

**Submission to  
The Panel on the Future of the Trent-Severn Waterway  
by  
The Kennisis Lake Cottage Owner's Association**

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### **Appreciation**

The Kennisis Lake Cottage Owner's Association (KLCOA) appreciates the opportunity afforded by the Panel to make this submission and to share approaches for dealing with some of the challenges and opportunities facing the Trent-Severn Waterway (TSW).

As one of the headwater or 'reservoir' lakes that feed the TSW, we note our belief that we can be a valued partner in helping to determine the future of the waterway.

We gratefully acknowledge the historical data provided to the KLCOA by Dave Ness of the TSW and his willingness to discuss TSW operations.

### **Summary of Submission**

The KLCOA believes it is time for a 'new deal' for the reservoir lakes whereby management of the Trent-Severn Waterway (TSW) recognizes that the waterway is but one integral part of a comprehensive watershed management system.

A more equitable approach to water use is needed, as well as recognition of environmental, safety, and access issues affecting the reservoir lakes.

Environmental stewardship and implementation of the precautionary principle suggest that reciprocal or shared approaches to water management are needed on the part of the TSW and other stakeholders at the watershed level.

The KLCOA further proposes that specific consideration be given to:

#### Improved TSW Management and Mandate:

- maintaining the entire length of the TSW as a functioning heritage canal system only if the operation can be adequately resourced in terms of operations and capital;

#### Navigation (Safety and Access):

- giving equal priority to safe navigation on the TSW and on and between reservoir lakes in recognition of the common law right of navigation in Canada;
- ensuring that lake levels are always high enough to provide access to waterfront property by boat where land access is not available;
- having the federal government take responsibility for identifying, and if necessary marking, navigational hazards created on the reservoir lakes by the operation of the TSW;

#### Improved Water Management - Equitable water levels:

- taking less water from the reservoir lakes to operate the TSW: for example by: reducing the navigational season on the main canal; eliminating a fixed navigation season; and/or reducing the guaranteed minimum draft on the canal at certain times or under certain conditions; and
- abandoning the arbitrary 'equal percentage' drawdown of reservoir lakes according to 'storage capacity available to the TSW' in favour of a drawdown regime that considers community input and is more sensitive to environmental impact.



## The Kennis Lakes

The Kennis Lakes are headwater lakes for the Gull River Watershed. They drain into Red Pine Lake via the only outflow, the Kennis River. Downstream from Red Pine Lake the river connects Nunakani, Big and Little Hawk, Halls, Boshkung and the other Lakes within the Gull River system. It has been estimated that over 60 million cubic metres of water flow through Kennis Lake annually<sup>1</sup>.

Parameter	Kennis Lake	Little Kennis Lake
Surface Area (ha)	1,417	231
Lake-shed area (ha) excluding lake	7,500	8,150
Lake Volume (m <sup>3</sup> x 10 <sup>6</sup> )	332.05	34.81
Maximum depth (m)	68	44
Mean depth (m)	23.4	15.1
Turnover time (years)	5.26	1.15
Total Annual Outflow (m <sup>3</sup> x 10 <sup>6</sup> )	63.87	28.69
Height above Mean Sea Level	370 m (1212 feet)	

The KLCOA is the sponsor of the Kennis Watershed and Lakes Management Plan, which was released in draft form in May 2007. In developing the Lake Plan, extensive survey and workshop data were compiled allowing us to provide the following 'snap-shot' of the Kennis Lakes Community:

- there are close to 1,000 shoreline properties on the Kennis Lakes
- currently some 10% of property owners claim to be permanent residents
- some 60% of seasonal residents are considering becoming permanent
- there are an estimated 1,400 power boats on the Kennis Lakes
- in summer the population at the Kennis Lakes is estimated to be some 2,500 and averages about 500 for the rest of the year.
- there are an estimated 2,500 non-power boats (canoes, kayaks, & sailboats) on the Kennis Lakes.

The Lake Plan survey contained questions about what people value and what they consider to be negative influences. In terms of negative influences 'fluctuating water levels' tied for first place along with inconsiderate use of personal-water craft.

The survey revealed that:

- the most significant issues relating to fluctuating water levels are: navigation, ice-damage and access;
- people want timely information about changes in the water level;
- a majority of waterfront property owners want the water kept higher in the summer.

<sup>1</sup> Unless otherwise specified, references to data cited in this submission can be found in the draft Kennis Watershed and Lakes Management Plan available at [www.klcoa.org](http://www.klcoa.org)



### Links to the Trent-Severn Waterway

The KLCOA takes a stewardship approach to the Kennisis watershed, and subscribes to a precautionary approach being taken regarding the downstream environment in the Gull and Trent systems. It is unfortunate that the current mandate of the TSW does not generally allow for reciprocal approaches with regard to the Kennisis Lakes.

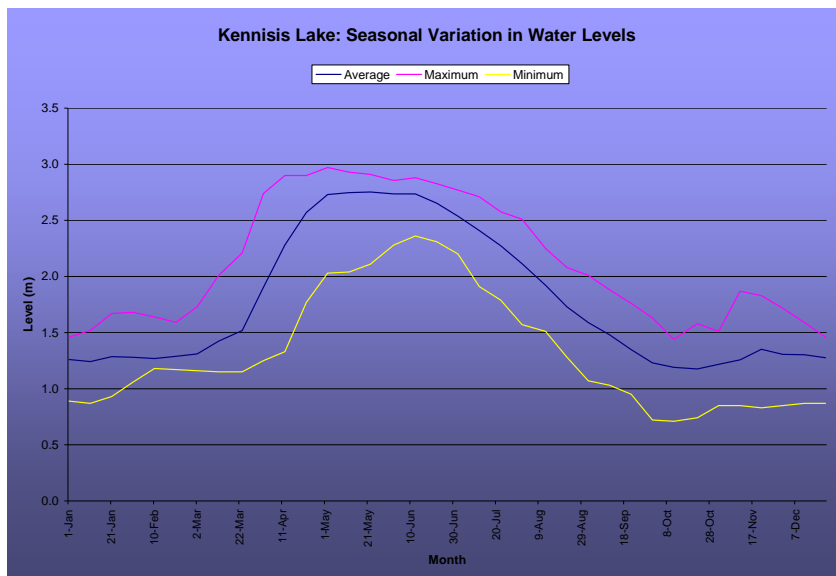
Water drained to feed the TSW is hard to replace due to the low level of inflow to the Kennisis Lakes during the summer and as a result the water level drops significantly, especially during August and September.

The maximum height of the Kennisis Dam is 2.90 meters (9 feet 6 inches) above the sill plate. Heavy run-off has been known to raise the lake level above the top of the dam by as much as 18 centimetres (7 inches) as happened on May 8, 1983.

It is rare for the lake to be drained all the way to the sill plate: in fact the last time it came close was on September 26, 1955. Since the 1970s it has been rare for the water level to drop more than 1.9 metres (6 feet) below the top of the dam. However, about once every ten years the low water level may reach 2.1 – 2.2 metres (about 7 feet) below the top of the dam: this was the case in 1977, 1987, and 1998.

Although the annual draw-down in recent years has been about 6 feet, there is considerable variation from year to year. A representation of this data is shown in the attached graph for the years since 1988: the variation from the average water level can be some 25 to 50 centimetres (10 to 20 inches) higher or lower. The season with the greatest variation and hence unpredictability of water levels tends to be August – September.

### Seasonal Water-Level Fluctuation





**Issues Identified in input coordinated by the Coalition for Equitable Water Flow**

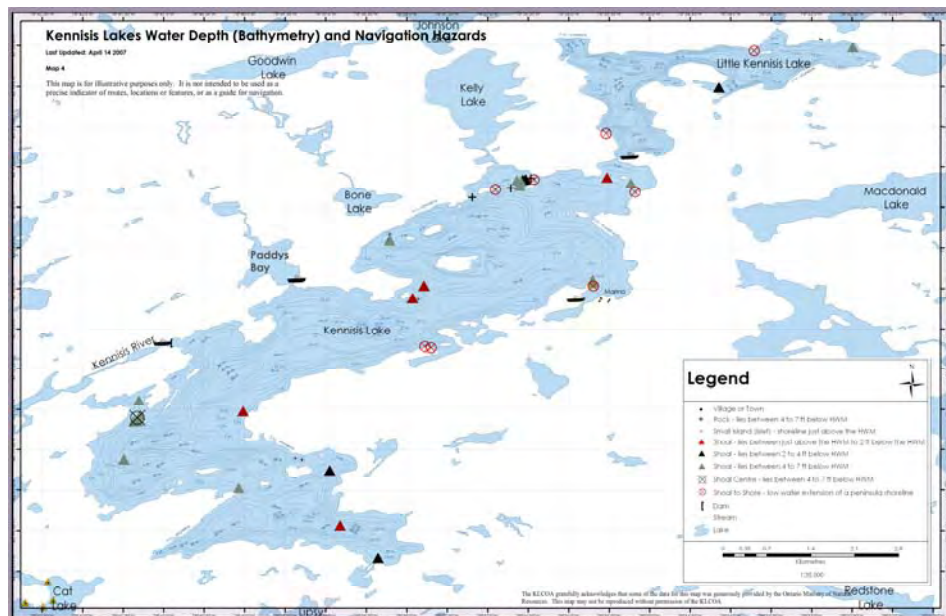
In December 2006 the KLCOA provided comments to the EcoPlans consultants via the Coalition for Equitable Water Flow (CEWF). A synopsis of the issues identified follows:

Navigational Problems:

A survey of the Kennis Lakes at low water in October 2006 (67” below high water level) identified 31 navigational hazards that do not exist at high water. Of these 23 were rocks, some in the middle of the lake or in the main navigation channel to the marina; 8 were extensive shoals that run out from the shore.



As the above pictures illustrate, these numerous rocks and shoals, which are covered at high water, pose varying degrees of risk as the water level drops. Most boaters know to anticipate and avoid shoals that extend from a headland; however some of the low-water hazards on Kennis are in the middle of otherwise open water and are unmarked.





The above map, produced as part of the Kennisis Lake Plan, classifies navigational hazards according to their height below high water level.

It is unclear which organization has jurisdiction with regard to marking hazards on the Kennisis Lakes. It is understood that the marking of hazards is primarily a federal responsibility. Informal contact with the TSW suggests that they do not feel any responsibility to mark hazards caused by the lowering of the water-level – and in fact are moving to reduce the number of navigational markers on the canal system.

Other safety Issues:

In addition to safety issues related to navigational hazards, low water increases the risk of fouling residential water intakes, damaging submerged water, telecommunication, and power lines, and freezing rarely exposed sections of water lines.

Ice and Environmental damage:

At low water the draw-down exposes significant areas of shoreline, allowing shoreline residents to undertake potentially environmentally damaging activity that would not occur if the water level did not drop; much of this activity is necessitated by the need to repair ice-damage to docks or to build elaborate and extensive dock structures to enable boats to dock at most water levels.

Shoreline naturalization projects are difficult; the zone between the low and high water levels is essentially barren; vegetation that manages to survive the summer can become trapped in the ice and then is ripped out by the roots as the water level rises during the spring melt.

Shoreline erosion is enhanced by wave-action that is able to traverse an artificially extended cross-section of shoreline as water levels fall.

Fish habitat and spawning grounds are understood to be threatened by inappropriate changes in the lake level at critical periods of the year.

Access:

Some designated public access points become essentially unusable at low water. One bay with 15 cottages becomes inaccessible for many boats.

In late summer and during the fall, some narrow channels become hard to navigate – impossible for larger boats. These channels typically connect Kennisis Lake with smaller bays (e.g. Paddy's Bay). However, in one instance, the narrow channel under the road bridge at the connection between Kennisis Lake and Little Kennisis Lake is a major traffic channel. Recently the combination of low water and increased silting of the channels has been a problem.

At low water some docks are no longer useable as they become 'beached' or lack adequate draft for even a small outboard motor. This is especially problematic for water-access properties.



## **The EcoPlans Report and CEWF Submission**

The KLCOA has reviewed and appreciates the recognition given to the reservoir lakes in the six-part EcoPlans “*A Study of the Past, Present and Future of Water Management on the Trent-Severn Waterway National Historic Site of Canada*”. The Study has also helped us appreciate the complexities of operating the TSW and the challenges facing the TSW in working with multiple stakeholders.

In general we endorse the observations, conclusions and recommendations in the Study and thank Parks Canada for being its sponsor.

In particular we note that the EcoPlans Study concludes that:

- the TSW is neither able to fulfill its mandate nor meet the needs and expectations of its client groups because (in part) the mandate is too narrowly defined;
- the mandate should embrace the philosophy of integrated watershed management.

We also appreciate the reported policy proposal to the effect that:

- equal priority be given to navigation on the TSW system itself and to safe navigation on and between reservoir lakes.

To us the Study suggests that there have been a number of failures by governments in serving the public interest as evidenced by:

- a lack of adequate operational and capital resources to properly maintain the TSW;
- failure to update the mandate of the TSW;
- a lack of concern for public safety, especially related to navigational hazards; and
- the concept of ‘surplus’ water being available for commercial use.

We see the Panel’s mandate as an opportunity to correct these failures.

As a contributing member of the Coalition for Equitable Water Flow (CEWF), the KLCOA also endorses the “*Statement of Interest and Concern*” submitted by the CEWF on behalf of its members to the Parks Canada consultants (EcoPlans). Similarly, we have contributed to and support the upcoming submission to the Panel from the CEWF.

Without undue repetition of the findings of the EcoPlans Study or the proposals of the CEWF, the KLCOA hopes that the following perspective will be helpful to the Panel in providing additional reinforcement to some of the key concerns of the TSW’s partners in the reservoir lakes.



### **Time for a ‘New Deal’ for the Reservoir Lakes: Approaches for Consideration**

The following statement of issues is contained in the recently released draft Kennisis Watershed and Lakes Management Plan:

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

To resolve these issues will require a ‘new deal’ for the reservoir lakes to be built into the mandate of the TSW. The following approaches are offered by the KLCOA for consideration by the Panel:

#### **Improved TSW Management and Mandate:**

- managing the operations of the TSW as part of an integrated watershed management plan;
- maintaining the entire length of the TSW as a functioning heritage canal system only if it can be adequately resourced in terms of operations and capital;
- undertaking a timely review and assessment of infrastructure conditions and speedy repair where safety is a concern; and
- recognizing that interested parties in the reservoir lakes are stakeholders.

#### **Navigation (Safety and Access):**

- giving equal priority to safe navigation on the TSW as well as on and between reservoir lakes in recognition of the common law right of navigation in Canada;
- ensuring that lake levels are always high enough to provide access to waterfront property by boat where land access is not available;
- ensuring navigable access to water-front properties on the reservoir lakes throughout the season; and
- having the federal government take responsibility for identifying, and if necessary marking, navigational hazards created on the reservoir lakes by the operation of the TSW.



**Improved Water Management - Equitable water levels:**

- ending the primacy of interest for users of the TSW in favour of a balanced approach that gives equal consideration to water levels in the reservoir lakes;
- taking less water from the reservoir lakes to operate the TSW: for example by: reducing the navigational season on the main canal; eliminating a fixed navigation season; and/or reducing the guaranteed minimum draft on the canal at certain times or under certain conditions;
- abandoning the arbitrary 'equal percentage' drawdown of lakes according to storage capacity available to the TSW in favour of a drawdown regime that considers community input and is more sensitive to environmental impact, and
- ending the issuance of permits to draw large quantities of water from the watershed.

**Environmental Stewardship:**

- integrating environmental stewardship and the precautionary principle in TSW operations;
- applying environmental stewardship at the watershed level, in partnership with other stakeholders;
- doing no harm to spawning grounds for fish and wildlife habitat.



### **Appendix: Examining the Effects of Altered Water Levels**

*The following is an abstract of an article by Jasmine Chabot, Conservation Biologist, French Planning Services Inc that appeared in the FOCA Lake Stewardship Newsletter in summer 2006. Emphasis added.*

Ontario is speckled with lakes that provide us with an abundance of fresh water and natural processes such as nutrient filtration, carbon sequestering, provision of biodiversity, and food production. Although many lakes undergo natural fluctuations in water levels, human-induced changes have altered historic lake levels through the development of dams, impervious urban communities, and climate change. Many of our inland lakes are managed as reservoirs; their water levels are regulated for power generation, improved recreation, transportation, water consumption, irrigation, and flood control. Unfortunately, one change sets in motion a domino effect and what happens when the last domino falls is too often unknown.

#### **Water Management**

Recent water management initiatives in Ontario have focused on the regulation of water across watersheds. (Watershed planning is a new approach to planning that takes into consideration the ecosystem as a whole entity instead of stopping at political borders.) Dams and other water control structures manipulate water levels by changing the storage capacity of lakes and the flow of water to downstream users. Water level management offers recreation and tourism opportunities, electrical power generation, water consumption, improved flood protection, enhanced public safety, minimized erosion and property damage, improved navigation, and the enhancement of habitat.

The management of lake levels or extraction of water alters the natural environment and can affect natural lake ecosystem functioning and system productivity. The manipulation of water levels can cause a variety of changes, such as water temperature, dissolved oxygen, and clarity; increased salinity, nutrient enrichment, and runoff; erosion and property damage; obstruct migration routes for some species; expand the range of invasive species; disturb spawning behaviour and habitat; destroy diversity of habitats and species; and affect navigational waterways. Wetlands and natural shorelines are especially vulnerable.

The duration, frequency, and magnitude of water level changes are perhaps the most important factors that affect the health of a lake. High water levels create flooded conditions and increase wave action along the shoreline which can cause erosion, loss of vegetation, and increased nutrient enrichment and mercury deposition, as well as other water quality changes.

Extended periods of low water levels can expose sediments in the littoral (shallow) zone and change temperatures patterns throughout the lake, which will result in the loss of some optimal habitats. In shallower lakes, periods of low water can cause increases in salt levels, turbidity, and area of stagnant water, and cause increased wave action near the bottom of the lake. Increased dredging to facilitate navigation during these low-flow periods only exacerbates environmental impacts.