

Title A Needs Assessment for the Bonnechere River Watershed Project Website.

Key Words Bonnechere River, public consultation, web-design, needs assessment, Social Analysis Systems, data/information needs

Author and Acknowledgement Daniel Buckles. The author would like to acknowledge Kate McLaren who helped with facilitation of the workshop, Matt Street who took extensive notes and Justin Wonnacott who photographed the event. Greg Almond and members of the BRWP Board helped clarify the key questions for the consultation.

Context The Bonnechere River Watershed Project (BRWP) is developing a website to support environmental education and community engagement in planning and management of the watershed (www.bonnecheriver.ca). A community workshop is needed to assess the information needs of potential users of the website and to provide guidance to its further development and long term vision.

The BRWP is an incorporated, not-for-profit organization established in 1998. All projects are completed in partnership with community groups and organizations and focus on the sustainability of the natural environment and empowering the community to become stewards of the Bonnechere River watershed. The website project is being undertaken by volunteers and consultants hired with resources from the Trillium Foundation.

Purpose To identify the information needs of potential users of a website that supports environmental education and community engagement in planning and management of the Bonnechere River watershed.



Process Summary



A one-day workshop was held in Renfrew from 10 am to 3:30 pm, with breaks and lunch served on site. Some 16 people participated, in response to a public invitation targeting stakeholder groups identified by the BRWP. About two thirds of the participants were men, mainly in their 50s. Only one youth and a few young adults were present. One of the participants was deaf.

After a presentation by the BRWP about the context and the reasons for the workshop, participants were invited to view a large floor map of the river running down the middle of the room and to identify a place on the river or in the watershed that was especially meaningful or important to them. They then introduced themselves from this place and explained the reasons they identified with it. A name for the site was placed on the map, and in some cases a small drawing or model figure representing some aspect of the location. Then participants identified things they would like to know or see monitored to ensure their continued enjoyment of the place, using one sticky-note per information item. This generated a list of information items posted to a wall and sorted by participants into columns of similar types of information. The columns were reviewed by participants and titles for each column created. A list of 6 possible purposes for which information can be used initially drafted by the BRWP was discussed by participants, who confirmed that the list was relevant. Participants then formed three mixed groups and rated each type of information on the extent to which it is useful for a particular purpose, using a scale of 1 to 5.



The results of the rating exercise were entered into RepGrid software and discussed. A Wheel diagram representing 5 spaces on a hypothetical web-site was created where each spoke represented a particular purpose for which information can be used. Each person rated each spoke on a scale of 0 to 10 taking into account the frequency at which they would consult the space on the web site and the importance to them of the topic. Groups with similar interests were then formed by comparing Wheels. Each group came up with an animal or bird mascot representing their profile as a group and formulated recommendations the BRWP regarding ways to make the website useful to people with similar interests. The workshop concluded with a brief statement of next steps by the BRWP and one word evaluation of the day.

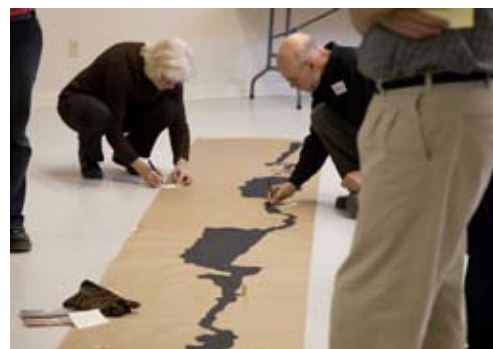
Analysis

Places of importance to participants were identified from the mouth of the river up to areas in the Bonnechere Provincial Park. The stories of these places and the reasons they are important to participants grounded the identification of questions people have relevant to ongoing enjoyment or protection of these places (see Stories, below). Table 1 is a list of the example questions provided, sorted by the participants into categories of information types.

Information Types

Questions related to water quality and water quantity were clearly of importance to participants, accounting for the two most frequently mentioned categories of example questions. Concerns about pollution were frequently mentioned, as were the impacts of changing water levels on shoreline habitat.

Questions related to access points were also frequently mentioned. During the discussion a distinction was made between formal access points and points where people have traditionally accessed the river. Greater clarity on these was called for, recognizing as well possible tensions between public and private access points.



<i>Information Type</i>	<i>Example Questions</i>	<i>Frequency mentioned</i>
Water Quality	Nutrient levels in water	11
	Water temperatures	
	Water clarity	
	Pollution levels	
	Water Potability	
	Water quality readings at numerous locations	
	Points where water quality is poor	
	Status of septic systems on lakes	
	Water bacterial levels safe for swimming	
	Number and location of municipal drains into river	
	Procedures for monitoring municipal drains and feeders	
Water Quantity	Water flow rates at numerous points	7
	Seasonal/daily water levels	
	Ice break-up dates	
	Ice safety measures	
	Water levels on canoe routes	
	Water inputs (rain and snow amounts and total water volume)	
	Lake hydrological cycles	
Access Points	Picnic site locations	7
	Public access points for the river	
	Canoe launch sites between Eganville and Renfrew	
	Canoe/kayak put-in and take out locations on river	
	Access points for canoe routes	
	Location of accommodation, food and washrooms	
	Places for hiking, snowshoeing and mountain biking	
Governance	Who has authority for what and how to contact them	7
	Profile of politicians	
	News on proposed ban on 2 stroke engines	
	Relationship between elected officials and government authorities	
	Reporting procedures for toxic spills	
	Future directions for land use regulations	
	General planning, implementation and enforcement processes	
	Leadership and interest in lake management plans	
Points of Interest	Historical/pre-colonial points of interest	5
	Archaeological sites (pre-European and European settlers)	
	Points of interest along canoe routes	
	Historical points along the river (eg. Mill in Douglas)	
	Ecological points of interests	

<i>Information Type</i>	<i>Example Questions</i>	<i>Frequency mentioned</i>
Land Use/Cover	Location and extent of buffer zones that prevent run-off	5
	Trails and potential trail development	
	Changes in land use/cover over time	
	Areas and km of river edge without buffer zones	
Wildlife	Changes in land use over time	
	Fish health/populations	5
	State of the shoreline	
	Fauna species and populations	
Hydro Activities	Flora species and populations	
	Changes in flora/fauna species/populations over time	
	Review of efforts to reduce the intensity of hydro use	3
	Accountability of Hydro for damage to the shoreline	
Demographics	Cost/benefit analysis of the first chute damn project	
	Trends in numbers of people using the river and lakes between May 1 and November 1	3
	Number of people using campgrounds and trailer parks, and duration of stays	
Geography	Resident population (in towns and homes) and their distribution along the river.	
	Topographical features	3
	Climatic features	
Actual and proposed business	Soil features	
	Quarry development plans	2
	Plans for dumps	2





Purposes of Information



The need for more information on the roles and responsibilities of government authorities responsible for the watershed was mentioned frequently. Governance is a possible general heading for information of this nature, provided by the author. Discussion around governance referred to the need to let people know how to get involved and how to influence decisions made at various levels. Participants noted that people are looking for ways to have influence in decision making and that they often end up in conflict with authorities that have a particular responsibility to the public. Information on who is responsible for what would help manage these tensions. It was also noted by participants that knowing what officials are responsible for what is important for planning and scheduling activities.

Other categories of information mentioned by participants were points of interest, land use/land cover, wildlife, the activities of hydro companies, demographic information, information on the physical geography of the watershed and both proposed and actual business activities with potential impacts on the health of the watershed.

Information on the activities of hydro companies received considerable attention throughout the workshop, with people arguing that public input into hydro plans is critical to change. Participants noted that the hydro website already provides information on activities, but some questioned the reliability and potential bias of this information. The issue remained unresolved as people debated who is the best source of information on hydro activities, and whether or not the BRWP web should simply link to the hydro site. There was agreement, however, that the website should provide youth-oriented information on the role of hydro (supplier of power and control of the river)

Information types were further categorized by discussing different purposes for which information on the watershed can be used by people. These reflect the different interests or roles of stakeholders in the watershed. The 6 six purposes provided for discussion by BRWP were:

- 1) for land- and water-use planning (for re-zoning, for cutting permits, for letting water out of dams);
- 2) for protecting or restoring the watershed (tree planting, beaver baffles, turtle platforms);
- 3) for recreation (swimming, boating, walking);
- 4) for economic activities or earning a livelihood (farming, trapping, tourism services, municipal supply of drinking water);

- 3) for recreation (swimming, boating, walking);
- 4) for economic activities or earning a livelihood (farming, trapping, tourism services, municipal supply of drinking water);
- 5) for cultural activities (gathering herbs for food or medicine, hunting, fishing, trapping);
- 6) for education (classroom outings, historical tours, teaching youth).

Participants rated the extent to which particular types of information are useful for each purpose, on a scale of 1 for less useful to 5 for more useful. Table 2 presents the results of this rating exercise. Totals at the bottom show how particular types of information were rated compared to others. The higher the total is the more widely useful the information type. Information on water quality, water quantity and wildlife had the highest total ratings, suggesting that these types of information are useful for many different purposes. Few low scores were given for any relationship between purpose and information type, however, suggesting that participants view all the listed types of information as relatively useful for different purposes.



In the case of land- and water-use planning participants gave the maximum score to all information types. Participants noted that all of the types of information listed are essential to land and water use planning, reflecting their view that it is a very information intensive activity.

The overall pattern and features of useful information types are shown in Figures 1 and 2 (land and water-use planning is left out of this analysis because it is a constant). The analysis of relationships suggests that Educational, Cultural and Recreational activities share common interests in information related to Points of Interest, Physical Features, Access, Land Cover, Wildlife and Water Quality. By contrast, Economic and Livelihood Activities have an interest in information related to Governance, Business activities, and Hydro activities. Between these two profiles lie Protecting/Restoring activities, which share an interest in all of the information associated with both groups. Water quantity information is useful for all purposes while information on Demographic Features and Trends is of less use for the particular purposes examined through the exercise.



Table 2: Rating of the usefulness of information types.

LAND/WATER-USE PLANNING	5	5	5	5	5	5	5	5	5	5	5
EDUCATION	3	5	5	4	5	4	5	4	4	3	5
RECREATION	5	5	5	5	5	1	3	4	4	1	5
PROTECTING	5	5	5	2	3	5	5	4	5	3	5
CULTURAL	4	3	5	3	5	4	4	4	4	3	3
ECONOMIC/LIVELIHOOD	5	4	3	3	2	5	2	5	4	4	2
	27	27	28	22	25	24	24	26	26	19	25

Physical features
 Demographics
 Hydro activities
 Business projects
 Land cover
 Governance
 Points of interest
 Access
 Wildlife
 Water quality
 Water quantity

Figure 1: Associations between information types and uses of information (cluster analysis).

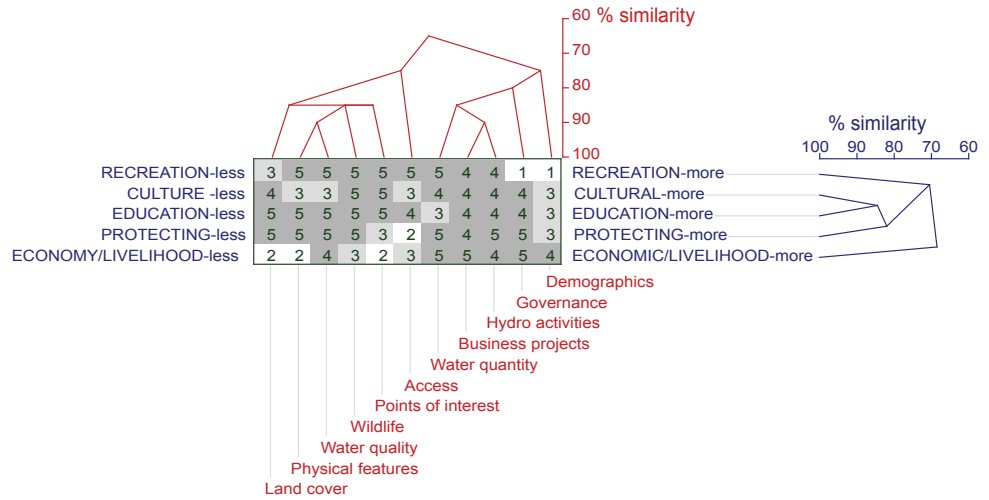
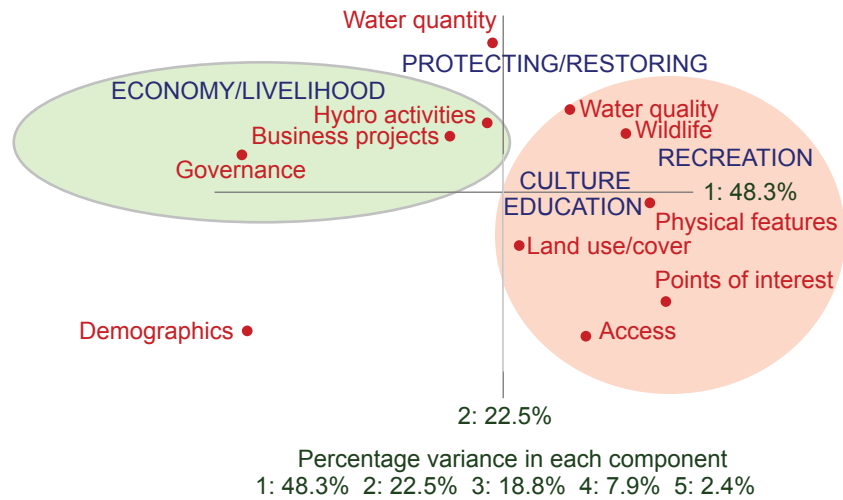


Figure 2: Associations between information types and uses of information (principal component analysis).



Potential Webspaces



The five purposes or uses of information that emerged from the analysis above were used to describe potential spaces or focal points for information on the website. Participants individually rated the importance of these spaces on a scale of 0 to 10, taking into account the frequency with which they would consult the space on a website and the value or importance to them individually of the information it might contain. Participants then formed and named groups with similar interest profiles. During the exercise, 7 groups emerged:

Group Name: Loon

Profile: Recreation interests strong, with a secondary interest in Education and Culture.

The Loon is highly regarded as a symbol of nature and recreation. The sound of the loon evokes nature.

Group Name: Beaver (mkhones, an Algonquin word)

Profile: User of the site is very interested in Cultural activities, with a secondary interest in education and economic/livelihood uses of the webspace.

Beavers are industrious, creating ponds that may be the start of lakes and creating habitat for other wildlife (fish, etc). They are social animals that educate their young. They were significant to the economy of the First Nations.

Group Name: Busy beaver

Profile: Recreation and Protecting, with a secondary focus on Education.

The Beaver is social and likes to have fun. It is also industrious, they plan carefully and affect the watershed in various ways.

Group Name: Goshawk

Profile: Protecting/Restoring and Education, with a secondary interest in use of the website for Recreational activities. Interest in keeping informed about the economic/livelihood interests of people.

The Goss Hawk has a keen eye and sees things at a landscape scale. It is rare, beautiful and an efficient predator, reflecting the champion and advocacy interests of the group.

Group Name: Owl

Profile: Education and Protect/Restore are high interest areas for this group, with secondary interest in Recreation.



The owl is a predator and very dependent on a healthy and balanced habitat where it feeds. Hence the need to protect and restore habitat. It is a wise animal, so a good symbol for Education as well.

Group Name: Silver Wolf

Profile: Protect/Restore and Educate, with no secondary interests indicated.

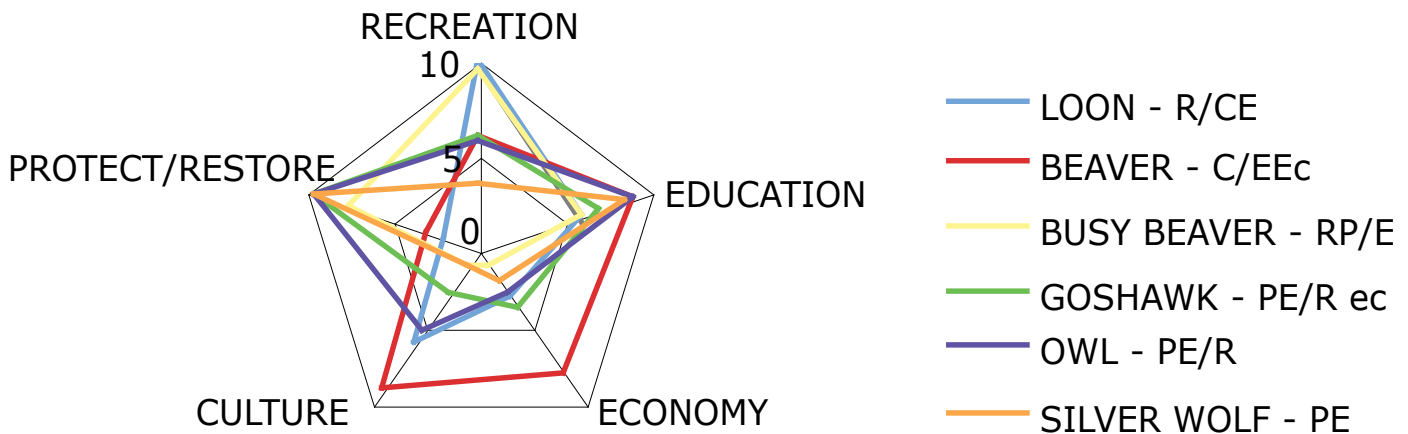
Group Name: Blue Jay

Profile: All purposes received a high rating. This is a generalists' profile.

The Blue Jay is a very widespread bird species in Canada, found in many different ecosystems.

Figure 3 shows the ratings for each user profile, except the Blue Jay group which is a pattern reflecting a generalists approach to information and webspace.

Figure 3: Web user profiles, in relation to interests in different web-spaces.



Interpretation

The information needs and interests of participants are wide-ranging, comprehensive and loosely structured. This may reflect the current absence of a single, pressing issue or task facing the watershed. The watershed is still relatively healthy and intact, and while hydro and other projects, pollution and other threats to the watershed are concerns they do not appear to be urgent. In this context, no single interest and corresponding information need is dominant.

Against this general background, some information needs have a higher profile. The most frequently mentioned questions or information gaps were water quality and quantity measures, access points and information on governance of the watershed. Their importance and relevance to the interests of stakeholders with different profiles is supported by the participant's analysis of the extent to which these information types are useful to various purposes and the profiles of particular user groups (except

for Information on Governance, which is less useful to user groups for whom Recreation is very important). These priorities may reflect the strong dependence of the river on the regulation and governance of water flows, concerns about persistent, low-level pollution and uncertainty regarding the balance of public and private access to the river edge.

Web user profiles are also diverse and loosely structured. Of the seven profiles formed during the exercise all combined several strong interests. As noted above, this may reflect the absence of a dominant and urgent issue or task facing the watershed. It suggests as well that design of the website should consider ways of creating spaces that can reflect various combinations of interests. A “face-book” mode where users can create an interface that combines things of interest to them would seem to be an option for handling the diversity and loosely structured interests of users.

Against this general background, five profiles seem to capture the core interests and character of potential users of the website (at least those reflected in the perspectives of workshop participants). Web spaces with the associated information might draw and engage the following groups in the website:

- Protectors and Educators (Silver Wolf)
- Activist Educators (Goshawk and Owl)
- Passionate Recreationalists (Busy Beaver)
- Contemplative Recreationalists (Loon)
- Teachers of the Spirit (Beaver)

These profiles may reflect age and knowledge related considerations. The majority of workshop participants are over 50 years of age, and most have played active roles in the BRWP in the past. Their knowledge of the potential problems the river could face in the future is considerable and may drive their interests despite the current low level of immediate threat.



Recommendations

Recommendations from participants regarding the proposed website referred to both content and design considerations. The recommendations coming from each user profile are as follows:

Group Name: Loon

Recommendations: Include scenic attractions, outdoor activities and special features of the area (flora and fauna). Use good graphics, user friendly links, informative but not busy, activities by categories, informative links.

Group Name: Beaver (mkhones, an Algonquin word)

Recommendations: Create a solid preamble to the site on the history (pre-European and settlers) and how the resources of the area were used in the past. Include provocative or interesting stories about the river.

Group Name: Busy beaver

Recommendations Use maps and make it visual for visitors. Make it easy for them to access information on what to do in the watershed. Include information on points of interest, access points, events, happenings. Include ability for users to post information on events aimed at restoring the watershed, and list ways that people can participate in and interact with the event. Channel inputs to people that are doing things, so that suggestions and comments go somewhere.

Group Name: Goss Hawk

Recommendations: Focus on wildlife information, with a secondary interest in water quality and quantity because of the large role that hydro plays on the river and in the watershed. Create a discussion forum, a place where people that want to get involved can connect with each other and discuss topics. Create a space where they can work together on strategies to make the powers that be listen.

Group Name: Owl

Recommendations: Get feed back on the site from schools, and determine what school need and want to offer. Use maps on the site, including showing how to get to a place and what it might cost to get there. Provide a space for people to contribute to collecting baseline monitoring data. Involve people in the management and mapping of citizen views.

Group Name: Silver Wolf

Recommendations: Focus on compiling data. We are data junkies, and want to have data available to be used and downloaded. Determine how much data can be gathered with a given budget, and stay within the



the budget. Make sure the site is designed to get additional funding for more data collection. Recommend against over emphasizing discussion forums as little actually happens on these. Streams of communication don't continue. Do something soon to get people involved.

Group Name: Blue Jay



Recommendations: Make sure that the website meets the needs of generalists, not just specific interest groups. That way lots of people can engage with it. The new websites is not “ours” but rather belongs to all citizens.

Recommendations coming from **non-stakeholder participants**, including the author, are:

- Use mapping technology whenever possible to present information in a visual way that can also be easily associated to particular places or ecosystems along the course of the river and watershed.
- Make the maps easy to print.
- Create an interface that allows users to customize their window on the Bonnechere River to reflect their interests.
- Provide content and structure to the website that is action oriented and supports activities of interest to people. “Causes” that reflect the user profiles identified through the workshop are good candidates:

1. **Protect** the watershed (with various sub-categories such as water quality and shoreline habitat).
2. **Learn** about the Bonnechere (with a focus on educational materials on a range of topics, including culture)
3. **Enjoy** the river and surrounding area in a sustainable way (with a focus on responsible recreation)
4. **Manage** the river and watershed (with a focus on hydro, economic opportunities and concerns and governance structures).
 - A simpler version of Goodtree.com is a “face-book” style model worth considering. It can be customized by interests (causes) and encourages networking, sharing data and information and joint action.
 - If a face-book style approach is adopted, limit and guide the number and nature of candidate “causes” to choose from. This will keep a more “serious” tone to the sight while retaining customizable features.
 - A significant and important addition to the Goodtree.com model would be the use of mapping technology such as Google Maps.
 - The interests of youth are not clear from the workshop, and merit further consideration. Creating a “youth section” might further divide the youth from other parts of the community, so should only be considered if it is clear that youth will not make use of a generic set of tools they can customize to their interests and networks.

Stories



A large floor map of the river runs down the middle of the room. There are a few landmarks on the map to help you get your bearings. Find a place on the map that is especially meaningful or important to you, that you strongly identify with. Stand next to that place and introduce yourself from there. Tell the story of the place you have identified. Explain the reasons you identify with this place, name the place with a few words on a sticky note, and place it on the map. If you feel inspired, make a drawing directly on the map while you are listening to others.

[Notes were taken as people spoke, resulting in the following renditions of their stories from these places.]

The **First Chute** on the river, near where the Bonnechere empties into the Ottawa River. It has a great waterfall that will soon be damned up. I've enjoyed it and been going there since I was a kid, and it don't want to see it ruined.



Butlers Bridge is a place I work with youth to learn about the environment and trapping. I emphasize the importance of protecting the shoreline of the Bonnechere River from erosion and leaking from agriculture. There is a need for more buffers along the shoreline to stop pollution and to provide a corridor for wildlife.

The **Tramore Dam** (last dam in the river) has a park and campground where I started a canoeing trip 5 years ago with my brothers. We played croquet there and at various other points along the river.

A section of the river above **Bonnechere Provincial Park** is a place I can canoe up into the middle of nature where there is wildlife.



Douglas Beach. I'm concerned about cottage development, and the loss of the spiritual nature of the area.

Douglas Beach. I live on a farm on the Bonnechere river. I row and ski on the river, so am familiar with the shoreline. I've noticed the rise and fall of water levels erode the shore and kill fish. I'm looking for answers on how to make the river better.

Lake Clear. I live there. I have concerns about environmental and ecological impacts in the lake. I also own property on Victoria Lake. These are the last few rivers we can do something with.

Lake Clear. While visiting Renfrew on a day-trip I bought property on the lake. I plan to retire there, expanding the cottage into a full time residence. I'm concerned about the water quality and development of the shoreline.

Lake Clear. I have an interest in aesthetics and painting. The place is a joy because it is civilized but also isolated. I appreciate the ecological integrity of the area. The Lake Trout there are a barometer of the health of the system. Getting the township to work within the official plan for development of the area is important to me. I use the entire river to teach how to canoe, going through the different aspects why it is a good piece of river to canoe.

The bridge at Golden Lake and near the First Nations area was my first experience working here, not long ago. I remember waiting there while they fixed the bridge.

Exploring the river between **Eganville and Douglas.**

Family farm. I've lived on the river all my life and farmed along the river. People who stay at our farm swim at the beach.

Colton Lake. I live between the lake and river. I'm a Bee keeper and have a cottage on Colton Lake. I've covered the river many times and been involved with a number of groups. Snorkel on the river is something I like to do.

The town of Renfrew. We take our drinking water from the Bonnechere River. We have to make that actions on the river don't cause harm to people that depend on the water.

Admaston Flats. I've been doing a bird survey there for 20 years. I'm interested in looking at what has been happening with birds in the watershed and how agriculture has influenced the birds. I also have a cottage on the Ottawa near the mouth of the Bonnerchere so am concerned about the quality of the water.

Pikwakanagan First Nations reservation, at Golden Lake. I grew up near the area, leaving when I was 17 years old. I returned 9 years ago and am now on the Pikwakanagan council and on the council of the ANR. I also serve on a water committee to identify the water sources that need protection.



**Process
Observations**

Considering the narrow focus of the workshop, it was well attended. The main gap was the absence of more youth and young adults. Representation from the tourism industry in the area would also have been helpful to discussion of economic/livelihood uses of the website. Some perspective from hydro or members of the hydro council may also have shed light on the value of sourcing information on hydro activities.

Participants expressed general satisfaction with the day, reflected in the one word summaries given by each participant. People said they felt encouraged, affirmed, recognized the commonality of interests, included, hopeful, happy, enlightened, grateful, optimistic, engaged, thankful, and impressed. Some also noted concerns, including feeling overwhelmed by the task ahead, disappointed that more attention wasn't given to creating baseline data, and challenged.

