A Study of the Past, Present and Future of Water Management on the Trent-Severn Waterway National Historic Site of Canada

Consultation Report

Prepared for:
Parks Canada Agency

By:

ecoplans Limited

May 31, 2007

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Acknowledgements

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1.0 Introduction

The Trent-Severn Waterway National Historic Site of Canada (TSW or "the Waterway") is a 386 km navigable waterway that runs through inland waters of central Ontario from Trenton on Lake Ontario to Port Severn on Georgian Bay. The main channel of the Waterway follows the course of the Trent, Otonabee, and Severn Rivers, their associated lakes and artificial canal cuts. There are numerous secondary channels that permit navigation into Stoney, Scugog and other lakes. Trans-navigation is facilitated by an array of single lock chamber, flight and lift locks as well as a large-scale marine railway.

While only a small fraction of the Waterway is a made system, navigational draughts and water flows are maintained by human intervention by drawing water from two watersheds, the areas of which cover more than 18,000 square kilometres (km^2) including approximately 4,500 km^2 in the reservoir lakes area north of the main system. The two watersheds (Figure 1-1), the Trent and Severn, are located primarily north of the main route of the navigation channel and drain into the main river systems.

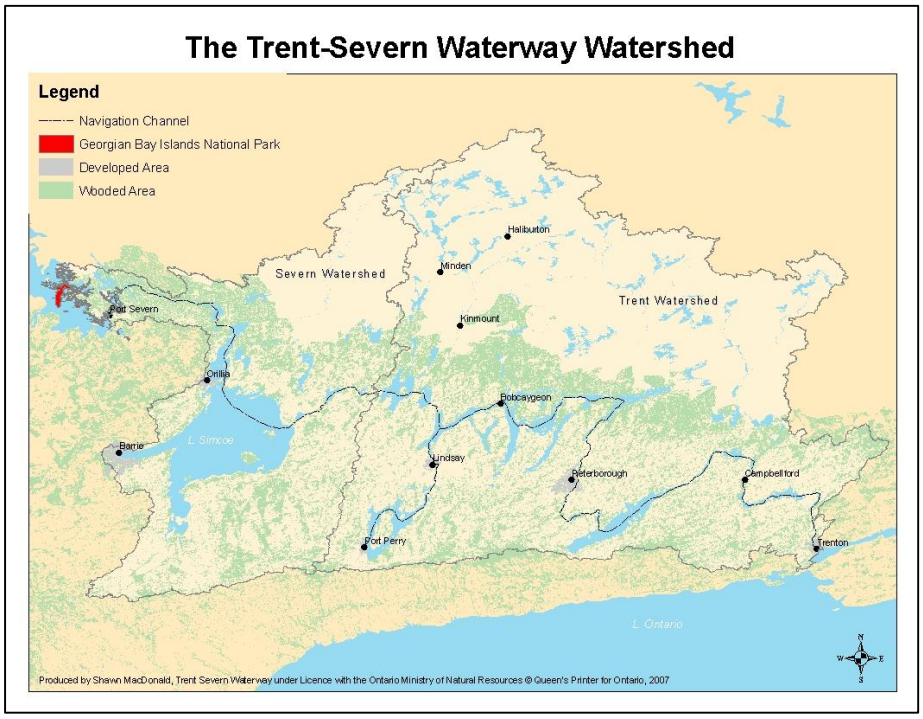

Figure 1-1 Watershed of the Trent-Severn Waterway
(Source: Parks Canada)

The very large area that is influenced by the management of the TSW has a large and complex variety of stakeholders including:

- More than 120,000 shoreline properties;
- Approximately 35,000 shoreline properties in the reservoir lakes;

- More than 400 commercial operations;
- 6 First Nations;
- 6 Conservation Authorities;
- 5 cities;
- 4 towns;
- 5 counties;
- 2 regional municipalities;
- 3 municipalities;
- 1 district municipality;
- 26 townships;
- 18 power generation facilities;
- Numerous associations, Environmental Non-Government Organizations;
- 10 provincial ridings; and
- 11 federal ridings

2.0 Purpose

As background to the Panel on the Future of the Trent-Severn Waterway and to the Trent-Severn Waterway Management Plan Review, this chapter presents the range of stakeholder interests, issues, and concerns raised during the consultation phase of the Trent-Severn Water Management Study. It summarizes the process used to solicit stakeholder views and the consultation input received. The chapter then analyzes the comments received and presents the issues and concerns based on interest group and geographical area of the Waterway. No judgement is made on the validity of the comments or concerns; however, suggestions are offered as to possible actions that could be considered to address comments.

3.0 Approach and Methodology

Using consultation lists provided by Parks Canada a preliminary segmentation of stakeholder interests was made and validated with Parks Canada. Ten stakeholder groups were identified:

- Federal Government
- Provincial Government
- First Nations
- Municipalities
- Conservation Authorities
- Commercial Operations
- Water Power Operators
- Recreational and Property Owners
- Environmental Non-Government Organizations (ENGOs)
- Others (individuals)

Mailing lists were developed using former consultation lists and Internet searches. A focus was put on using Associations in an effort to reach the broad membership of each Association. Examples of these Associations include:

- Ontario Water Power Association
- Chambers of Commerce
- Tourism Bureaus
- Ontario Campground Association
- Ontario Marina Operators Association
- Canadian Power and Sails Squadron
- Federation of Ontario Cottagers' Associations
- Coalition for Equitable Water Flow (a coalition of Reservoir Lake Property Owners)

In an effort to inform potential interest groups about the study and to structure the input, several documents were developed for distribution. The following documents are provided in a separate tab in the final report

- Background paper
- Submission format
- Questions and Answers
- Presentation Flyer
- Fact sheet

To assist in refining the approach to public consultation, a focus group of representatives of a cross-section of interest groups was convened on January 25, 2007. The group provided a critical review all background documents that were proposed to be used in the consultation process and provided additional guidance on the conduct of the consultation. For example, the group suggested that a scheduled presentation format be used to receive verbal comments rather than a workshop or town hall approach.

All of these consultation background documents were reviewed with Parks Canada and adjusted to reflect comments received. These documents together with the Parks Canada press release announcing the study were mailed to all stakeholder interests. Submissions were requested by February 12th with a subsequent formal extension to February 23rd to accommodate late expressions of interests. Following, the initial mail-out, the majority of communications were conducted via E-mail correspondence. This proved to be an effective communications mechanism.

The Federation of Ontario Cottagers' Association (FOCA) agreed to post the consultation documents on its website and to email all of its members announcing the opportunity to provide input to the review.

All stakeholders who responded were provided with an opportunity to make a verbal presentation based on their submission. Three venues for presentations were established - Orillia, Minden, and Peterborough. Table 3-1 is a chronology of the consultation program.

Table 3-1 Chronology of consultation

Date	Event
January 16	Letters sent to all contacts except Recreation and Municipalities
January 17	Letters sent to recreation and municipal interests
February 7	Reminder letters and supplemental information sent via e-mail.
February 12	Focus Group Workshop, Peterborough
On-going	Regular follow-up correspondence as needed.
February 28	Verbal presentation by management of TSW and Rideau Canal
March 5	Verbal presentations, Orillia
March 7	Verbal presentations, Minden
March 20	Consultation workshop with water power interest group - Peterborough
March 20 & 21	Verbal presentations, Peterborough

4.0 Results

4.1 Response Analysis

A total of 120 invitations were sent out initially (Table 4-1). Annex B provides a list of organizations and individuals to whom invitations were sent and those from whom submissions were received. For privacy reasons, only the names of the organization or association are provided in Annex A. A separate confidential file containing all contact details and submissions was provided to Parks Canada. Table 4-1 shows the distribution of the initial invitations by stakeholder segment and the rate of response to the invitations.

Table 4-1 Initial invitations and returns received by stakeholder group

	Invitations		Notes
	Issued	Rec'd	
Water Power	1	6	1
Recreational and Property Owners	36	46	2
Provincial Government	7	1	
Private	0	12	
Municipalities	34	12	
First Nations	7	2	
Federal Government	7	1	
ENGOs	6	5	
Conservation Authorities	6	6	3
Commercial Operations	19	17	
Total	120	108	

Note 1 One invitation was sent to the Ontario Water Power Association and 5 operators plus the OWPA responded

Note 2 One of the 24 submissions represented 22 reservoir lake associations for a total of 46

Note 3 The 6 conservation authorities chose to collaborate and make a single submission.

4.2 Submissions Received

Table 4-2 presents the responses received to the call for submissions. Figure 4-1 presents these data graphically. By far, the greatest percentage of submissions was received from recreational and residential property owners (41%). One of the recreational and residential submissions was received from the Coalition for Equitable Water Flow (CEWF), a coalition of reservoir lake associations that represented 27 reservoir lakes (22 Lake Associations), thereby increasing the representation of this group of interests. Commercial operators (16.1%), municipalities (12.5%), and individual property owners (11.6%) were the next largest groups respectively.

Table 4-2 Responses to the call for submissions

Interest Group	Responses	
	No.	% of Total
Water Power	6	5.4
Recreational and Property Owners	46	41
Provincial Government	1	0.9
Private	13	11.6
Municipalities	14	12.5
First Nations	2	1.8
Federal Government	1	0.9
ENGOs	5	4.5
Conservation Authorities	6	5.4
Commercial Operations	18	16.1
Total	111	100.1

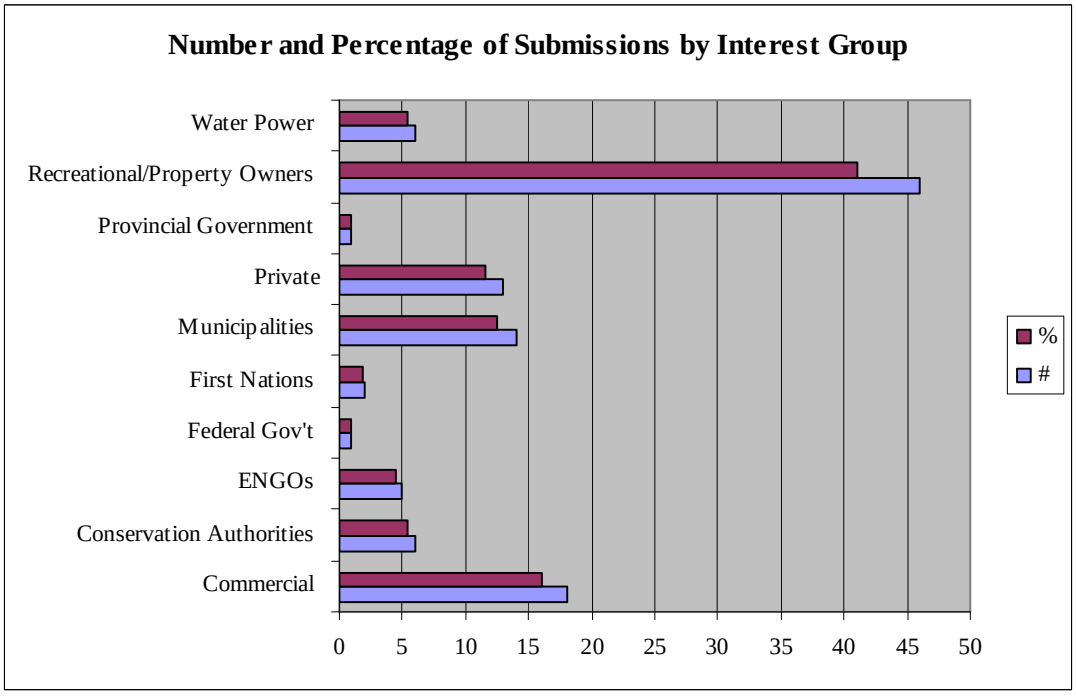

Figure 4-1 Submissions by Stakeholder Group

While only 2 First Nations replied, there are only 6 First Nations on the Waterway. Similarly, while only 1 Conservation Authority submission was received, the CAs coordinated their response, and therefore, the response represented all 6 CAs along the Waterway. A total of 34 letters were sent to municipalities, from which 14 responses were received. The water power industry chose to represent itself through the single window of the Ontario Water Power Association and a single workshop was held with operators. Six operators participated**.**

Very little input was received from the two senior levels of government. Only one Branch of Transport Canada chose to respond and nothing was received from Environment Canada. The provincial government chose to establish a single window of contact for the Trent-Severn Waterway Review. No submissions were received from the Ministry of Natural Resources and a single submission was received from one Branch office of the Ministry of Environment.

Several factors affected the response rate:

- The consultation was carried out during February and March and many seasonal operators and residents were unavailable due to wintering in southern climes;
- There was considerable difficulty establishing a consultation list. The consultation list used by Parks Canada was three years out of date and many of the Association contacts were no longer valid. Efforts were made to use the multiplier effect of establishing contact with umbrella associations such as the Federation of Ontario Cottagers' Association, Ontario Marina Operators Association, Ontario Water Power Association, Resorts Ontario, Chambers of Commerce, etc.;
- The short time frame to respond frustrated some respondents although most did their best to present very well thought out submissions.

Overall, most interest groups are well represented in the sample of submissions received. The exception is the Federal and Provincial government departments.

4.2.1 Geographical distribution of submissions

For the purpose of analysis the geographical area is divided into 5 segments:

- Simcoe/Couchiching/Severn River including the Talbot River
- Kawartha Lakes
- Otonabee River/Rice Lake
- Trent River
- Reservoir Lakes

Figure 4-2 gives the distribution of responses by geographical area. The reservoir lakes (42%) have the highest representation followed by the Kawartha Lakes (23%). Within the reservoir lakes, the CEWF is included as multiple submissions since it represents 22 lake or property associations. While the reservoir lakes and Kawartha sectors have the highest representation, they arguably see the greatest variation in water levels and the greatest impact of the management practices. The category of "other" includes agencies that are not specific to any given sector, but

rather cross the Waterway. These include federal and provincial agencies, conservation authorities since they responded as a group and the water power industry.

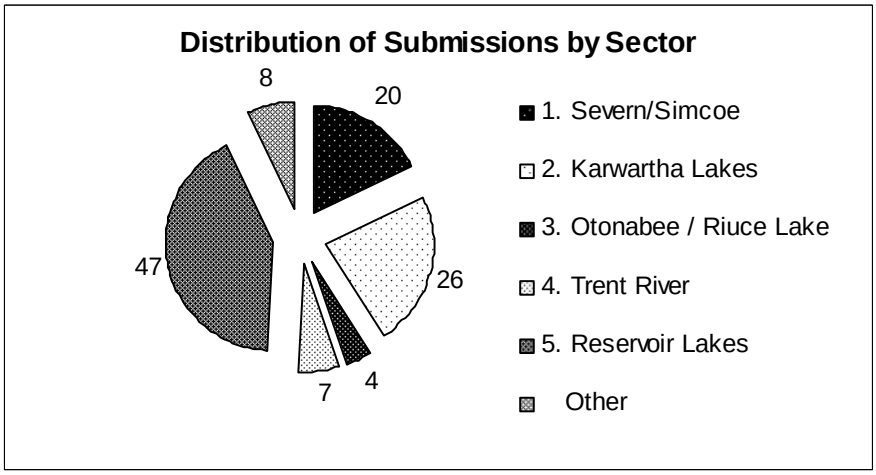

Figure 4-2 Distribution of Submissions by Sector

4.3 Interest Group Response

All submissions were thoroughly reviewed. Comments received were grouped into a number of topical categories and further broken down into individual topics. Topic categories are listed in Table 4-3.

Table 4-3 Categorization of comments received

General Categories	Specific Topics	
Ecology	• Fish spawning & habitat • Weeds • Algae blooms • Wetland & wildlife habitat • Invasive species	• Fish kills • Shoreline erosion • Nesting areas flooded • General – ecosystem condition • Species at risk
Access	• Water supply • Shoreline access • Sport fishing • Navigation	• Ice damage • Docks & ramps • Predictability • General concerns
Public Safety	• Dams / locks / wharfs condition • Navigation practices – wakes • Lock closures • Other – Removal of buoys	• Navigation hazards • Equipment damage • Safe boating in general • Other – Emergency planning
Green Energy	• Flooding and flood control	• Other
Water / Sediment Quality	• Agricultural practices • Nutrient levels • Potable water supply • Other	• *E. coli* pollution • Beaches (closures) • Sewage disposal

General Categories	Specific Topics	
Economic Impact	• Tourism • Dev't around water sources	• Infrastructure and equipment costs • Other
Operational Issues	• Communications • Permit system • Monitoring and data access	• Communications – Public notice • Approvals • Boater waste

5.0 Issues and Concerns

Some caution must be exercised when viewing the breakdown of submissions. For example, only one formal submission was received from conservation authorities, but this submission represents the views of all six CAs and effectively covers approximately 75% of the study area.

Of all the issues and concerns selected from all the submissions, ecological (29%) and access (19%) concerns were the most frequently raised followed by public safety (15%), and operational issues (11%) (Figure 5-1). Twenty-six of 44 reservoir lakes are represented in the respondent list which accounts for the very high percentage of ecological, access, and public safety concerns raised. While green energy was a low percentage of comments, it represents a small but economically important interest group on the Waterway.

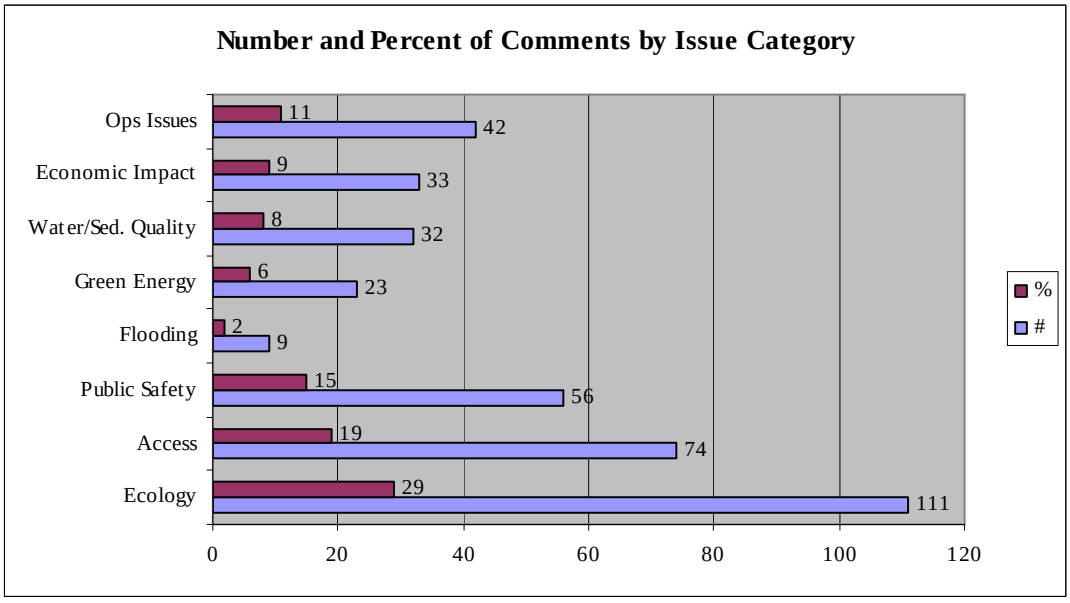

Figure 5-1 Number and percent of comments by issue category

The following discusses the major issues raised by respondents.

5.1 Commonly Held Concerns

5.1.1 Ecological issues

Of all responses received, the effect of water level management on the Waterway ecosystem was mentioned most frequently (Figure 5-1).

The greatest concern was with the perceived impact of water level drawdown on fish spawning and fish habitat and the belief that this is resulting in declines in fish populations and fishing success. In the reservoir lakes, there was wide-spread concern over the effect of drawdown on Lake Trout spawning with the perception that the timing of the fall drawdown is resulting in the drying of spawning areas. From comments received, there appears to be a variation in the drawdown timing. In the Kawartha Lakes, the primary concerns are impact on spring Walleye spawning and the relationship between winter drawdown and winter and spring fish mortality. Residents in the Canal and Mitchell Lake and Talbot River areas were particularly critical of the drawdown practices that resulted in fish mortality and the trapping of small fish, thereby exposing them to predators and winter kill.

The importance of wetland habitats and the impact of water levels on wetlands and associated wildlife habitat was the second most frequent issue raised. Concerns related to turtle mortality, flooding of nesting areas, particularly loon nesting in such places as Lovesick, Stony and Jack Lakes, and impacts on species at risk. First Nations raised a concern with holding levels too long in the fall, particularly in Rice Lake, resulting in furbearers (beaver and muskrat) building winter lodges too high, only to then freeze out when levels are dropped in the winter. They have also raised concerns that high spring and early summer water levels are detrimental to wild rice crops in the Bald Lakes.

Shoreline erosion was a very common theme heard from both the residents of the Kawartha Lakes including Rice Lake and the reservoir lakes. High water levels are reportedly exacerbating the impact of spring ice push resulting in significant damage to shorelines. Large trees and unprotected shoreline are being lost and this is resulting in people's tendency to harden shorelines which, in turn, reduces their ecological value. These latter concerns were raised by residents of Lovesick Lake and Jack Lake. Spring shoreline erosion was also raised in responses from the CEWF and Redstone Lake.

The proliferation of aquatic weeds was a very common concern heard from virtually all main navigation lakes and interconnecting channels (e.g. Talbot River). Some comments from the reservoir lakes indicate a growing problem in some areas such as in the Jack and Eels systems. These concerns were re-enforced by the commercial navigation sector and recreational boaters (Canadian Power and Sail Squadrons). Come respondents (e.g., Lower Buckhorn Lake) were particularly critical of the difficulty in obtaining permission to combat weeds.

Lesser topics raised include increases in algae blooms in both the Kawartha and reservoir lakes and invasive species. While these topics were raised by fewer respondents, their concerns are no less important.

The TSW reports that some ecological considerations are taken into account when developing water management protocols but are not a universal or overarching consideration. For example, a fisheries guideline developed in 1987 in consultation with the Ontario Ministry of Natural Resources is currently not being referenced to any great degree.

5.1.2 Access issues

Access related issues were the second most frequent issues raised by respondents (Figure 5-1). Included under the category of access are both winter and summer water supply, ice damage to infrastructure, loss of both water and land-based access to the shorelines, difficulty in maintaining docks and ramps, loss of sport fishing opportunities due to low water, impact to navigation, and lack of predictability of water levels.

Issues related to navigation dominated the access category and these issues were raised by commercial interests, recreational interests, and property owners. The commercial interests with the greatest concerned are the tour boat operators who point out that any change in water levels, particularly a lowering, would result in serious impact on their operations to the point, in the case of one operator, of putting them out of business. Equipment has been built to accommodate advertised depths and any deviation from these depths would have serious operational and business repercussions. Chambers of commerce pointed out that lowering of water levels would have an impact on navigation with a resulting negative economic impact particularly to communities that rely heavily on boat related tourism. Recreational and other property owners include all the private shoreline property owners and the boating community. They raised concerns about the general impact of the current water management regime on navigation, not only in the main channel lakes but also in the reservoir lakes. For example, there are some areas of the reservoir lakes that cannot be safely navigated in the late summer and fall. Others point out that at the low end of the advertised range, some areas such as the Canal and Mitchell Lakes area present navigation hazards. The Canadian Power and Sail Squadron pointed out that damage to the TSW's reputation of providing safe and reliable navigation levels would result in loss of visiting boaters and damage to the tourism economy. The residents of Shadow Lake emphasized that their entire social community has been structured around the ability to navigate from Coboconk to Norland and at low water periods, travel between the lakes that make up this basin is virtually impossible. Of all the reservoir lakes, this basin seems to have the least degree of water level predictability because its levels are dependent upon consistent flows.

An area with perhaps a unique issue is Tea Lake, where the entire water access from the Severn River into the Lake is dependent upon adequate depths being maintained in the Severn River. The current level regime is acceptable; however, a lowering of summer levels would preclude access by anything other than small boats.

Shoreline access, structural and related financial impact on docks and ramps are issues raised by the shoreline resident primarily in the reservoir lakes but also in the navigation lakes. The issue is of greatest concern in the reservoir lakes and residents express considerable frustration where docks become unusable and shorelines become difficult to navigate as water levels drop. Docks and ramps become damaged, steep shorelines become inaccessible and, to some, unsafe for family recreation activities. Many have learned to cope but the elderly are unable to maintain the necessary infrastructure adjustments to continue to enjoy their investment. Frequently, new residents purchase their properties at high water and are shocked when "their water disappears" during the summer.

Primarily in the main navigation lakes, the impact of lowering of water levels on domestic water users that draw water from the lake was raised a number of times and produced some of the most vitriolic comments. Some residents of Sturgeon Lake, for example, say that their water supply was not seriously affected until approximately 5 years ago when the drawdown increased in severity for reasons they do not understand. The impact of lowering of water levels on domestic wells is also a concern to some respondents. Such comments were heard from the Rice Lake and Talbot River areas and municipalities expressed worry about well contamination.

Municipalities expressed concern over the impacts of lower water levels on municipal water quantity and quality and sewage assimilation.

Finally, much of the frustration is due to the fact that water level fluctuations are not predictable. This was raised by shoreline residents in the reservoir lakes and commercial interests in the main navigation lakes (e.g., Lower Buckhorn Lake). Some respondents noted that what predictability did exist was absent in 2006 for no apparent reason.

5.1.3 Public safety

Not surprising, public safety concerns were the third most frequent comments among respondents (Figure 5-1). By far, concerns about increased hazard to navigation and resulting equipment damage as a consequence of lower water levels were most frequently raised. Commercial interests raised the issue related to navigation by tour vessels. Recreation and shoreline property owner interests raised the concern equally often. Most of the recreational / property owner concerns relate to hazards resulting from the drawdown of reservoir lakes both within the Gull / Burnt River system and the Jack Lake and Eels Lake systems. Within the Kawartha Lakes, concerns about navigation hazards were raised specifically related Rice Lake, Big Bald Lake and Stony Lake. Concerns related to navigation hazards were also common comments in the Canal and Mitchell Lake areas as well as the Severn River. Hazards to the boating public as a result of high flow at Lock 19 and inadequate protection for boaters, was an issue.

Several respondents including cottage associations and municipalities raised concerns about the deteriorating condition of dam and lock infrastructure and the CEWF specifically raised the

concern that no emergency plans and planning advice exist. Jack Lake residents are concerned with the condition of their dam.

Many respondents from the navigation lakes said that the system was operated pretty well in the past, but recently levels are less predictable, changes are more volatile and navigation risk and boat damage have increased. The recent removal of navigation buoys was raised as a concern on three occasions.

5.1.4 Flood mitigation

Understandably, most comments related to the importance of the TSW water management regime as it relates to flood mitigation came from municipalities, the Conservation Authorities (CAs) and residents in flood prone areas. Alteration of the regime that would exacerbate flooding was not supported. Conservation Authorities noted that good communications protocols need to be established and maintained and there was an interest in strengthening communications with the TSW. On the other hand, the TSW reports some resistance to cost sharing flood prediction technology and infrastructure such as data gathering. Concern was also expressed by CAs that any changes to water levels and flow regimes could have serious impact on municipal and private water supplies. This concern was also expressed by the City of Kawartha Lakes which went to the point of providing, in its submission, the water intake and waste outflow elevations for several of the communities within the City's jurisdiction.

Data access is critical to flood forecasting and discharging the CAs' role in the Ontario Low Water Response Program. This is a partnership program with MNR under which CAs monitor and report on potential drought conditions in the province. Access to site specific information in real time is a potential issue.

One submission from the Kirkfield area expressed frustration over flooding of homes in the community of Victoria Road. Similarly, residents of the Talbot below dam 37 expressed similar concerns related to flooding of shoreline properties and shoreline damage each spring.

5.1.5 Green energy

The prospects of increasing the generation of green energy was generally supported although apart from the water power industry, only 9 submissions commented specifically on the opportunity. Those not associated with the water power industry noted that greater effort needs to be made to harness low head power generating opportunities. This not only contributes to meeting the energy challenges of Ontario, but also represents a potentially significant revenue stream for the TSW.

The water power industry is sympathetic to the challenge that the TSW has to balance the needs and desires of a multi-stakeholder environment although members questioned the continued singular focus on navigation. The industry believes that there are significant improvements that can be made in the water management regime that would increase power production without

adversely affecting other interests. The industry points out a number of specific concerns that affect the efficiency and quantity of power production including:

- sudden and unpredictable changes in water flows;
- less frequent log adjustments due to inadequate staff resources;
- unnecessary lowering of the headwaters of the Swift Rapids station in the spring;
- any alteration in the draw down regime of the reservoir lakes to retain water longer will have a negative impact on downstream power production at times of year when it is required;
- the maximum flow constraints during navigation season appear to drive a behaviour that is not conducive to smoother flow on the system and therefore, more optimizing of flows for power production; and
- the tools used to operate the system are antiquated. Modern water models work at a much higher level of sophistication and accuracy.

The industry is willing to work with the TSW to identify opportunities and changes to operational practices. In fact, Ontario Power Generation (OPG) is already developing a revised rule curve for Lake Simcoe using TSW data and OPG expertise. There may even be opportunities for the industry to take over specific dam operations under an operating agreement. This would reduce stress on the TSW resources and optimize flows at specific locations. The industry also expressed concern with the lack of attention to increasing green energy in this particularly advantageous political climate.

5.1.6 Water and sediment quality

Deteriorating water quality is a common theme among respondents. Water quality issues relate primarily to increased nutrient loads with a focus on phosphorous. The issue was raised most frequently by the commercial tour boat industry, chambers of commerce, and recreational and shoreline property owners. Concerns over potable water supplies and well contamination from high flow conditions and flooding were also heard. A particularly unique concern raised by one respondent was the issue of livestock being allowed to range to shoreline areas. The concern is water contamination by livestock waste. Municipalities raised concerns over the effect on beaches of diminishing water quality. Sturgeon Lake residents have a particular concern with continuing contamination from the Lindsay landfill. This concern has two dimensions. It is hypothesized that when water levels in Sturgeon Lake are very low, scouring of the Scugog River bed occurs, thus releasing contaminated sediments into the water column. It is also believed that low water levels in the river result in drawing of contaminated groundwater into the river resulting in contamination of the lake.

5.1.7 Economic impact

Commercial operators, chambers of commerce, municipalities and to a lesser degree, recreational interests expressed concern over the economic impact of potential changes to the navigation system that might negatively impact the attractiveness of the system to tourists. Equally forceful, was the argument that the drawdown practices in the reservoir lakes were having an economic

impact on the Haliburton Highlands area. This impact was both direct (damage to property and recreational opportunities) and indirect from property owners selling their properties in frustration. As previously mentioned, the Canadian Power and Sail Squadron point out that damage to the TSW's reputation of providing safe and reliable navigation levels would result in loss of visiting boaters and damage to the tourism economy. The water power industry emphasized that inefficiency in flow management and sudden and unpredictable flow changes results in lost generating opportunity and potentially significant revenue loss to the TSW. Commercial operators on Eels Lake are particularly hard hit by low levels in mid-August that result in many seasonal residents taking their boats out of the water earlier in the season.

5.1.8 Effects of climate change

Conservation Authorities and several other respondents encourage Parks Canada to recognize new trends in weather and climate patterns and to take a proactive approach to developing strategies to deal with prolonged droughts or extreme events. This approach according to respondents should be a collaborative one. CAs and others believe that action must be taken to develop and implement adaptive measures to address the effects of climate change.

5.1.9 Operational issues

A number of respondents raised concerns that are categorized as operational in nature; in other words, how the system and the Waterway personnel are operating. By far, the most common category of concern, heard from almost all major audiences is "communications". Many expressed frustration that they do not understand how the system operates and how decisions are being made. Equally, they claim that they are unable to get clear and timely answers to their questions. One example, given was being denied a copy of a public presentation given by Waterway personnel that could have been used to further explain to a local association the challenges of water management and practices used. A complimentary theme is that there is inadequate public notice when changes to flows and levels are made. An example is in 2006 a sudden draw down of Catchacoma Lake to a level close to normal late fall levels occurred in mid summer with no warning. This resulted in damaged boats, loss of normal shoreline use, and loss of access. Similarly, there was no communication with the residents of Eels Lake to warn them that the lake would be drawn down earlier than normal to accommodate dam repairs. This communications issue also relates to the issue of predictability reported on in section 5.1.2.

Several respondents questioned the methods used to monitor flows and levels and respond to changes in the system in a timely way.

Some respondents commented negatively on the Waterway's responsiveness to requests for approvals.

5.2 Solutions identified

As part of the consultation process, respondents were asked to identify solutions that they thought would be helpful in addressing their issues and concerns. Not surprisingly, there is no shortage of

suggestions that ranged from changing the fundamental management direction of the Waterway to relatively minor changes. Annex A is a listing of some of the suggestions put forth. While the suggestions have been grouped, these are largely unedited to provide a flavour of the nature of responses.

5.3 Willingness to participate in future joint decision-making

With rare exception most respondents were willing to participate in further dialogue on water management including participation in some form of joint decision-making forum. The exceptions tend to be private respondents due to liability concerns. Some organizations were positive but cautious and want to wait for more details on the nature of involvement and time commitments involved.

6.0 Observations and Conclusions

The following observations and conclusions can be drawn from the consultation experience.

1. The Trent-Severn Waterway managers have an astonishingly large and diverse array of stakeholders with whom they interact on a daily basis.
2. With the exception of provincial and federal government departments, good representation was received from all sectors of the Waterway and all identified interest groups.
3. The use of a focus group to help to structure the consultation approach proved very helpful.
4. The approach to soliciting structured responses with the option of providing for the opportunity to make presentations was appropriate for this round of consultation.
5. The timing of the study was not conducive to obtaining comments from seasonal stakeholders (cottage owners and resort operations).
6. An up-to-date stakeholder list would have assisted the consultation process. Such a list should be maintained on an on-going basis to support stakeholder communications.
7. Generally, respondents were thankful for the opportunity to provide input into the review. Some respondents were cynical because they had been consulted before but had not seen how their comments were used.
8. Respondents were passionate about their concerns.
9. Many concerns and suggested solutions were conflicting but no less legitimate when viewed within a localized context.
10. There is recognition among stakeholders on the navigation lakes and rivers of the uniqueness of the Waterway.
11. Overwhelmingly, the responses received supported the value of the Trent-Severn Waterway system. Equally, there is support for the maintenance of the system's ecological, recreational, and tourism values. Interestingly, although this system appears to be unique in the world, this was lost in the expression of local concerns.

12. Other professional water managers recognize the challenges and complexity involved in managing the system.
13. Neither the system as a whole nor the role that individual lakes play in the operation of the system are universally understood or accepted.
14. The social landscape of the Waterway has evolved. It is believed that the traditional methods of operations do not respond to the complex reality of the current landscape.
15. There is an understanding that the system needs to be managed to provide for navigation; however, there is a desire for the system to be managed in such a way that the impacts on other stakeholder interests are lessened. This can be encapsulated in the statement "don't waste our water".
16. A large number of stakeholders do not see their interests being reflected in decision-making on the Waterway.
17. Waterway stakeholders want to be embraced by the management of the Waterway.
18. Opportunities exist for effective partnerships that would improve the efficiency of the management of the Waterway.
19. There is a high degree of frustration among stakeholders with the lack of predictability, lack of responsiveness to concerns, and the manner in which their concerns are received and addressed.
20. There is a clear lack of empathy between the stakeholders and the TSW. This is manifested as suspicion and frustrations on one side and a lack of openness on the other.

Annex A - Solutions Identified

The following suggested solutions were identified by respondents. The list demonstrates that considerable thought was put into helping to find alternatives.

Communications and Consultation

General awareness and education

- Public education on shoreline rehabilitation should be enhanced and if possible government assistance should be provided.
- Enlist public, volunteers, school and university study groups to work toward cost effective solutions.
- Communicate with lake residents so they can take appropriate measures to ensure their water inlets and docks are properly located.
- Adopt a policy of information sharing among many government agencies and with all stakeholders.

Public notification system

- The TSW Management has to be responsible for regular communication with all people who have a stake in the waterway. Notification of any substantial changes to water levels or operations should be posted on a website, and advertised through local media including radio, television, and print. Communications should be free flowing between the Trent Severn Waterway System Management and the MNR, MOE, as well as non-government agencies and organizations affected by the system.
- Regular communications is needed so that commercial operators can adjust operations including docks and water lines before the water is lowered. Predictability is important.
- Low water level problems during winter months could be mitigated in some locations if adequate warning is given to allow time to alter water sources by using deeper wells or dredging near lake water sources where the lakebed will allow.

Collaboration and consultation

- Bring about a multi-faceted working group whose direct livelihood depends on the TSW to participate in finding solutions. Include the system users in decision-making.
- Incorporate municipal, provincial, and federal representation and stakeholder input into operations and management decisions.
- A forum for cooperative efforts during emergencies should be considered. Good communications is critical.
- From the municipality's perspective, it is critical that the public health concerns be considered paramount in relation to water supply and sewage treatment for affected City residents.

Agency / Industry Collaboration

Agency collaboration

- Develop and implement changes with consultation and approvals under the *Navigable Waters Protection Act* to ensure navigation is unaffected or the effects are minimal.
- Improve communications with Conservation Authorities and others responsible for flood forecasting and drought mitigation.
- Strengthen the partnership between the TSW, MNR, CAs, municipalities, and members of the public to provide a well rounded understanding of issues and concerns.
- Emergency planning must be undertaken through a multi-agency approach.
- All of the various levels of government organizations need to work together to encourage all users to reduce water consumption and improve the quality of this dwindling resource.

Policy coordination

- Hold annual or as required meetings with provincial and municipal authorities to identify policy conflicts that if resolved would lessen public confusion and promote a harmonized approach to permitting and approvals.

Industry cooperation

- Develop partnerships with industry including outsourced management and maintenance of infrastructure.

Water Levels Management Practices

Rule Curves

- Eliminate single line rule curve and work within an operating range that is appropriate to all system users.
- Redefine operating ranges on the reservoir lakes that have some buffer built in to allow for elevation changes without initiating the immediate need to make dam changes.
- Allow for finer adjustments at dams.
- An increase of a small amount of water in Lake Simcoe during the spring would provide an increase in electrical generation at the Swift Rapids station after the spring runoff.
- Provide for greater flexibility for log and dam operations in terms of frequency and timing.
- Establish and maintain a predictable range of low and high water conditions. Ideally, for some lakes, there needs to be a reduction in the range of variability reduced inside the existing historical range. For example, it is believed that a decrease in water draw down would benefit Redstone Lake significantly with the erosion problem, would result in less damage to boats, and would provide more water over the trout spawning beds. It is felt that an increase in water flow would be disastrous for the lake. Lake residents would like to see the high water level set at one foot lower than it currently is and likewise the low water level set at one foot higher than now resulting in a draw down of five feet instead of seven.

Models

- Need to incorporate a water management tool that allows for better predictability and planning for the many competing interests on the system.
- Incorporate a team approach to water management.
- The current water management system does not appear to account for the amount of rain that is falling. As a result, water that is not required is still drained from reservoir lakes. Perhaps this "wasted" water could be better used by retaining it in the lake until actually needed, so that it can be used to mitigate the issue of lowering water levels during the summer season.
- Take more water from larger lakes and relieve the smaller off-shoot reservoirs.
- Develop of a plan that would predetermine levels below which lakes could not be dropped by TSW dam operations.
- Develop management models that can respond effectively and efficiently to erratic weather patterns.
- An operating procedures be devised that minimize ”wasting” water during the spring flood and establish the desired levels in the TSW as early as possible in the season thereby establishing a steady state flow condition in the need for water from the Gull river thereby establishing stable levels in the Shadow Lakes system.
- Ideally, the level in the [Jack] lake would be engineered to drop as slowly, as little and as late in the season as possible. Non-winter levels should be maintained as they are currently, winter levels should be increased, variations from winter to winter and from summer to summer should be eliminated, and residents should be advised regularly when water level changes are planned.

Timing of Draw Down

- Improve predictability of draw down
- Consider a small decrease in lake levels over a large area of the navigation lakes that may help to solve some of the reservoir lake problems.
- Increase water levels from Rosedale to Kirkfield by only a few inches. Keeping current levels will see continuing grounding in the Kirkfield Channel and Mitchell Lake.
- Don't start lowering Lake Simcoe water levels before the third week in September.
- Stabilize levels on Lovesick Lake as soon as the ice goes out to facilitate loon nesting.
- Reduce the variation in summer on Lovesick Lake to help with tree rooting systems.
- Maintain existing levels on the Severn River May through October to ensure access to Tea Lake.
- Achieve and maintain adequate and equitable water levels for all shoreline residents in Trent River watershed at least from mid June to mid-September.
- Hire additional staff to manage logging; replace 12" logs with smaller logs to provide finer control; decrease target levels in canals and locks at once or as season progresses; use holding ponds and/or recycle water where possible.
- Secure more water from rivers and lakes not currently controlled.

- Develop a more equitable solution whereby water was drained from reservoir lakes at a much slower pace and governed more accurately by predetermined water levels on the lakes as well as the impact of rain (or drought) on the TSW system.
- Create a better balance between Waterway usage and the enjoyment of those dependent on the source water bodies and balance between the amounts of water taken from the various reservoir lakes rather than the radical skews that is currently being experience on a lake to lake basis.
- Hold more water in Eels Lake until Labour Day.
- Modify draw down to leave sufficient winter levels to provide water for water lines.
- The equitable solution for our business is for some form of ongoing water management keeping current published navigation levels from May 01 to October 31 every year.

Weed Control

- Extend dredging to adjacent waters such Deer Bay, if it will remove plant roots, increase depth, and thereby reduce the amount of sunlight and compost feeding plants on the lake floor?
- If dredging isn't possible, there has to be an easier, provide fairer and more timely process for shore dwellers to get information and permits for acceptable actions to alleviate the waterweed problem. This might include permission to lay sand on the lakebed near shore, or other localized and approved treatments that can be recommended. Officials of the Trent Severn Waterway / Parks Canada must be far more accommodating and helpful to shore dwellers seeking information and permits.
- Develop and provide information on more acceptable ways of dealing with dying plant matter that drifts ashore in massive amounts.

Flood Mitigation

- Use a flood forecasting model that would reduce the likelihood of releasing water when it is not necessary.
- Develop a dialog and cooperative approach with MNR is needed to arrive at a timely schedule of water level control to continue flood control as well as trying to protect the wildlife on the lakes.
- Better flood forecasting models are needed.

Planning, Research, Technology, and Monitoring

Planning

- Undertake an overall water management strategy for the TSW that provides a balance for all interested users of the system.
- Water levels and flows cannot stand alone while suggesting an equitable solution to area issues. It is imperative that all facets of the system be assessed and integrated in order to achieve the "best practices" management plan and governance of the Waterway.

- Drying out of wetlands could often be countered effectively by local action such as use of dyking.
- The Shadow Lakes Association would not find any changes acceptable that met the needs or improved the situation of other stakeholders at our expense.

Research

- Undertake research to predict the effects of climate change.
- Revisit the 1976 Department of Indian and Northern Affairs "The Severn Basin Hydrology Study" with a view to refining the Swift Rapids headwaters target levels.

Technology

- Develop a more accurate tool that could draw water off lakes in smaller increments that the current 12" logs provide. This will more accurately reflect the actual quantity of water that was required. This would slow the water loss and it is believe result in more water in the lakes at any point throughout the season.
- The seasonal management of lake levels must ensure neither severe flooding nor rapid or extreme drainage of Jack Lake as the TSW's demand for water changes. If possible, procedures and technology should be applied to avoid such things as erroneous dam openings, or openings due to vandalism, which lead to dramatic level drops.
- Computer control of the water flow at each dam site would be the ultimate solution; however, perhaps an interim way to accomplish the same result would be to use smaller logs in the dams to allow for less water loss each time a log is removed.

Monitoring

- Develop a collaborative data acquisition and sharing protocol among all agencies that have a need for the data.
- Encourage CAs and municipalities to closely monitor and ensure the natural flow of waters are not obstructed by development or land infilling around the Waterway.
- Headwater lakes and rivers should be monitored by electronic gauges on a 24 hour basis which could be read in one local office.

Policy and Mandate of the TSW

- Consider shortening the navigation season on the waterway.
- Consider limiting size of watercraft using the canal thus reducing draft depth and amount of water required to maintain navigation in the waterway;
- Consider eliminating fixed navigation seasons and use all watercourses within the limits provided by nature.
- Consider amending legislation that permits development in these watershed areas and recognize development along these water bodies as non-waterfront, assessing accordingly.
- Consider expanding or increasing the number of water bodies with potential of providing additional water to the main waterway.
- Capitalize on hydro-electric generation opportunities, thereby increase economic viability.

- The Federal government needs to maintain the Waterway in a high quality state to attract tourism.
- The Federal government needs to market the area and increase spending to upgrade the system to increase tourism. For example, more money would extend the boating season.
- The Federal government including DFO needs to take a more active role in the encouragement and protection of the environment.
- TSW needs to be pro-active on issues of monitoring and compliance.
- Maintain the Waterway system under the jurisdiction of the Federal government. To do otherwise could result in compliance levels that may differ from one municipality to the other; non-compliance by some users and ultimately result in decreased tourism.
- Recognize negative impacts of water level fluctuations on environment, water safety, access, and economy including effect on property rights and values.
- Commit to finding solutions that lessens severity of impacts.
- Involve municipal, provincial, and federal representation.
- Eliminate handshake agreements.
- Adjust priorities to reflect the current realities of the importance of adequate water levels to environment and economic health of regions.
- Assign equal priority to navigation on the system itself and access to safe navigation on and between reservoir lakes.
- Reconsider public policy objectives to balance recreation with environmental and economic objectives of watershed lakes including: recognition of economic contribution of watershed lakes; evaluation of environmental impact of transit through TSW vs. local recreation; recognition of property rights of waterfront owners including rights to navigation; consideration of alternative strategies that do not involve large flows of water; recognition of long-term effects of climate change.
- Avoid diverting water for reasons that are environmentally damaging or detrimental to economic stability.
- Recognize environmental health and integrity as an objective of water mgmt policy.
- Enact federal or provincial legislation to protect and preserve environmental, economic and property interests.
- Segment TSW to maintain water levels without end-to-end navigation.
- Review the guaranteed depth of the lock system given that few boats draw anywhere near the full depth.
- Redefining tourism role of the TSW to de-emphasize reliance on motorized recreation. Ecotourism Option - instead of motorized boats (which carry most of their supplies and sleep on board), encourage and promote the waterway (or a portion of the waterway) as a kayaking or canoeing and/or combine with biking (one direction on water, the return trip via bicycle).
- Develop an environmentally based plan and policies (tools and mgmt) that will meet the needs of all interested parties as well as environmental concerns.

Infrastructure and Staff Investment

Infrastructure Improvement

- Provide additional funding to provide adequate staffing levels to operate water control structures on a more frequent basis to reduce the number of sudden changes.
- Review capital improvements on dams, provide more automated gates, and upgraded equipment.
- Undertake and respond to timely reviews and assessments of infrastructure condition and speedy repair;
- Modernize water management infrastructure.
- Invest in the tools that will allow the Waterway to monitor water levels with greater accuracy on a timely basis throughout the system so that it can respond to changes and model the system accurately. Parks Canada should invest in more automated controls as dams are repaired and upgraded.
- The Jack Lake dam must be maintained in perpetuity.

Funding

- There should be more funding from Municipalities along the system. They benefit from the tourist trade the TSW provides.
- Ice hut operators, and individuals, should have permits to use the ice in the winter.
- Snow machine operators and Snowmobile clubs that use the system should be paying a fee.
- If Lake Simcoe continues to be part of the Province, then the Province to assist in funding.
- Parks Canada needs to step up to the plate and provide the proper funds.
- There is a need to recruit and maintain skilled experienced staff for the on-going operation of the TSW.

Other

- End issuance of permits to draw large quantities of water from the watershed.
- Create new reservoirs designated as non-residential.
- Insist that sewage treatment plants are build to facilitate the increased sewage during the tourism season and that backup systems are in place in the event of a spill.

Annex B - Trent-Severn Waterway Water Management Study Consultation List

Provincial Government

Organization/Address	Invited	Received
Water Resources Section, Ontario Ministry of Natural Resources, Peterborough	*	
Peterborough District Ontario Ministry of Natural Resources, Peterborough	*	
Southern Region, Fisheries Section, Ontario Ministry of Natural Resources, Peterborough	*	
Strategic Policy Branch, Ontario Ministry of Environment, Toronto	*	
Water Resources Unit, Ontario Ministry of Environment Kingston Office	*	*
Ontario Ministry of Environment, Peterborough	*	
Barrie District Office, Ontario Ministry of the Environment	*	

Conservation Authorities

Organization/Address	Invited	Received
Crowe Valley Conservation Authority	*	*
Ganaraska Region Conservation Authority	*	*
Kawartha Conservation Authority	*	*
Lake Simcoe Region Conservation Authority	*	*
Lower Trent Conservation Authority	*	*
Otonabee Region Conservation Authority	*	*

Note: all Conservation Authorities chose to submit a single submission

Federal Departments

Organization/Address	Invited	Received
Fisheries and Oceans Canada, Peterborough District Office	*	
Coast Guard (Prescott), Transport Canada	*	*
Coast Guard (Parry Sound), Transport Canada	*	

Organization/Address	Invited	Received
Environment Canada, Place Vincent Massey, Ottawa	*	
Species at Risk, Environment Canada (Toronto)	*	
Water Survey of Canada, Environment Canada	*	
Trent-Severn Waterway, Parks Canada Agency	*	*
Rideau Canal, Parks Canada Agency		*

First Nations

Organization / Address	Invited	Received
Alderville First Nation	*	*
Beausoleil First Nation	*	
Chippewas of Mnjikaning First Nation	*	*
Curve Lake First Nation	*	
Georgina First Nation	*	
Hiawatha First Nation,	*	
Scugog Island First Nation	*	

Water Power Industry

Organization / Address	Invited	Received
Elliott Falls Power		*
Innergex		*
Ontario Power Generation		*
Ontario Water Power Association	*	*
Orillia Power Corporation		*
Peterborough Utilities		*

Commercial Interests

Organization / Address	Invited	Received
Beachwood Resort	*	
Bobcaygeon and Area Chamber of Commerce	*	* [1]
Buckhorn and District Tourist Association	*	*
Canadian Passenger Vessel	*	
Centre Point Landing Ltd.		*
Eels Lake Cottages and Marina		*
Egan Houseboat Rentals	*	*
Fenelon Falls/Bobcaygeon Boat Cruises	*	
Grandview Trailer Park	*	
Haliburton Tourism	*	
Happy Days Houseboat Rental Ltd.	*	*
Homestead Trailer Park – Eels Lake		* [1]
Kawartha Lakes Chamber of Commerce	*	*
Lake Edge Cottages, Katchewanooka Lake		*
Liftlock and the River Boat Cruises	*	
Marrick's Landing – Lovesick Lake		*
Midland Tours Inc.	*	* [1]
Northern Ontario Tourism Outfitters Association	*	
Old Burrison Homestead Tourist Camp – Rice Lake	*	*
Ontario Accommodation Association	*	*
Ontario Marine Operators Association	*	
Ontario Private Campground Association	*	*
Ontario Waterway Cruises	*	*
Orillia Boat Cruises	*	*
Orillia Chamber of Commerce		*
Peterborough and Kawarthas Tourism	*	
R and R Houseboats	*	

Organization / Address	Invited	Received
Reach Harbour	*	*
Resorts Ontario	*	
Rice Lake Tourist Association	*	
Shallow Rapids Company Ltd	*	*
Stony Lake Cruises	*	*
Tamarack Lake Electric Boat Company		*

[1] Presentation only

Municipal Interests

Organization / Address	Invited	Received
City of Quinte West	*	
Hamilton Township	*	*
Minden Hills	*	
Municipality of Dysart et al.	*	*
The City of Barrie	*	
The City of Kawartha Lakes	*	*
The City of Orillia	*	*
The City of Peterborough	*	
The Corporation of the County of Simcoe	*	*
The County of Peterborough	*	
The District of Municipality of Muskoka	*	*
The Municipality of Brighton	*	
The Municipality of Highlands East	*	*
The Municipality of Trent Hills	*	
The Town of East Gwillimbury	*	*
The Town of Gravenhurst	*	
The Town of Innisfil	*	
The Township of Alnwick/Haldimand	*	

Organization / Address	Invited	Received
The Township of Asphodel-Norwood	*	*
The Township of Brock	*	*
The Township of Cavan-Millbrook-North Monaghan	*	
The Township of Douro-Dummer	*	
The Township of Galway-Cavendish-Harvey	*	
The Township of Havelock-Belmont-Methuen	*	
The Township of King	*	
The Township of Muskoka Lakes	*	
The Township of North Kawartha	*	
The Township of Otonabee-South Monaghan	*	
The Township of Ramara	*	
The Township of Scugog	*	*
The Township of Severn	*	*
The Township of Smith-Ennismore-Lakefield	*	*
The Township of Tay	*	
Township of Algonquin Highlands	*	*

Recreational Interests

Organization / Address	Invited	Received
Anstruther Lake Cottagers	*	*
Balsam Lake Association	*	*
Barrie Power & Sail Squadron	*	
Bass Lake Association	*	
Big Bald Lake Cottagers' Association Inc.	*	*
Birchcliffe Prop Owners Assoc, Clear Lake	*	
Boshkung Lake Association	*	*[1]
Cameron Lake Cottagers Association	*	
Canadian Power & Sail Squadrons	*	*

Organization / Address	Invited	Received
Canning Lake Property Owners' Association	*	*[1]
Catchacoma Cottagers Association	*	*
Coalition for Equitable Water Flows	*	*
Concession 17 Pigeon Lake Cottagers Association Inc.	*	*
Contau Cottagers Association	*	
Crystal Lake Cottagers' Association	*	
Deer Bay Reach Property Owners Association Inc.	*	*
Deer Bay Reach Road Owners Association		*
Drag Lake Property Owners Association	*	*[1]
East Cameron Lake Association	*	
Eels Lake Cottagers' Association	*	
Federation of Ontario Cottages' Association	*	
Georgian Trent District – Canadian Power and Sail Squadrons		*[1]
Gloucester Pool Cottagers Association	*	
Gravenhurst Power and Sail Squadron	*	
Haliburton Lake Cottagers' Association. Inc.	*	*
Indian Point Property Owners Association	*	*
Jack Lake Cottagers' Association	*	*
Kawartha Lake Stewards Association (KLSA)	*	*
Kincardine Power and Sail Squadron	*	
Koshlong Lake Association	*	*
Lindsay Power and Sail Squadron	*	
Loon Lake Property Owners' Association	*	*[1]
Lovesick Lake Association	*	*
Lower Buckhorn Lake Owners Association	*	
Maple, Beech and Cameron Lakes Property Owners	*	* *[1]
Midland Power and Sail Squadron	*	*
Miskwabi Area Cottage Association	*	*[1]
Newcomb Dr. Cottagers Association, Lower Buckhorn	*	

Organization / Address	Invited	Received
Northern Pigeon Ratepayers' Association	*	
Orillia Power and Sail Squadron	*	
Penetanguishene Power & Sail Squadron	*	
Peterborough Power & Sail Squadron	*	
Prince Edward Power and Sail Squadron	*	
RCAF Trent Power and Sail Squadron	*	*
Redstone Lake Cottagers' Association	*	*
Severn River Association of Property Owners	*	*
Shadow Lakes Cottagers' Association	*	*
Sparrow Lake Association	*	
Stoney Lake Cottage Association	*	*
Tea Lake Property Owners Incorporated	*	*
The Association Of Stony Lake Cottagers	*	
Trent Talbot River Property Owners		*
Upper Stoney Lake Association	*	
White Lake Cottagers Association	*	

[1] Presentation only

ENGOs

Organization / Address	Invited	Received
Severn Sound Environmental Association	*	*
Couchiching Conservancy	*	*
Muskoka Watershed Council	*	*
Kawartha Heritage Conservancy	*	
Ontario Federation of Anglers and Hunters	*	
Kawartha Fisheries Association	*	

Individual Submissions

Organization / Address	Invited	Received
Victoria Road		*
Ennismore		*
Sturgeon Lake		*
Trent River - Campbellford		*
Jack Lake		*
Shadow Lake		*
Eels Lake		*