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Executive Summary

Representatives of the Grand River Conservation Authority (GRCA), watershed municipalities, First Nations, provincial ministries and the federal government are working together to update the Water Management Plan for the Grand River watershed.

As part of this process, an online survey was launched in October 2011 to get input about the human uses, community values and ecological needs for water identified by a working group as part of the planning process. The draft water uses, needs and values were developed using information available from participatory watershed planning processes and municipal plans in addition to information collected about the known uses of the river. The list of uses, needs and values was used to develop a set of water objectives that will provide the foundation for the Water Management Plan.

The online survey is one of several initiatives to get broader feedback from Water Management Plan partners and the public.

This report outlines the key messages from the survey results. These messages will be considered by the Water Management Plan partners to create a final list of broad water objectives for the Grand River watershed.

Methods

The Water Management Plan survey was designed to solicit feedback from a wide range of participants throughout the Grand River watershed. This approach was considered to be more effective and efficient than holding a series of public open houses or focus groups. Survey questions, marketing tools and data analysis were developed collaboratively by GRCA staff with input from the Water Management Plan Communications and Engagement Working Group, the Project Team and Lura Consulting.

The survey was posted for 30 days on the GRCA website and promoted by e-mail, social media, news release and on the GRCA webpage. Over 600 people completed the survey, which closed on December 1, 2011. For more details about the methods, see page 6.

Key messages: Citizens of the watershed value many dimensions of water

Survey respondents living within the Grand River watershed and surrounding areas were asked to select their top five water uses, needs and values. Responses clearly illustrate that there is a general appreciation for the many tangible and intangible roles water plays in daily life.

The top five water uses and values are:

1. passive enjoyment
2. household supply
3. fish, wildlife and habitat
4. paddling and boating
5. fishing

Over 94% of survey respondents said that the rivers in the watershed (the Grand, Eramosa, Speed, Nith and Conestogo) and the creeks that flow into them are “very important” to their quality of life.

When asked to identify to what degree the rivers and creeks are important to the local economy, 67% said they were “very important,” 27% said “somewhat important” and 6% said “not very important”.

Key messages: Water quality tops the list of concerns

Water quality is the top concern of people who responded to this survey. In fact, three of the top ten critical issues facing the watershed were described using the words “water quality” or spoke to issues that are directly related to water quality.

Top five issues facing the watershed as described by survey respondents:

1. water quality
2. point and non-point source pollution
3. water supply
4. wastewater
5. population growth

Key messages: Sharing an interest in water management

One objective of the survey was to get public input on whether or not the list of water uses, needs and values was comprehensive. Generally, respondents agreed that it was. Respondents were also introduced to the water objectives that correspond to the uses, needs and values they selected.

The survey revealed that respondents believe that the objectives related to the uses, needs and values important to them were mostly being met. Other objectives received a mixed response (no clear majority). However, there are certain broad watershed objectives that received more “no” than “yes” responses. These objectives related to rural and urban sources of pollution, limiting the growth of harmful algal blooms and the river’s capacity to receive treated wastewater.

Finally, 95% of survey respondents said that the connection with Lake Erie is “very important” to consider in the management of the Grand River system.

Conclusions

Given that participation in this survey was voluntary, based on an open invitation to provide feedback, the results may not represent the range of opinions held by all watershed residents. However, the survey provides important insights and opinions that will assist the Water Management Plan partners in fine-tuning the broad water objectives. Key messages gathered from all responses include:

1. The water uses, needs and values identified to date are generally considered inclusive.
2. Respondents believe that the river system makes a very important contribution to their quality of life.
3. There is strong recognition of the importance of the connections between the Grand River system and Lake Erie and the need to keep in mind upstream-downstream considerations and lake impacts when making water management decisions.
4. In general, the respondents have confidence that many water management objectives are currently being met. However, water quality and security of future water supplies were raised as issues that need to be addressed.

Background

Representatives of the Grand River Conservation Authority (GRCA), municipalities, First Nations, provincial ministries and the federal government are working together to update the Water Management Plan for the Grand River watershed.

Goals of the updated Grand River Water Management Plan are to:

- ensure sustainable water supply for communities and ecosystems;
- reduce flood damage potential;
- improve water quality to improve river health and reduce the Grand's impact on Lake Erie; and
- build resiliency to deal with climate change.

By 2013, the Water Management Plan partners will agree on a set of actions they are willing to carry out

to achieve these goals. Before these actions can be determined, however, broad objectives and targets for water management must be identified. These objectives and targets will reflect the many water uses, community values and ecological needs that are valued by watershed citizens and required for the health of the river system.

The Water Management Plan partners developed an initial list of water uses, needs, values and objectives based on what is known about water use and what has been documented through participatory planning initiatives such as municipal and watershed plans.

An online survey was launched in October 2011 to get public input on the water uses, needs and values that matter to people across the watershed. The survey also introduced related water objectives.

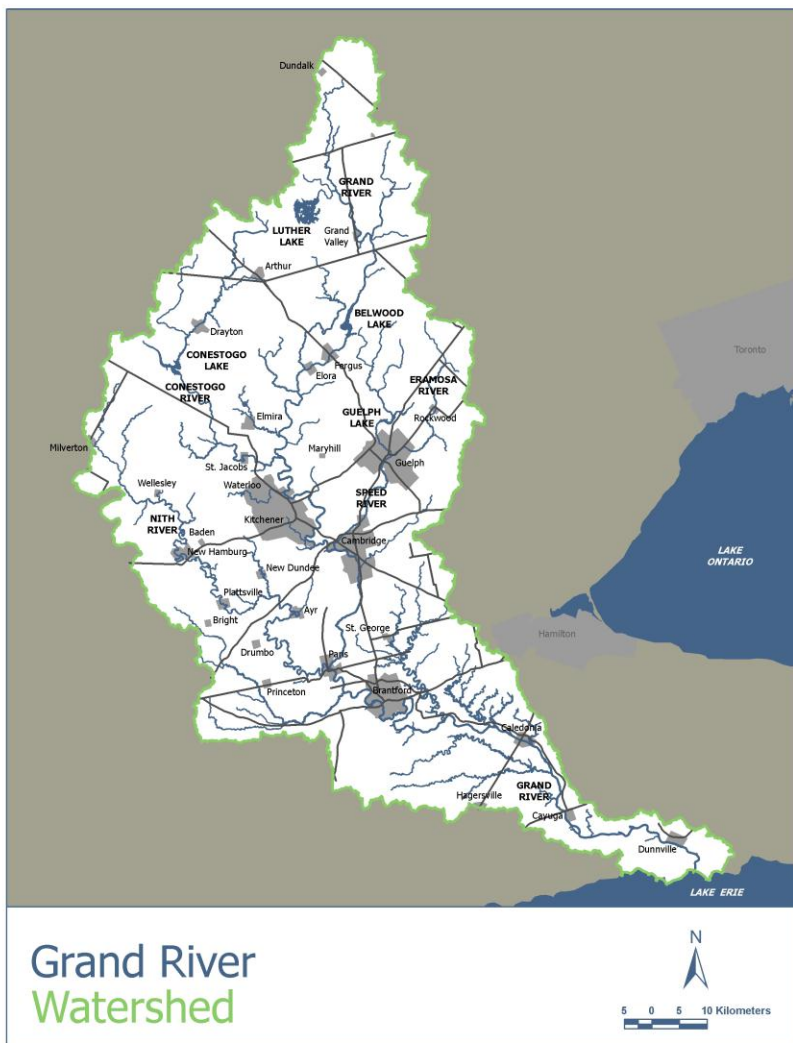


Figure 1: Map of the Grand River Watershed

Methods

Survey development

The GRCA developed the survey questions, marketing tools and data analysis in collaboration with the Water Management Plan Communications and Engagement Working Group, Project Team and Lura Consulting.

Survey distribution

The survey was posted on the GRCA website in October 2011 for 30 days and promoted by e-mail, social media, and news release and on the GRCA webpage. A total of 11 common questions were presented to survey takers, focused on demographics and the perceived importance of the river. Respondents were also asked to identify which water uses, needs and values were important to them. Depending on the ones selected, the respondents were asked to review a list of related broad water objectives and asked to share their opinion about whether or not these are currently being met. The total number of responses varied for each question, as people could choose to skip questions.

There were 798 people who completed at least one question. All responses were retained for information, as described below. Some questions provided the survey taker with the option to provide more than one answer (either multiple choice or comment fields). The analysis below considers both the number of respondents and the total number of responses.

Survey Analysis

Demographic data, including questions about postal code, water source and type of residence (rural, urban, town, village) were used to identify the geographic distribution of responses to the question about water uses, needs and values.

For qualitative comments on “other” water uses, needs and values that were not included in the list, a scan of all responses determined that there were no common themes (themes described commonly by more than 1% of respondents).

For the question about the most important issue facing the watershed, qualitative responses were grouped thematically, manually sorting them in an Access database. The themes were selected by examining a sample of the results and selecting suitable themes that relate to the water objectives or based on key words that were commonly used (e.g. “population growth”).

For all other questions, the multiple choice format allowed for straight-forward analysis using basic addition and in some cases, interpreting sums as a percent of total.

Survey results

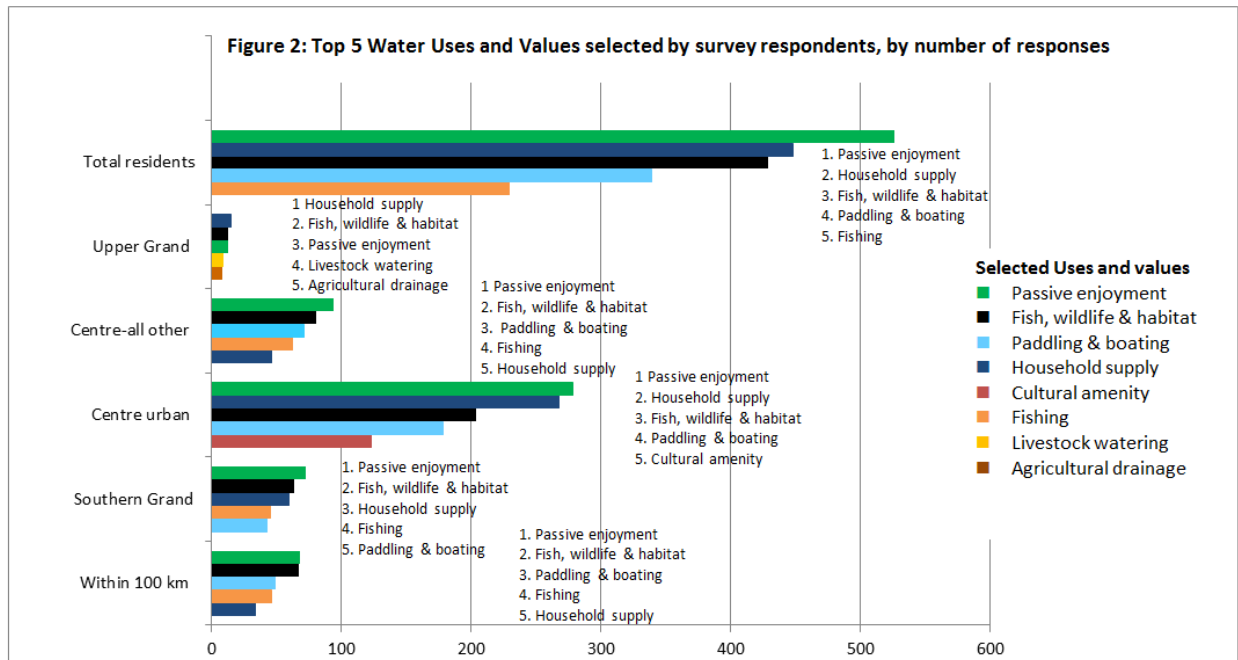
The water uses, needs and values that matter to citizens

Survey results indicate that many uses, needs and values are shared among residents of the watershed and surrounding areas.

The top five water uses and values, based on number of responses are:

1. passive enjoyment
2. household supply
3. fish, wildlife and habitat
4. paddling and boating
5. fishing

Figure 2: Top 5 Water Uses and Values selected by survey respondents, by number of responses



Number of responses = 2, 721 (however, only a portion of these responses was plotted in the graph, based on top 5 selections.)

For those people who felt there was a water use, need or value not included in the list, a comment box was provided. However, only 2% of responses included an additional option and no common themes were apparent. The results suggest that the survey takers believe that the list of water uses, needs and values is generally inclusive.

Water Uses and Values Data: Table 1 shows the number of people who provided input regarding their top five water uses, needs and values. Responses were plotted from people who live inside the geographic areas of the watershed, as well as many people who live within 100 kilometres of the

watershed boundaries and within 100 km of the watershed boundaries (determined using postal codes). A total of 2,710 responses were included in Figure 2. The 2,710 responses represent only the top 5 water uses, needs and values selected in each geographic area.

Table 1: Number of responses to the top five water uses and values survey question

Location of respondent	# of people who responded	# of responses
Near the watershed: <100 km	89	350
Upper Grand – north of Elmira	21	84
Centre – central watershed	120	497
Centre urban – Cambridge, Kitchener, Waterloo and Guelph	333	1391
Southern Grand (south of Brantford)	92	388
TOTAL	655	2,710

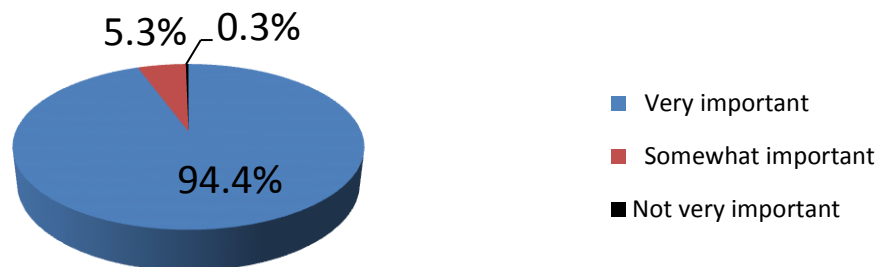
The watershed’s contribution to quality of life and the local economy

The survey asked:

“When thinking about the rivers in the watershed (Grand, Eramosa, Speed, Nith and Conestogo) and the creeks and streams that flow in them, to what degree do you think they are important to quality of life?”

Over 94% of respondents indicated that the rivers in the watershed (the Grand, Eramosa, Speed, Nith and Conestogo) and the creeks that flow into them are “very important” to their quality of life.

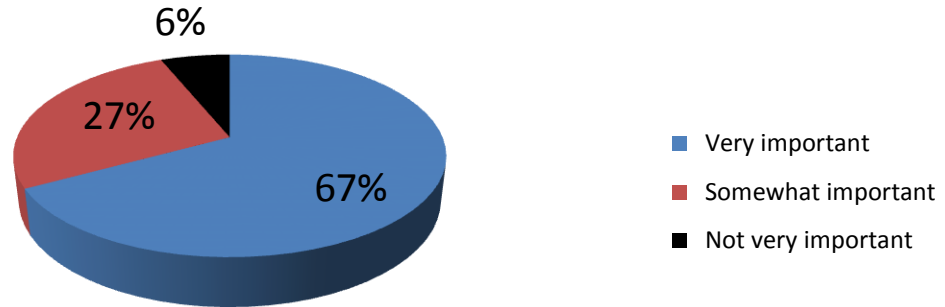
Figure 3: Importance of the watershed to quality of life (%)



Number of responses = 698

When asked to what degree the rivers and creeks are important to the local economy, 67% said they were “very important”, 27% said “somewhat important”, and 6% said “not very important”. Figure 4 shows the percent of importance based on the number of responses.

Figure 4: Opinion of the importance of the watershed to the local economy (%)

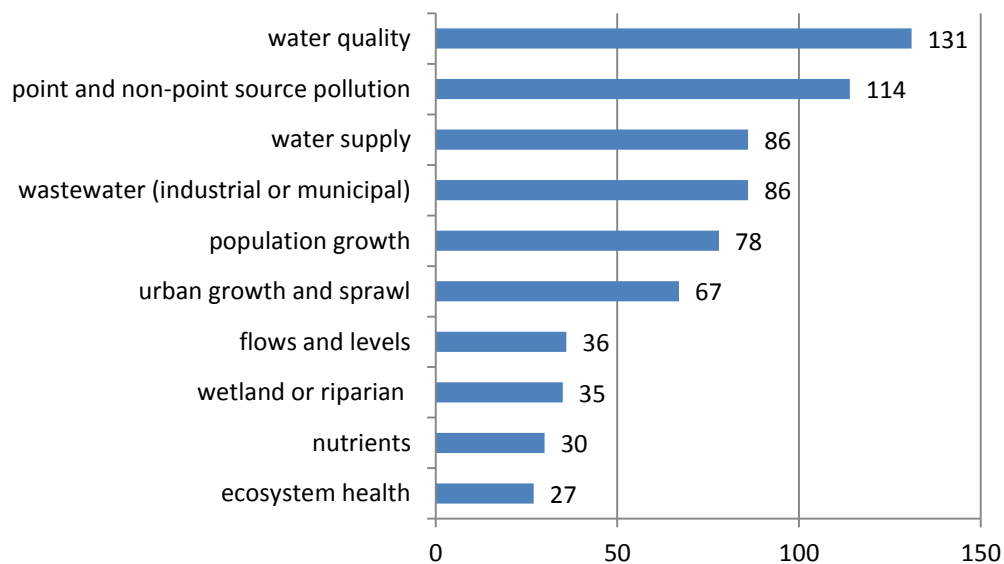


Number of responses = 698

Concern about water issues

Respondents were asked: “What is the most important issue facing the watershed?” Figure 5 shows that water quality topped the list. In addition, several of the top ten issues cited are also directly linked to water quality issues. Issues of growth and development and water supply/demand were also top concerns. Some people described more than one issue.

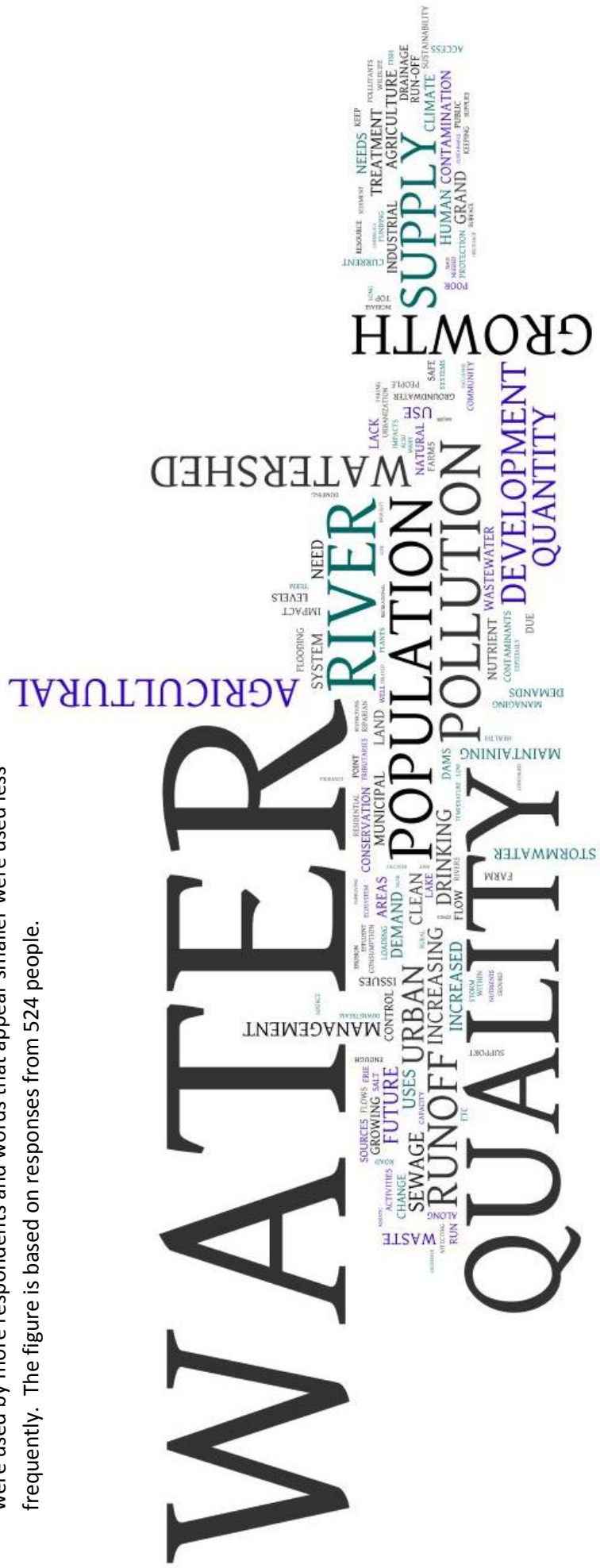
Figure 5: Top 10 important issues facing the watershed, by number of responses



Number of respondents = 524

Figure 6: Top 10 important issues facing the watershed, keywords by frequency of use

A “word cloud” is a visualization which shows the relative frequency of words used to describe the most important issue facing the watershed. Words that are in large type were used by more respondents and words that appear smaller were used less frequently. The figure is based on responses from 524 people.



2. Number of respondents: 524

An interest in the management of the Grand

Water management is a challenging and complex task. The update to the Grand River Water Management Plan is intended to reflect not only the current uses, needs and values of water but also the implications of population growth, climate change and land use modifications. In addition, the introduction of new water technologies, ecosystem science and collaborative management will also be considered. Another consideration is the connection between the river system and Lake Erie.

In 1982, the connections between the Grand River and Lake Erie were not considered in the Water Management Plan. Figure 7 shows that 95% of respondents believe that it is very important to consider Lake Erie in the management of the Grand River watershed.



The mouth of the Grand River at Port Maitland and Lake Erie

Figure 7: Percent responses to the question: “Do you think it's important to consider the connection to Lake Erie in the management of the Grand River watershed?”

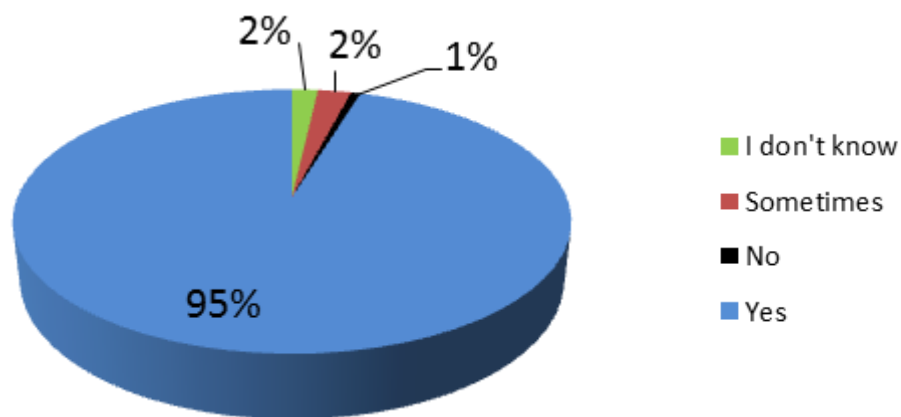


Figure 7: Number of responses = 615

Finally, the purpose of the survey was to get input and feedback on the list of water objectives identified in the first stage of the Water Management Plan process. The water objectives are broad statements that describe desired, specific watershed conditions that will contribute to the goals of the Watershed Plan over the long term.

Respondents were asked whether the objectives that relate to their five top water uses, needs and values were currently being met. They could respond by saying “yes” (I believe the objective is being met), “no” (I don’t think it’s being met), “I don’t know” or “this does not apply to me.”

A total of 617 people provided 5,424 responses to the question about whether the objective is being met. The total number of responses for each objective varied based on which water use, need or value they chose. Table 2 shows the breakdown of responses received.

Table 2: Total Number of Responses Relating to Objectives

Objective	# of Responses
Flows are sufficient to reasonably support paddling in the parts of the system where flows are augmented with water from reservoirs.	321
Groundwater used by private well owners meets or exceeds provincial drinking water quality standards, unless natural conditions related to the geology of the aquifer cause poor water quality.	483
Restrictions on swimming at public beaches areas are minimized.	170
Surface and groundwater used by municipalities as a raw supply of treated water is of adequate and predictable quality to produce safe drinking water using economically feasible treatment processes.	413
The capacity of the river system to accommodate treated wastewater is optimized without adverse impacts on the ecosystem or human uses.	267
The flow regime (i.e. the highs and lows of flows) support healthy river processes	400
The provision for drainage of productive agricultural land is optimized without adverse impacts on the ecosystem or human uses.	46
The provision for urban drainage is optimized without adverse impacts on the ecosystem or human uses.	266
The quantity of raw water for agricultural and commercial/industrial users is reliable and able to meet their current and future needs.	647
The rivers are aesthetically pleasing to support recreational, cultural and destination tourism uses.	518
The rivers are an amenity in the communities through which they pass.	675
Water quality and quantity needs of sport fish populations are met to optimize angling opportunities and community benefits.	220
Water quality does not promote excessive growth of aquatic vegetation or harmful algal blooms in rivers, streams and reservoirs.	196
Water quality supports the health and biodiversity of aquatic, riparian and wetland communities.	802
TOTAL	5,424

The analysis used the percent of the total responses for each objective and noted only those answers where there was a majority (50% or more) for any one response (yes/no/I don’t know/doesn’t relate to me). For half of the water objectives presented, the majority (50% or more) of the responses indicated that they felt the objectives was being met. For the remaining objectives, the responses were mixed and no choice received a clear majority of the responses.

Of those objectives that had mixed responses (no clear majority), there were four objectives that received more “no” responses than “yes” responses. These objectives related to themes of rural and urban sources of pollution, limiting the growth of harmful vegetation and algal blooms and addressing the river’s capacity to receive treated wastewater without harmful effects to the environment.

Table 3: Opinions on whether the water objectives are being met – List of objectives demonstrating a majority (v= majority believe that it’s being met)

- ✓ Flows are sufficient to reasonably support paddling in the parts of the system where flows are augmented with water from reservoirs.
- ✓ Groundwater used by private well owners meets or exceeds provincial drinking water quality standards, unless natural conditions related to the geology of the aquifer cause poor water quality.
- ✓ Restrictions on swimming at public beaches areas are minimized.
- ✓ Surface and groundwater used by municipalities as a raw supply of treated water is of adequate and predictable quality to produce safe drinking water using economically feasible treatment processes.
- ✓ The flow regime (i.e. the highs and lows of flows) support healthy river processes.
- ✓ The quantity of raw water for agricultural and commercial/industrial users is reliable and able to meet their current and future needs.
- ✓ The rivers are aesthetically pleasing to support recreational, cultural and destination tourism uses.
- ✓ The rivers are an amenity in the communities through which they pass.
- ✓ Water quality and quantity needs of sport fish populations are met to optimize angling opportunities and community benefits.
- ✓ Water quality supports the health and biodiversity of aquatic, riparian and wetland communities.

***The number of responses for each objective is located in Table 2.**

Conclusions and final remarks

People were invited to provide input on the water uses, needs and values and related broad objectives developed for the Grand River Water Management Plan. This initiative not only provided valuable insights for the next phase of planning but also help to improve overall public awareness of the plan. The survey was developed and invitations to participate were extended to a broad range of people and groups. Over 600 people completed the survey. Over 700 people answered at least one question and over 1,000 people viewed the survey home page. While the survey does not represent the broad range of public opinion, the results will be useful to the Water Management Plan partners.

Comments received suggest that the survey design could have been improved. Some people found the wording of the objectives overly technical and the question structure challenging. As well, some people felt the 'yes/no' options were overly polarized.

Of those who completed the survey, more than 50% said they had not been aware of the Grand River Water Management Plan before taking the survey.

Conclusions

Based on the comments received, a few key messages emerge:

1. The water uses, needs and values identified to date are generally considered inclusive.
2. Respondents believe that the river system makes a very important contribution to their quality of life.
3. There is strong recognition of the importance of the connections between the Grand River system and Lake Erie and the need to keep in mind upstream-downstream considerations and lake impacts when making water management decisions.
4. In general, people who responded to the survey have confidence that many water management objectives are currently being met. However, the impacts of declining water quality and the lack of security for future water supplies were raised as issues that need to be addressed in the future.