

Shelburne Canadian Heritage River Monitoring Report

2008–2018



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Shelburne Canadian Heritage River Monitoring Report 2008-2018
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Executive Summary

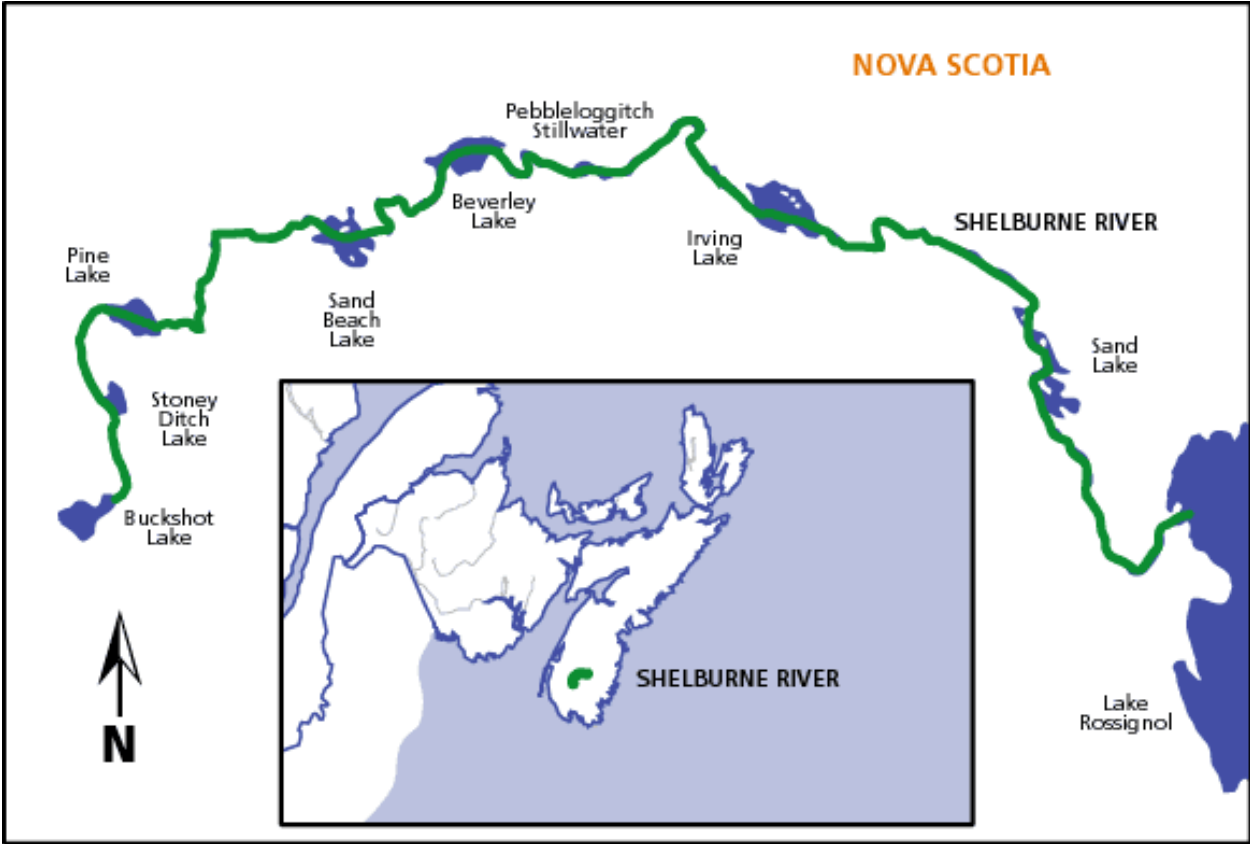
The Shelburne River, Nova Scotia's most remote river, is a wild and highly scenic river corridor that is rich in natural beauty. Part of a traditional Mi'kmaq travel route, this historic canoeing destination was made famous in the 1908 book, *The Tent Dwellers* by Albert Bigelow Paine. Opportunities for nature appreciation and adventure are plentiful for seasoned paddlers who follow this route and are prepared to be challenged by this remote, 53-kilometre river.

The Shelburne River was designated as a Canadian Heritage River in 1997. This 20-year monitoring report lists activities, events and research that occurred on the Shelburne River since the last published report from 2008. It describes the current condition of the river's natural heritage values, cultural heritage values, recreational heritage values, and integrity values, and notes any changes to those values. The actions identified in the management plan for the river are reviewed and their achievement is assessed. Benefits of designation are also described.

Although the Shelburne is a remote wilderness river, significant events have occurred in the area since the last published report. In particular, the Shelburne River Wilderness Area was designated in 2009. The area was then expanded in 2015 to its current size to encompass the lower half of the river. Now the entire watershed is protected by this wilderness area, Tobeatic Wilderness Area, and Kejimikujik National Park and Historic Site. With this protection, we can count on the preservation of rare species, unique natural features, and opportunities for wilderness recreation for future generations.

Built in the 1920s, the historic Cofan Cabin was one of the few original warden cabins remaining in the area. In 2015, it was rehabilitated through the combined effort of volunteers from Mersey Tobeatic Research Institute and the provincial government, restoring it as a place of refuge and enjoyment for paddlers and researchers alike.

Through the examination of the Shelburne River’s natural, cultural and recreational heritage values, it was determined that only a few changes have occurred in and around the river since 2008, many of them minor. The most successful was the expansion of the Shelburne River Wilderness Area, an area with some of Nova Scotia’s last remaining old growth forest. This report concludes that many natural, cultural and recreational heritage values have remained intact and the Shelburne River is worthy of continued designation as a river of national significance within the Canadian Heritage River System.



1.0 Introduction

From the wild headwaters at Buckshot Lake to the outflow at Lake Rossignol, the Shelburne River connects the major waterways of southwestern Nova Scotia in a series of rapids, still waters, lakes and streams. Nova Scotia's most remote wilderness river, it flows 53 km from the granite barrens and patchy old forest in its upper reaches, through quartzite plains with gently rising eskers, and through outwash plains supporting old growth pine and hemlock forests in the lower watershed. Aside from wild, unspoiled beauty, there are also outstanding wilderness recreation experiences on the Shelburne River. These include canoeing, camping, and hiking opportunities. After years of study, the Shelburne River was designated as a Canadian Heritage River in 1997.

The Canadian Heritage River System is Canada's program that promotes freshwater heritage conservation and recognizes Canada's outstanding rivers based on heritage and recreation values. The program is a cooperative effort of federal and provincial/territorial governments which works to ensure long-term management and conservation of Canada's river heritage. The program requires monitoring, annual reports, and reviews every 10 years to ensure that Heritage Rivers maintain the values for which they were nominated.

The objectives of this report are to:

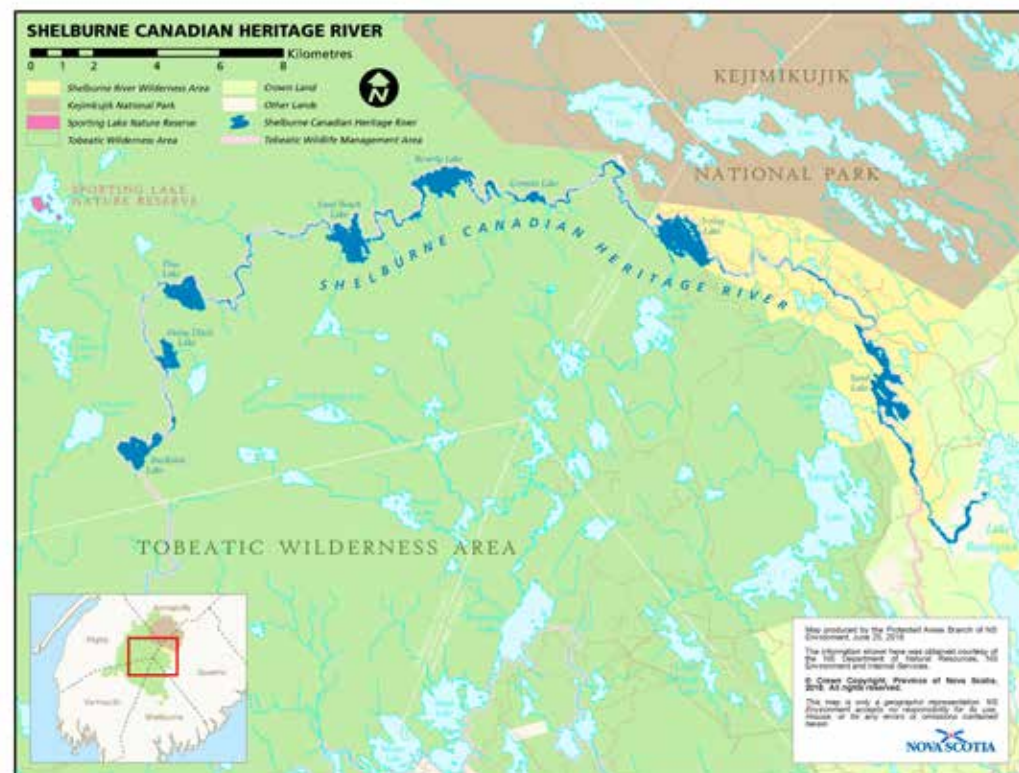
- Describe any significant events, research actions, and changes since the last published report.
- Review the natural, cultural and recreational values for which the river was nominated, identify any changes or threats to these values, and determine if the river continues to possess them.
- Review the integrity values of the river, identify any changes to these values, and determine if the river continues to possess them.
- Review the management plan actions for the Shelburne River and assess their completion.
- Identify actions and benefits that have arisen because of designation.

2.0 Background

The Shelburne River flows north to Pine Lake and then east to Lake Rossignol in the central area of Southwestern Nova Scotia, south of Kejimikujik National Park and Historic Site. The river starts at Buckshot Lake and flows 53 km along a series of seven lakes to Lake Rossignol. The heritage river corridor is limited to the width of the waterway.

In 1986, the province of Nova Scotia reviewed 45 rivers and conducted detailed studies on the seven highest rated rivers. In 1988, a study of the Shelburne River was completed and a year later work began to nominate the river for designation. In January 1993, the nomination was accepted. The Shelburne Canadian Heritage River Management Plan was submitted in 1996 and the river was designated in 1997.

The designation work was done by the Department of Natural Resources (now the Department of Lands and Forestry). In 1998, Nova Scotia Environment assumed the lead responsibility for the Canadian Heritage Rivers System program in Nova Scotia. The Department of Lands and Forestry continues to be a key partner in program delivery. Many of the objectives laid out in the management plan were implemented jointly, or with several partners.



3.0 Methodology

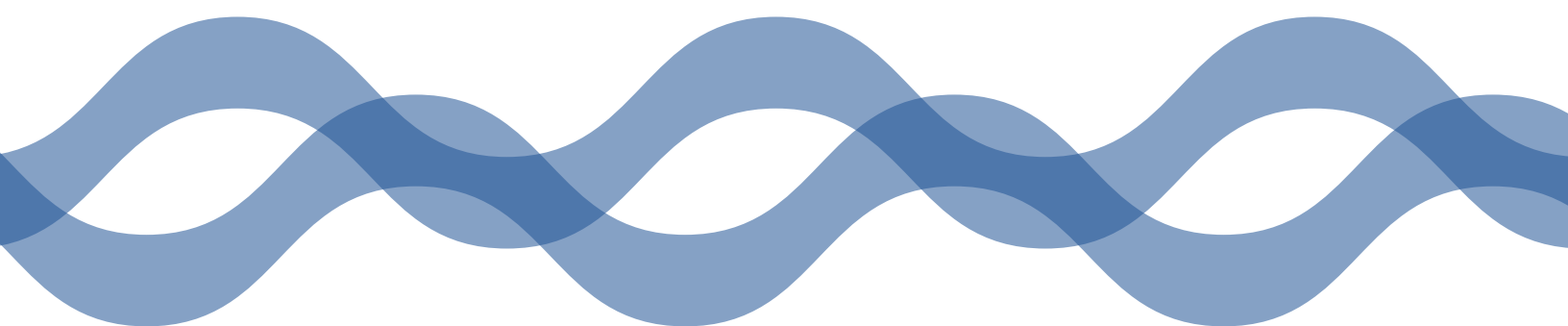
The main approaches used to gain information about the state of the river and progress that has been made are:

- (i) Reviews of Canadian Heritage River System guidelines and field reports from key stakeholders
- (ii) Secondary sources research
- (iii) Contact with key individuals

Contacting key individuals provided important information on changes, research, and activities that have taken place on and around the river since its designation. Discussions took place among staff from Nova Scotia Environment, the Department of Lands and Forestry, and key stakeholders.

New Canadian Heritage River System frameworks have been developed since the Shelburne River System was nominated. This report converts identified values to coincide with current national frameworks.

The condition of heritage values since designation was discussed along with relevant projects or partnership strategy actions. The conditions of integrity guidelines were also examined to determine whether the river was still worthy of designation as a river of national significance within the Canadian Heritage River System.



4.0 Chronology of Events

Table 1: Chronology of Events since Designation

Year	Significant Events, Actions, Research or Studies since 2008
2008	Avid paddlers of the Shelburne River joined together for the 100-year anniversary of the book <i>The Tent Dwellers</i> by Albert Bigelow Paine, retracing the historic canoe route used by Paine and his fellow outdoorsman in the book.
2009	The lower half of the Shelburne River was designated as a protected wilderness area with 2,268 hectares of land.
2014–15	Partnership between Mersey Tobeatic Research Institute and the Province of Nova Scotia led to the restoration of the historic Cofan Cabin located near Sand Beach Lake.
2015	Expansion of the Shelburne River Wilderness Area led to its current size of 3,445 hectares.
2017	Canadian Heritage Rivers System, Nova Scotia Environment, and Mersey Tobeatic Research Institute participated in Canada 150 celebrations on the Shelburne River. They provided public presentations in local communities about backcountry travelling and hosted a paddling event on the river.
2018	Nova Scotia Environment and Canadian Heritage River System began work to create an online story map to showcase natural, cultural and recreational features along the Shelburne River.

5.0 Natural Heritage Values

5.1 Background

The designation of the Shelburne River was based on the following key natural heritage features:

- Outstanding examples of undisturbed glacial landforms, such as eskers and outwash plains, and granite barrens
- High quality pine and hemlock stands, including the Shelburne International Biological Program Site which contains some of the most mature old growth trees in Nova Scotia. The program was an effort to conduct ecological and environmental studies.

The Shelburne River was noted for its outstanding wilderness canoeing opportunities, including the most remote wilderness tripping opportunity in Nova Scotia. It offers a variety of canoeing experiences and connects to other major routes as well as Kejimikujik National Park and Historic Site.

The Canadian Heritage Rivers System is currently using the Framework for the Natural Values of Canadian Heritage of Canadian Heritage River 2nd edition (2001). It differs from the original framework that was in use at the time of the Shelburne River's designation in 1997. The values for which the Shelburne River was nominated are summarized in Table 2 according to the 2001 framework. This table also outlines any significant actions over the last ten years, and any changes to nomination values.



5.2 Condition of Natural Values Since Designation

Water quality monitoring began on the Shelburne River in 2000 when a new hydrometric sampling station was installed. The river is now part of Nova Scotia's Automated Water Quality Monitoring with water quality data being available on the Nova Scotia Environment website.

These efforts combined with years of research at the Mersey Tobeatic Research Institute and other academic institutions have improved water quality data about the river, as well as watershed ecosystems and significant species. Work conducted through the institute and the Southwest Nova Biosphere Reserve increased capacity for research, monitoring and educational efforts and has augmented opportunities for community involvement and leadership. The Southwest Nova Biosphere Reserve was designated as a UNESCO Biosphere Reserve in 2001 and seeks to balance the conservation of nature and cultural heritage with sustainable resource development to support prosperous local economies and healthy communities.

The Shelburne River corridor proves to be an important area for old growth forest, and since 2015 Mersey Tobeatic Research Institute has been working to identify what remains of old growth in south-west Nova Scotia. Pollards Falls has been long recognized as one of the foremost old-growth eastern hemlock stands in this part of Nova Scotia and includes other stands such as red spruce and white pine. With Pollards Falls in the lower half of the Shelburne River system, it remains one of the most important old growth stands in Nova Scotia.

However, researchers from Nova Scotia Environment, Parks Canada, and the Mersey Tobeatic Research Institute have a growing concern with the spread of hemlock woolly adelgid, an invasive species known to kill hemlock tree stands. The aphid-like insect attacks and kills hemlock trees. Its egg sacs, which look like small clumps of cotton, are usually found at the base of the needles. The insect can be spread by animals, wind, human contact or through logs and other wood products. Although hemlock woolly adelgid has not had any significant impacts on the old growth stands along the Shelburne River corridor yet, researchers have located it nearby and will continue to monitor for its presence.

The collaborative work of the Mersey Tobeatic Research Institute, Southwest Nova Biosphere Reserve, Nova Scotia Environment, Parks Canada, and the Department of Lands and Forestry, along with the designation of the Shelburne River Wilderness Area, will lead to improved protection of species within the watershed and heightened appreciation of heritage values.

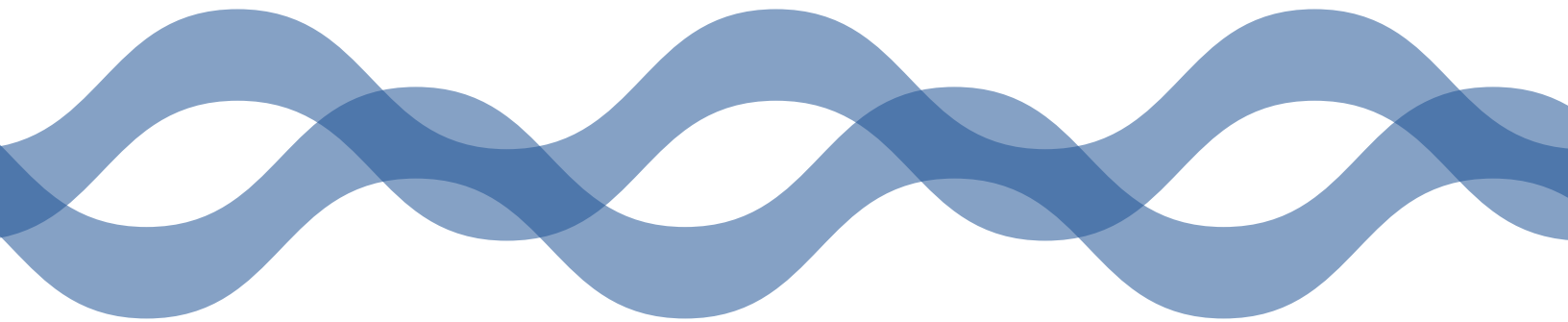


Table 2: Natural Heritage Values Since Designation

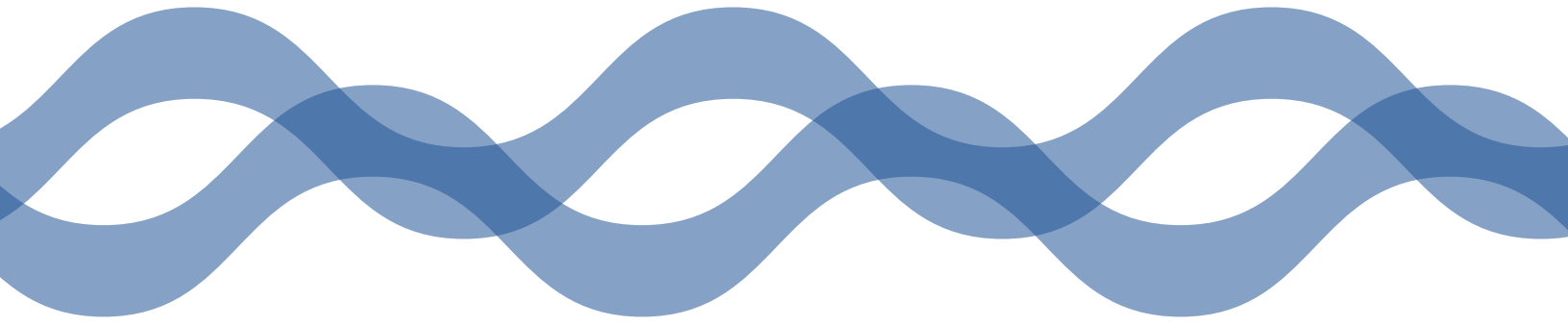
Canadian Heritage River System Natural Framework (2001) Themes and Sub-themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1 HYDROLOGY			
1.1 Drainage basins	Atlantic Ocean Basin Stream number 2 (the river is a tributary of the Mersey River through Lake Rossignol).		None
1.2 Seasonal variation	Period of highest flow is April. Period of lowest flow is May to September.		None
1.3 Water content	Average pH of 4.29 between 2007 and 2017. Average temperature of 11.29°C between 2007 and 2017.	Continued water monitoring through Nova Scotia Environment Surface Water Quality Monitoring Network Data.	None
1.4 River size	Flow volume at lowest points of nomination – small river or <85 m ³ /sec. Length is 85 km.		None
2 PHYSIOGRAPHY			
2.1 Physiographic regions	Appalachian Acadian uplands		None
2.2 Geological processes	Glacial transport featuring conspicuous eskers		None
2.3 Hydrogeology	Impervious bedrock with surficial unconsolidated materials of low porosity (thin soils and barrens)		None
2.4 Topography	Moderate gradient (1–2 m/km) Height above sea level is 0–400 m.		None
3 RIVER MORPHOLOGY			
3.1 Valley types	Rounded interfluves – narrow floodplain.		None
3.2 Channel types	Lake chain		None
3.3 Channel profile	Pool and riffle		None
3.4 Fluvial landforms	Mild braiding		None

Canadian Heritage River System Natural Framework (2001) Themes and Sub-themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
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4 BIOTIC ENVIRONMENTS			
4.1 Aquatic ecosystems	Lake systems: eutrophic lakes Wetland systems: bogs and fens	Research on chain pickerel, an invasive species of fish threatening native fish populations. Mersey Tobeatic Research Institute research on Blanding's turtle and water quality from Buckshot Lake to Lake Rossignol.	Chain pickerel have entered the Shelburne River system.
4.2 Terrestrial ecosystems	Ecozone: Atlantic Maritime	Mersey Tobeatic Research Institute research on old growth forest along Shelburne River corridor. Joint research by Mersey Tobeatic Research Institute, Parks Canada, and Nova Scotia Environment on hemlock woolly adelgid in Pollard's Falls.	Potential for damage to hemlock trees from hemlock woolly adelgid.
5 VEGETATION			
5.1 Significant plant communities	Aquatic/riparian plants in floating bogs and fens Trees: dynamic old growth hemlock	Research on <ul style="list-style-type: none"> • lichens in old growth forests • ecological effects of forest roads • forest ecosystem classification • ecology and management of the pale-winged gray moth • invertebrates as indicators of bog health • hemlock woolly adelgid, an invasive species threatening the health of hemlock stands 	Improved research efforts.
5.2 Rare plant species	<i>Woodwardia areolata</i> (netted chain fern) Atlantic coastal plain flora	Netted Chain Fern is classified under Rank S3 (vulnerable in the province due to restricted range, relatively few populations, often 80 or fewer). Applied Geomatics Research Group conducted studies on Atlantic coastal plain flora in 2010.	Improved research efforts.

Canadian Heritage River System Natural Framework (2001) Themes and Sub-themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
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6 FAUNA			
6.1 Significant animal populations	Mainland moose and eastern pipistrelle bats	Research on mainland moose	Improved research efforts on Eastern pipistrelle bats after white nose syndrome outbreak began in 2010.
6.2 Rare animal species	Mainland moose	<p>Research on mainland moose (species at risk) and the effects of dams and wetland species at risk.</p> <p>Recovery Plan for Mainland moose implemented in March 2007.</p>	



6.0 Cultural Heritage Values

6.1 Background

The Canadian Heritage Rivers System currently uses the Framework for the Cultural Values of Canadian Heritage of Canadian Heritage River 2nd edition (2000). However, the Shelburne River was not nominated based on cultural heritage values due to insufficient information at the time of nomination. Historical context was provided in the nomination document. A variety of cultural values are summarized in Table 3 according to the cultural heritage values framework developed for the Canadian Heritage River System. This table also outlines significant actions over the last 10 years and any changes to cultural heritage values.

6.2 Condition of Cultural Values Since Designation

Kejimikujik National Park and Historic Site was designated a Canadian National Historic Site as a Mi'kmaq cultural landscape in 2000. Since then, cultural heritage protection and interpretive efforts in the region have improved, such as an increased number of archaeological studies. One was conducted in 2017 by Parks Canada archaeologist Charles Burke who discovered unfinished chert arrowheads that could date back 6,500 years.

In 2008, Nova Scotia Environment staff and other avid paddlers from around Nova Scotia joined one another on a trip through the Shelburne River system, following Albert Bigelow Paine's historic Tent Dwellers route for the 100th anniversary of the book's publishing. The celebration increased local and visitor knowledge of the heritage river and its values.



Table 3: Cultural Heritage Values Since Designation

Canadian Heritage River System Cultural Framework (2000)	Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1 RESOURCE HARVESTING			
1.1 Fishing	Archaeological sites identified at mouth of river suggest fishing use at least 3000 to 5000 years ago. The river was also used for fishing in the 1800 and 1900s.	Mi'kmaq Rights Initiative research on traditional Mi'kmaq use located potential archaeological sites.	Improved knowledge of Aboriginal use of the area.
1.2 Shoreline resource harvesting	Archaeological evidence suggests hunting on the river at least 3000 to 5000 years ago.	A draw down of water during the Nova Scotia Power Dam Refurbishment Project led to the discovery of hundreds of Aboriginal artifacts where the Shelburne River flows into Lake Rossignol.	Improved knowledge of Mi'kmaq use of the area.
1.3 Extraction of water	Bowater Mersey Paper Company had a sawmill near the Shelburne river in the 1940s.	None	None
2 WATER TRANSPORT			
2.1 Commercial transportation	Bowater Mersey Paper Company may have used the river for transportation purposes.		None
2.2 Transportation services	Not discussed at the time of nomination.	Not applicable	None
2.3 Exploration and Surveying	Not discussed at the time of nomination.	Albert Bigelow Paine travelled the area. The trip is detailed in his 1908 book The Tent Dwellers and many have followed his route since.	None
3 RIPARIAN SETTLEMENT			
3.1 Siting of dwellings	Pre-contact indigenous peoples likely had settlements on the river.	A draw down of water during the Nova Scotia Power Dam Refurbishment Project led to the discovery of hundreds of aboriginal artifacts where the Shelburne River flows into Lake Rossignol.	Improved knowledge of Aboriginal use of the area.
3.2 River-based communities			
3.3 River-influenced transportation	Not discussed at the time of nomination.	Mi'kmaq travelled the river using birch bark canoes as their main source of transportation.	None.

Canadian Heritage River System Cultural Framework (2000)	Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
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4 CULTURE AND RECREATION			
4.1	Spiritual associations	Not discussed at the time of nomination.	
4.2	Cultural expression	Not discussed at the time of nomination.	
4.3	Early recreation	Canoeing the Shelburne River was popularized in the 1908 book <i>The Tent Dwellers</i> by Albert Bigelow Paine.	None
			Increased use of the heritage route.
5 JURISDICTIONAL USES			
5.1	Conflict and military associations	Not discussed at the time of nomination.	None
5.2	Boundaries	The river is transboundary between Queens and Digby counties. It forms the boundary between Kejimikujik National Park and Historic Site and Tobeatic Wilderness Area.	None
		The river links the lower portion of the Annapolis Valley to the south shore of the province. It is one of at least two historic links and serves as a hub of an inland passage between the Bay of Fundy and the Atlantic Ocean.	In 2009, the lower half of the Shelburne River was designated as a protected wilderness area and more land was added in 2015.
5.3	Environmental regulation	Not discussed at the time of nomination.	

7.0 Recreational Values

7.1 Background and Status

The values for which the Shelburne River was nominated are summarized in Table 4. Because there is no national framework for recreational values, the activities listed in the Canadian Heritage Red River Background Study (1998) were adapted to use in this section. The table also outlines significant actions over the last ten years, and any changes to those values.

7.2 Condition of Recreation Values Since Designation

There has been increased awareness of the river due to the development and promotion of The Tent Dwellers route. Andrew Smith's Paddling the Tobetic: Canoe Routes of South Western Nova Scotia describes various ways to travel along the Shelburne River and has made routes more well known. Other endeavors have given the public better access to information about the trails, campsites and entry points. Former Nova Scotia Community College instructor, graphic designer, and avid paddler Jim Todd's online map shows photos and locations of campsites, entry points and portages.

Recreational heritage values have been improved with the 2014 rehabilitation of the iconic Cofan Cabin. Nova Scotia Environment partnered with the Mersey Tobetic Research Institute to completely rehabilitate the cabin located on Sand Beach Lake. Volunteers added a new roof, replaced the foundation, and added new lumber to the late 1920's cabin. The cabin is now in much better condition and can be enjoyed by paddlers and researchers alike.



Table 4: Recreation Values Since Designation

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1 BOATING			
1.1 White-water canoeing, kayaking and rafting	There are white-water canoeing opportunities.	None	None
1.2 Extended canoe tripping (motor and non-motor)	Motorized canoeing is not permitted. Non-motorized canoeing is the main means of river travel. Portage routes can be found along the length of the Shelburne River.	Into the Tobeatic guide published by Nova Scotia Environment. Needs to be updated. Tobeatic canoe routes online map created by local paddlers.	Increased awareness of river and routes that may lead to increased recreational and interpretive use.
1.3 Day paddling and rowing	Day trips are unrealistic due to the river's remoteness.		None
1.4 High speed boating	Not permitted, motorized boats are only allowed for research/management purposes.	Tobeatic Management Plan prohibits motor boat and float plane use within Tobeatic Wilderness Area.	Improved public knowledge and clear policy.
1.5 Motorized pleasure cruising/houseboats	Not applicable		None
1.6 Commercial tour boats	Not applicable		None
1.7 Sailing	Not applicable		None
2 ANGLING			
2.1 Day angling	Not applicable, the Shelburne River is not a fishing destination.		None
2.2 Weekend angling	Not applicable		None
2.3 Extended angling vacation	Not applicable		None
2.4 Fly fishing	Not applicable		None
2.5 Ice fishing	Not applicable		None
2.6 Specific fish Species	Limited population of brook trout near river mouth and an increasing population of invasive chain pickerel.	Research from Mersey Tobeatic Research Institute, Parks Canada, and Nova Scotia Environment.	Improved research and mitigation efforts.
3 WATER CONTACT/CONTENT			
3.1 Swimming	Water quality is suitable for swimming.		None
3.2 Water skiing	Not applicable		None
3.3 Snorkel/scuba	Not applicable		None

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
4 WATER-ASSOCIATED ACTIVITIES			
4.1 Trail use (hiking, walking, cycling)		Hiking potential recognized in Tobeatic Wilderness Area Management Plan.	None
4.2 Camping	Tenting/camping sites can be found throughout the Shelburne River area.		None
4.3 Hunting	Hunting permitted within Tobeatic Wilderness Area. Baiting of animals for hunting is prohibited.	None.	Reduced opportunity for habituation of bear and deer.
5 WINTER ACTIVITIES			
5.1 Snowmobiling/dog sledding	Vehicle use not permitted in Tobeatic Wilderness Area.		
5.2 Cross-country skiing	People use the area from Pebbleloggitch Lake (Mason's Cabin) along the Shelburne River.	None	None
5.3 Skating	Not applicable	None	None
6 NATURAL HERITAGE APPRECIATION			
6.1 Wildlife	The entire 53-km river corridor has outstanding wilderness attributes. It is Nova Scotia's most remote wilderness river.		
6.2 Vegetation	Old growth hemlock and pine stands, excellent examples of extensive barrens and semi barrens, and Atlantic coastal plain flora.	Designation of the Shelburne River Wilderness Area allows for improved management. Studies from Nova Scotia Environment and Parks Canada indicate a presence of hemlock woolly adelgid affecting old growth hemlock stands near Pollard's Falls.	Overall improved Hemlock woolly adelgid has affected old growth hemlock stands.
6.3 Vistas/scenic quality	Undisturbed barrens, bogs and forests Panoramic scenes are associated with the river's eskers.		Improved
6.4 Geological features/water features	Outstanding examples of undisturbed eskers and significant erratics and outwash plains.		None
7 HUMAN HERITAGE APPRECIATION			
7.1 Historic sites	Mi'kmaq people likely had settlements on the river before European contact.		Improved information base for future work.
7.2 Cultural landscapes			Improved
7.3 Sporting events/activities			None
7.4 Cultural events/activities	Travel and activities related around The Tent Dwellers route		None

8.0 Integrity Guidelines

Natural, cultural and recreational integrity guidelines were all considered when the Shelburne River was nominated to the Canadian Heritage River System. However, only natural and recreational guidelines were applied as the river was not nominated for its human heritage value. Table 5 summarizes the condition of the Shelburne River’s integrity since designation. The integrity guidelines in this table are based on the Canadian Heritage Rivers System Principles, Procedures and Operational Guidelines from 2001. The table also discusses improvements, threats, and changes to integrity.

Table 5: Integrity Guidelines Since Designation

Canadian Heritage River System Principles, Procedures and Operational Guidelines	Shelburne River Status	Changes or Threats to Integrity Value(s) Since Nomination
1 NATURAL INTEGRITY GUIDELINES		
1.1 The nominated area is of sufficient size and contains all or most of the key interrelated and interdependent elements to demonstrate the key aspects of the natural processes, features, or other phenomena which give the river its outstanding natural value.	The Shelburne River is 53 km long and is free flowing with a drainage area of 27,739 hectares. It is Nova Scotia’s largest wilderness river.	The river’s natural values have greater protection since the designation of Tobeatic Wilderness Area. This has been further improved with the 2009 introduction of the Shelburne River Wilderness Area and with the addition of more land in 2015. These areas encompass old growth forests, undisturbed glacial landforms, and extensive barrens.
1.2 The nominated area contains those ecosystem components required for the continuity of the species, features or objects to be protected.	About 95% of the river corridor is in provincial Crown ownership and is essentially in wilderness condition. The remaining 5% is owned by Nova Scotia Power.	Mainland moose, a species at risk, inhabit the river corridor. Related ecosystem components are legally protected.
1.3 There are no human-made impoundments within the nominated area.	Limited impoundments	In 2008, a historic dam was removed from Irving Lake according to research by Karen McKendry on the effects of dams on wetland species at risk.
1.4 All key elements and ecosystem components are unaffected by impoundments located outside the nominated area.	Dam remnants exist in the watershed. They are not active and the system has naturalized to their presence.	None
1.5 Natural values for which the river is nominated have not been created by impoundments.	The presence of the Shelburne River and its lakes is not correlated to human impoundments.	None
1.6 The water of the nominated area of the river is uncontaminated to the extent that its natural aquatic ecosystem is intact.	The natural aquatic ecosystem is intact.	The aquatic ecosystem is vulnerable to acid precipitation.

Canadian Heritage River System Principles, Procedures and Operational Guidelines	Shelburne River Status	Changes or Threats to Integrity Value(s) Since Nomination
1.7 The natural aesthetic value of the river is not compromised by human developments.	The Shelburne River remains as untouched as it has been since its designation.	None
2 RECREATIONAL INTEGRITY VALUES		
2.1 The river possesses water of a quality suitable for contact recreational activities, including those recreational opportunities for which it is nominated.	Water quality is suitable for canoeing and other recreational contact activities. Due to the low pH associated with local conditions and acid precipitation, the river's water may irritate some swimmers' eyes.	None
2.2 The river's visual appearance is capable of providing river travelers with a continuous natural experience, or a combined natural and cultural experience, without significant interruption by modern human intrusions.	The Shelburne River is Nova Scotia's most remote wilderness river known for extensive barrens, conspicuous eskers, and old growth forests	None
2.3 The river is capable of supporting recreational uses without significant loss or impact on its natural, cultural or aesthetic values.	The river has been a recreational destination since the 1800s but maintains its original appearance	The Tent Dwellers canoe route is a common route taken by adventure seekers that highlights heritage values and aesthetics of the river

9.0 Review of Management Plan objectives

As a part of the Canadian Heritage River System nomination process, management goals and objectives for the Shelburne River were outlined in 1996 in the Shelburne Canadian Heritage River Management Plan. The creation of the management plan allowed the Shelburne River to be designated in 1997. Table 6 lists the management plan recommendations and reports on the degree of achievement by government and other groups.

Note: Many references to Department of Natural Resources (now the Department of Lands and Forestry) in the management plan now apply to Nova Scotia Environment, as provincial responsibility for the Canadian Heritage River System program was transferred to Environment in 1998.



Table 6: Designation Document – Recommendations and Current Status

Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement	Actions/Notes
Redesign and implement a permit system (in cooperation with Kejimikujik National Park and Historic Site) that will meet wilderness travel management requirements.	Partial - A specific permit system for the Shelburne River will not be implemented at this time. Instead, other tools will be used, such as actions defined in the Tobeatic Wilderness Management Plan.	None
Nova Scotia Environment to work with Department of Lands and Forestry to establish and maintain wilderness campsites with minimal basic facilities.	Initiated - This action is supported for sites within Tobeatic Wilderness Area and the Shelburne River Wilderness Area. Many campsites are marked and can be found in sources such as Andrew Smith's book Paddling the Tobeatic and the online map of canoe routes of the Tobeatic.	Action is supported in the Tobeatic Wilderness Area Management Plan: 4.2.3h – To protect natural values and minimize adverse recreation impacts, direct users to use designated and identified existing tenting sites along the Shelburne River at Sand Beach Lake, Beverly Lake, Granite Falls, Irving Lake, Sand Lake, and Lake Rossignol with Shelburne Canadian Heritage River partners.
Encourage the use of backpacking stoves and monitor the impact of campfires and demand for firewood. If negative impacts are found, consider eliminating campfires.	Partial	Developed the 2008 Keep It Wild guide for low-impact recreation, which follows the Leave No Trace principles.
Prohibit motorized boats, except for wildlife management purposes.	Complete	The use of motorized boats is generally prohibited within Shelburne Heritage River with some exceptions. Further, use of motorized boats is virtually non-existent given the remote nature of the locality, the morphology of the river and the general absence of public, vehicular access points
Clear and develop portages to a minimal standard required for safe passage and minimized site impacts.	Ongoing	Many portage routes have fallen into disuse. However, local canoeists of the Shelburne River system claim to cut back the portages they encounter. Nova Scotia Environment will maintain some key portages, where possible.
The province will build and maintain wardens' cabins.	Partial	In 2014, the province partnered with Mersey Tobeatic Research Institute to rehabilitate the Cofan Cabin, restoring it as a place of refuge and enjoyment for paddlers and researchers alike. Other existing cabins (Buckshot and Pollard's Falls) have not been properly maintained. Buckshot has completely collapsed and Pollard's Falls has a major cracked foundation.
The province will produce a backcountry guide map for the Shelburne River with trip planning information, safety guidelines, wilderness ethics and interpretive information.	Complete for Tobeatic Wilderness Area.	The map on the Into the Tobeatic brochure shows portage lengths and gives some travel information (2004). Nova Scotia Environment provided information for Andrew Smith's book, Paddling the Tobeatic: Canoe Routes of Southwestern Nova Scotia.

Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement	Actions/Notes
The Department of Lands and Forestry and Kejimikujik National Park and Historic Site will act in partnership to cooperate in the recreational use management requirements of the river.	Ongoing	Kejimikujik National Park and Tobeatic Wilderness Area Management Plans are complementary to each other. Members of each advisory committee sat on the other group's committee. Kejimikujik's plan was released to the public in 2010.
Bowater will continue to restrict public access to forest roads on company lands to ensure quality wilderness experiences.	Ongoing	Since the Bowater Mersey Paper Company disbanded in 2012, Nova Scotia Environment, the Department of Lands and Forestry, and Parks Canada continue to enforce restricted access.
The province will initiate a detailed interpretive plan.	Partial	<p>Some ad hoc interpretation has been completed, and there is an intention to do more associated with Tobeatic Wilderness Area.</p> <p>Avid paddlers joined one another in 2008 for the Tent Dwellers Centennial Festival.</p> <p>Addressed in the Tobeatic Wilderness Area Management Plan:</p> <p>4.4.2c – Support the development of interpretation materials for both onsite and offsite programming.</p>
Formal legislative protection of Tobeatic Candidate Protected Area.	Complete	<p>Tobeatic Wilderness Area was designated in 1998.</p> <p>Shelburne River Wilderness Area was designated in 2009.</p>
The establishment of special management corridor by logging companies where the river flows through company lands.	Complete	<p>Companies have adhered to the administrative direction outlined in the Tobeatic Wilderness Area Management Plan:</p> <p>4.3.1a – Work with Crown land managers and industry partners in forestry, tourism, hydro power, mining and real estate to develop complementary management measures for adjacent lands.</p>
There will be no harvesting in the 30-metre corridor immediately adjacent to the river.	Complete	<p>Companies have adhered to the administrative direction outlined in the Tobeatic Wilderness Area Management Plan:</p> <p>4.3.1a – Work with Crown land managers and industry partners in forestry, tourism, hydro power, mining and real estate to develop complementary management measures for adjacent lands.</p>
There will be no harvesting in fens, bogs and swamps adjacent to the river that extend beyond the 30-metre corridor.	Complete	Designation of Shelburne River Wilderness Area has resulted in protection of most of this corridor.
The remaining area in the Special Management Corridor will be managed to maintain the values for which the river was nominated to the CHRS while allowing for fiber production.	Ongoing	Designation of Shelburne River Wilderness Area has resulted in protection of most of this corridor.

Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement	Actions/Notes
Where management activities outside the 150-metre Special Management Corridor will impact on the views seen while travelling the river, care will be taken to reduce their impact.	Ongoing	Designation of Shelburne River Wilderness Area has resulted in protection of most of this corridor.
Operations will be scheduled, where possible, outside peak periods of river travel.	Ongoing	
Resource inventories of natural, cultural and integrity values.	Addressed/Ongoing	<p>Addressed in the Tobeatic Wilderness Area Management Plan:</p> <p>Continue work towards an inventory to identify the species, genetic variability, habitats, and ecosystems of Tobeatic Wilderness Area.</p> <p>In collaboration with academic, agency, and community partners, improve research capacity by building on existing programs and encouraging new research projects.</p> <p>Evaluate information gaps and set clear research priorities for the wilderness area.</p> <p>Share information with partners to maximize the use of research findings. Where possible, use findings of relevant research in the region to aid management.</p> <p>Develop a monitoring program framework to identify key ecosystem functions, structures, and stressors. Develop monitoring and reporting activities with regional agencies and partners.</p> <p>Identify cultural heritage research needs, and encourage new research projects, seeking funding to support priorities.</p>
The adoption and implementation of a Wilderness Recreation Management Strategy.	Initiated	<p>In 2009, Nova Scotia Environment designated the Shelburne River Wilderness Area. In 2015, the wilderness area was expanded.</p> <p>Addressed in the Tobeatic Wilderness Area Management Plan:</p> <p>Develop a risk management strategy with established protocols for search and rescue and emergency evacuation, in conjunction with other agencies and community partners.</p>

Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement	Actions/Notes
The preparation and implementation of an interpretive plan.	Complete	<p>Avid paddlers joined one another in 2008 for the Tent Dwellers Centennial Festival.</p> <p>Addressed in the Tobeatic Wilderness Area Management Plan:</p> <p>4.4.2c – Support the development of interpretation materials for both onsite and off-site programming.</p>
The establishment and implementation of a monitoring system to meet Canadian Heritage River Society requirements.	Complete	A hydrometric sampling station has been installed on the Shelburne River. It is part of Nova Scotia's Automated Surface Water Quality Monitoring Network.
To ensure the maintenance of the integrity of the natural wilderness and archaeological values within the flowage area, lands owned by Nova Scotia Power will be managed in a manner consistent with Canadian Heritage River Society objectives.	Ongoing	This objective is still being discussed.
The province will give priority, as resources permit, to the inventory of archaeological sites associated with the river, and the collection of water quality benchmark data.	Ongoing	<p>Addressed through:</p> <p>Mersey Tobeatic Research Institute and Mi'kmaq Rights Initiative research</p> <p>Water quality monitoring through the hydrometric sampling station</p>
The province will encourage other government agencies and universities to conduct research on the Shelburne River, especially in association with Kejimikujik National Park.	Ongoing	Collaborative research continues to be conducted through Mersey Tobeatic Research Institute and Kejimikujik National Park and Historic Site.

10.0 Benefits of Designation

A requirement of the Canadian Heritage Rivers System’s Principles, Procedures and Operational Guidelines is for decadal monitoring reports on conservation, stewardship, economic, and cultural benefits resulting from designation. The greatest benefit from the designation is that the Shelburne River has maintained its remote wilderness aesthetic, something many other Canadian Heritage Rivers do not have.

Table 7: Summary of Benefits Since Designation

Type of Benefit	Description
Environmental benefits	<ul style="list-style-type: none"> • Increased support for conservation of the river corridor, habitat, and surrounding environment. • Increased protection of old growth forest. • Increased protection and research on species of conservation concern (mainland moose, eastern pipistrelle bat, etc.). • Maintained quality of river corridor leading to legal protection as Shelburne River Wilderness Area. • River has remained untouched wilderness.
Cultural benefits	<ul style="list-style-type: none"> • Improved awareness and appreciation of historic Mi’kmaq use of the river. • Improved awareness and appreciation of other historic uses for the river.
Recreational benefits:	<ul style="list-style-type: none"> • Increased awareness of canoeing opportunities and portage locations. • Improved knowledge of access points. • Improved awareness of potentially hazardous areas on the river.
Improved knowledge:	<ul style="list-style-type: none"> • Improved general knowledge of the river through past reports, news articles, and other documents.
Monetary benefits:	<ul style="list-style-type: none"> • Canadian Heritage Rivers System funding for story map. • Canada 150 funding for designated rivers.
Increased stewardship:	<ul style="list-style-type: none"> • The Mersey Tobeatic Research Institute has become an important organization for the Shelburne River.
Community engagement and collaboration:	<ul style="list-style-type: none"> • Nova Scotia Environment and Mersey River Tobeatic Institute collaborated on information sessions and a canoe trip into the Shelburne River system for the celebration of Canada 150.
Have any communications products (signage, exhibits, photo contests, social media and web etc.) been developed to communicate the designation and its benefits?	<ul style="list-style-type: none"> • Shelburne River was featured in an article in Saltscapes Magazine on the restoration of the Cofan Cabin. • Shelburne River was mentioned in an article from King’s County News on the legend of Jim Charles.

11.0 CHRS Commemorative Plaque Inventory Report

Name/job title of inspector **Sally Steele, Protected Areas Coordinator**

Plaque title:	Shelburne Canadian Heritage River Plaque
Location:	Granite Falls
GPS coordinates:	44.18029, -65.37217
Size of plaque:	30" (76 cm) x 35" (89 cm)
Date plaque was installed:	1997
Description of location:	The plaque is located on the shores of the Shelburne River in an area known as Granite Falls.

Photo Inventory:



12.0 Summary and Conclusions

The Shelburne River remains a pristine wilderness river. Many of the significant events that followed its designation as a Heritage River strengthen or improve the protection of its values. These include designation of Tobeatic Wilderness Area, designation and expansion of Shelburne River Wilderness Area, recognition of Kejimikujik National Park and Historic Site as a Mi'kmaq Cultural Landscape, designation of the Southwest Nova Biosphere Reserve. Community led projects of Southwest Nova Biosphere Reserve and the Mersey Tobeatic Research Institute have improved understanding and appreciation of the river and the region's natural heritage.

Due to its remoteness, much of the activity that has taken place along the river has been research oriented. Although the river is well known by wilderness canoeists and environmental researchers, to this day, use of the river remains low. Impacts from human use and development are very minimal. With increased and improved public outreach and events, the river will continue to draw experienced wilderness travellers.

This report has determined that the heritage and recreational values of the Shelburne River remain intact since its designation and since the last report. Thanks to collaborative efforts and management planning, there have been few negative effects on the river since the 2007 monitoring report. Based on this latest report, the Shelburne River is deemed worthy of continued designation as a Heritage River in the Canadian Heritage Rivers System.

13.0 References

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