Dummer <u>www.dourodummer.on.ca/</u> Township of Galway-Cavendish-Harvey <u>www.galwaycavendishharvey.ca/</u> Township of North Kawartha <u>www.northkawartha.on.ca/</u> Township of Smith-Ennismore-Lakefield <u>www.smithennismorelakefield.on.ca/</u>

### Lake Associations

Association of Stony Lake Cottagers <u>www.stonylake.on.ca</u> Birchcliff Property Owners Association Kawartha Park Cottagers' Association Upper Stoney Lake Association <u>www.stonylake.on.ca</u> White Lake Association

### March 2005 Meeting - List of Participants

Helen Ball, Area Biologist, Peterborough District Ministry of Natural Resources Arnie Brown, Township of North Kawartha Councillor Bob Brown, President, Stony Lake Heritage Foundation Wendy Brown, Environment Director, Association of Stony Lake Cottagers Meredith Carter, Watershed Specialist, Otonabee Region Conservation Authority Tom Cathcart, Supervisor, Peterborough County Health Unit Randy French, French Planning Services Inc. Ken Hyde, Upper Stoney Lake Association Corrine Jarvie, Ecosystem Management Program, Sir Sandford Fleming College Peter Knapp, Upper Stoney Lake Association Shelagh Landsmann, Township of Douro-Dummer Councillor Peter Laverne, Past President, Upper Stoney Lake Association Wayne Mitchell, Realty Manager, Trent-Severn Waterway Bev Matthews, Township of Galway-Cavendish and Harvey, Harvey Ward Councillor Sarah Sinclair, Ecosystem Management Program, Sir Sandford Fleming College Mary Smith, Township of Smith-Ennismore-Lakefield, Lakefield Ward Councillor Bryan Weir, Director of Planning, County of Peterborough - Planning Department Melissa Wooldridge, Ecosystem Management Program, Sir Sandford Fleming College

### Stony/Upper Stoney Lake Environment Council Executive

Lynda Marsh, President Kathleen Mackenzie, Vice President Rob Little, Secretary Roslyn Moore, Research Coordinator Ralph Ingleton, Municipal Liaison Karl Macarthur, Monitoring

#### Maps

Regional Context (Map 1) - Page 12 Status of Natural Heritage Protection (Map 2) - Page 20 CSW Wetlands (Map 3) - Page 23 Fish Habitat (Map 4) - Page 25 Clear Ston(e)y White Lakes' Places of Interest - Page 26-27 Land Use (Map 5) - Page 38

POLICY PROTECTION FOR NATURAL HERITAGE CHART

These policies have the potential to provide a range of protection (none, partial, full) dependent on the features and context involved. Please refer to the specific policy for complete clarification.

Significant	Policy	Description	Protection
Federal – Department of Fisheries and Oceans (DFO) and E	nvironment Canada (EC)		
Fish Habitat (DFO)	Fisheries Act	Protection of fish and fish habitat and use throughout all life stages.	Full
Bird Nest Sites (EC)	Migratory Bird Convention Act	Protection of birds and bird habitat from destruction, persecu- tion and collection. Hunting is permitted for specific species, and is regulated by the province during specific times of the year.	Full
Species at Risk (EC and DFO)	Species at Risk Act (SARA Registry)	Protection of listed schedule 1 (threatened and endangered) species and their habitats.	Full
Provincial – Ministry of Natural Resources (MNR) , Ministry	/ of the Environment (MOE), and Ministry of Mur	nicipal Affairs and Housing	
Fisheries (MNR) Fish Consumption (MOE)	Fish and Wildlife Conservation Act	Regulated harvest and permitted uses. Ontario's Guide to Eating Fish – MOE tests tissue samples for heavy metals	Full
Provincial Park (MNR)	Provincial Parks and Conservation Reserves Act Kawartha Highlands Signature Site Act	Regulated Crown land with defined 'permitted uses'.	Full
		To permanently protect ecosystems, biodiversity and provin- cially significant elements and provide opportunities for recreation, appreciation, knowledge, scientific research and points of reference.	
Conservation Reserve and Game Preserve (MNR)	Provincial Parks and Conservation Reserves Act	Regulated Crown land with defined 'permitted uses'.	Full
		To permanently protect ecosystems, biodiversity and provin- cially significant elements and provide opportunities for recreation, appreciation, knowledge, scientific research and points of reference.	
Species at Risk- Endangered Species (MNR)	Endangered Species Act	Protects 'regulated' endangered species and their habitats from wilful harm and destruction.	Full
Provincially Significant Wetland (MNR and MMAH)	Planning Act – Provincial Policy Statement Conservation Authorities Act	Crown and private wetlands protected from development within a defined boundary; the 120 m adjacent land buffer is subject to an Environmental Impact Study to demonstrate "no negative impact" to natural features and function prior to development approval.	Full

Full	Partial	Partial	Partial	Unknown	Unknown	Partial	Unknown	Full	Full
Protected for long-term use. Existing mineral aggregate op- erations shall be permitted to continue without the need for official plan amendment, rezoning or development permit under the Planning Act. Establishment of new operations or access to the resources shall only be permitted if issues of public health, public safety and environmental impact are addressed (PPS 2.5.2.5).	Voluntary and mandatory protection of sources of municipal drinking water supplies throughout Ontario, including wells, river and lake intakes, through the development of source water protection plans.	Full protection on Crown land, but protection on Private land is subject to landowner discretion.	Wildlife and habitat conservation regulations for game and fur-baring species, reptiles, native bird species, including nest and heronry locations, and provincial, regional and local rare species. There is no provincial protocol in place to identify significant woodlands, valleylands and wildlife habitat. Full protection on Crown land, but protection on Private land is subject to landowner discretion.	Intact core habitats identified during the Big Picture 2002 project.	Area of high levels of biodiversity identified during the Con- servation Blueprint (2005) initiative.	Natural heritage protection, including watercourses and wet- lands (2006) and permitted use governed by the Otonabee Region Conservation Authority, and/or municipality.	Wetlands – locally significant and unevaluated wetlands Woodlands – treed areas Valleylands – lowland depressions Wildlife habitat – local rare species, as well as nest sites and game species	Conserve natural heritage on private land in perpetuity through conservation easements. Private information – not manned	Conserve natural and cultural heritage on private land in perpetuity through conservation easements. Private informa- tion – not mapped
Aggregate Resources Act Planning Act – Provincial Policy Statement (PPS)	Clean Water Act	Planning Act –Provincial Policy Statement	Crown Forest Sustainability Act Fish and Wildlife Conservation Act Planning Act –Provincial Policy Statement	None	None	onservation Authorities Act Conservation Authorities Act	Official Plans Provincial Policy Statement Conservation Authorities Act	None	None
Mineral Aggregate Resources (MNR and MMAH)	Water Quality and Quantity (MOE)	Provincially Significant Areas of Natural and Scientific Interest (MNR)	Significant Natural Heritage (MNR and MMAH)	Core Habitat Areas	Land Between	Numerpar – Feterborougn Councy, 10wnsmps and Utonapeer Conservation Areas	Significant Natural Heritage	Private Nature Conservancy of Canada	Kawartha Heritage Conservancy

### References

Historical MNR Fisheries Data (1982-1997)
Historical MOE Water Quality Monitoring Reports (1966-1995)
TSW Wetland Study (Chamberlain 1990)
1991 Geomatics Study of Boating and Development
Stony Lake Lifeline Study (TSW; Gartner Lee; R. Moore)
Cottage Association Monitoring of Aquatic Vegetation and Loon and Osprey Nesting
Stony Lake Heritage Foundation GIS Mapping
University of Toronto and MNR walleye and cold water fisheries studies (2005-2006)
Kawartha Lake Stewards and Trent University Phosphorus Loading Modeling
Gordon Berry and Leslie Wootton, Upper Stoney Lake: Gem of the Karwathas
Bentram, C. and K. Hooke. 2000, From Burleigh to Boschink: a Community Called Stony Lake
Mackenzie, K. 2007, Kawartha Lake Stewards: A Summary of Five Years of Water Quality Monitoring

Links
Clear, Ston(e)y and White Lake Plan www.stonylake.on.ca/environment

Committee on the Status of Endangered Wildlife in Canada (COSEWIC) - www.cosewic.gc.ca/ Committee on the Status of Species at Risk in Ontario (COSSARO) -

www.mnr.gov.on.ca/mnr/speciesatrisk/status.html Kawartha Lake Stewards Association - Water Quality Reports - www.trentu.ca/olivercentre/ Kawartha Heritage Conservancy - www.kawarthaheritage.org Ministry of Northern Development and Mines - www.mndm.gov.on.ca/MNDM/Default e.asp Ministry of Natural Resources - www.mnr.gov.on.ca/MNR/ Natural Heritage Information Centre Ontario - www.nhic.mnr.gov.on.ca/ Ontario Breeding Bird Atlas - www.ontarionature.org/enviroandcons/biodiversity/atlas.html Ontario Federation of Anglers & Hunters - www.ofah.org Provincial Policy Statement 200 - www.mah.gov.on.ca Species at Risk Act Registry (SARA) - www.sararegistry.gc.ca/ Trent-Severn Waterway Wildlife Action for Habitat Health - www.waterwaywildlife.com/species.php French Planning Services Inc. - www.lakeplan.com

### **CSW Steering Committee**

Carolyn Amyotte, Councillor, North Kawartha Township Ruth Benson, Resident Bob Brown , Stony Lake Heritage Foundation Dick Crawford, Birchcliff Property Owners Association Michael Harper, Upper Stoney Lake Association Ken Hyde, Upper Stoney Lake Association Rob Lamarre, Planning Smith-Ennismore-Lakefield Township Shelagh Landsmann, Councillor, Douro-Dummer Township Robert Little, Association of Stony Lake Cottagers Lynda Marsh, Ston(e)y Lake Environment Council Bev Matthews, Councillor, Galway-Cavendish and Harvey Township Roz Moore, Association of Stony Lake Cottagers John Platt, Kawartha Park Cottagers' Association Mike Stedman, White Lake Association Heather Watson, Resident

## YOU CAN HELP US MAKE THE LAKE PLAN'S RECOMMENDATIONS A REALITY JOIN A

### LAKE STEWARDSHIP WORKING GROUP

#### AND HELP KEEP THE CLEAR, STON(E)Y AND WHITE LAKES AREA

#### THE PARADISE WE KNOW IT TO BE

Name						
Address						
- Phono						
Email _	 					
Your Lake:	OClear	OStony	OUpper Stoney	OWhite	OOther	

#### Please check your area(s) of interest:

- O Water Quality/Aquatic Plants/Weed Control
- O Wildlife
- O Wetlands
- O Fish Habitat
- O Streams and Rivers
- O Species at Risk
- O Invasive Species
- O Physical Features (Forest, Minerals, Aggregates Resource Extraction and Landform Constraints)
- O Social and Community (Cultural sites, recreational vehicles, social events)
- O Working Relationships with Townships
- O Education and Communication

If you would like to share a skill, craft, area of knowledge, or specific interest not covered in the above list, we want to hear from you. Input from all members of the community of the lakes is important, not only to implement the recommendations of the Lake Plan but to maintain its consensus and true purpose.

#### These are your Lakes too. Become involved and have your say in their future.

Please Contact: CSW Lake Plan Steering Committee c/o Robert Little 976 Gilchrist Bay Rd RR # 2, Lakefield, ON, K0L-2H0

> Phone 705 877-2460 E-mail cswlakeplan@hotmail.com

More information about the CSW Lake Plan and our environment in general is available at: <u>www.stonylake.on.ca</u>

## Stewardship

Most landowners appreciate and want to conserve the natural heritage features and functions on their properties. Options to help them do so range from first learning about the frogs, flowers and other features, to developing a stewardship plan for the natural or all parts of the property. In some cases, developing a management plan can allow the landowner to obtain property tax reductions, i.e. the Managed Forest Tax Incentive Program. A landowner can participate in this MFTIP program if the property is typically 11 or more acres in size, is managed for its natural values (such as wildlife habitat and monitoring, trails or good forestry), and an approved plan is developed. Many local organizations and some municipalities also have programs to help with information, best practices, costsharing, and recognition for good stewardship activities.

A landowner can also consider long-term options to conserve the land and lake they love. These can include putting appropriate conditions in a lease or perhaps ensuring that the next generation or new owners are conservation minded and will maintain existing stewardship investments. In some cases, an owner may wish to donate important natural lands to a conservation charity, perhaps retaining the right to use the property for their lifetime. A conservation agreement can also be placed on the land's title or deed, with continued ownership along with conditions negotiated to protect important features forever. Where donated, the land or conservation agreement can provide important income tax, capital gains and various tax benefits that can offset other tax liabilities.

Contact the Kawartha Heritage Conservancy (our local land trust), Otonabee Conservation or other stewardship organizations in the area. Along with professional advisors, they can help a landowner plan for long-term conservation and associated tax benefits.

## Take Action to Conserve Your Land

### HOW CAN YOU HELP WITH THE IMPLEMENTATION PHASE? 1. Complete the request form on page 49 to join an Action Plan Group and have your say in the future of our lakes. 2. Donations are always welcome. Make your cheque payable to The Stony Lake Heritage Foundation, indicating: For the Lake Plan, and send it to the address below. Tax receipts are available for donations over \$40. HOW CAN WE HELP? Contact us with your comments: CSW Lake Plan Steering Committee c/o Robert Little 976 Gilchrist Bay Rd RR # 2, Lakefield, ON K0L-2H0 Phone 705 877-2460 E-mail cswlakeplan@hotmail.com

### Lake Plan Writing Team

Lake Plan Steering Committee Members French Planning Services Inc. Ian Attridge Rob Guillet