

Shelburne Canadian Heritage River 10-year Monitoring Report

1997 - 2007

Prepared for the Canadian Heritage Rivers Board



May 2008



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1.0 Executive Summary

Nova Scotia's Shelburne River was designated as a Canadian Heritage River in 1997. This report reviews what has happened over the last decade and addresses the state of the river, while looking at progress and research. It examines what has happened to the river since designation, determine whether heritage and recreational values are still intact, and reports on the Canadian Heritage River System (CHRS) integrity guidelines. The study also reports on the degree to which river management and other goals have been achieved.

Although the Shelburne is a remote wilderness river, many significant events have occurred in the area since designation. In particular, Tobeatic Wilderness Area was officially designated, offering legal protection for the upper and middle reaches of the Shelburne River. The designation is complementary to existing protection within Kejimkujik National Park and National Historic Site of Canada.

Perhaps the most important recent occurrence is the acquisition of 1636 hectares of land with high conservation value that will be designated as the Shelburne River Wilderness Area (see Fig 5.1). This new wilderness area will provide protection to the lower section of the river corridor while securing rare species' habitat, unique natural features and opportunities for wilderness recreation. The wilderness area was envisioned when the Province of Nova Scotia purchased 10 050 hectares of land from Bowater Mersey Paper Company Limited in March 2007.

As a result of the acquisition, nearly the entire river corridor now lies within land owned by the Province of Nova Scotia and Nova Scotia Power. With about 5% of the river corridor at the river mouth owned by Nova Scotia Power.

AbitibiBowater remains an active conservation partner for the Heritage River, and will continue to fulfill research and management objectives set out in the Shelburne River Management Plan. A great deal of collaborative research has taken place over the years since designation. New community-based partners, notably the

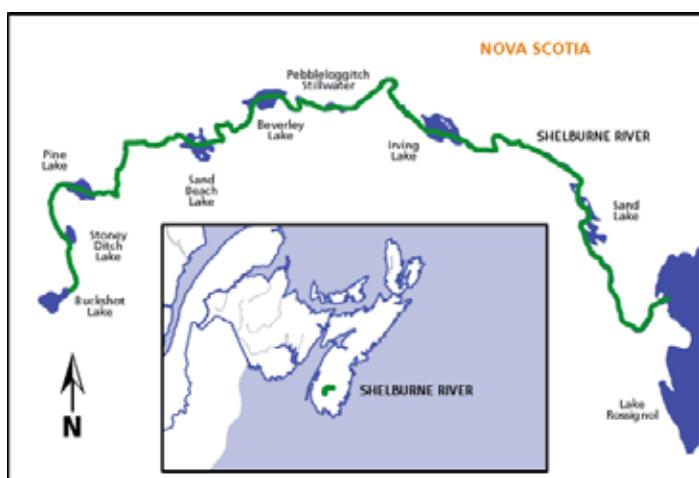
Mersey Tobeatic Research Institute (MTRI) and the Southwest Nova Biosphere Reserve Association (SNBRA) have been active in the region, supporting citizen-science and improved understanding and appreciation of protected areas.

Industry partners have met and exceeded objectives set out in the Shelburne River management plan, and have sponsored important research on the natural and cultural values of the river and its surrounding region.

Inter-agency partnership remains strong. Kejimkujik National Park and Historic Site, Nova Scotia Environment, and Nova Scotia Natural Resources have worked with several academics on research and monitoring topics relevant to the river and its watershed. These research projects focussed on topics such as: lichens, Species at Risk, the effects of dams and forestry practices.

Overall, the heritage and recreation values of the Shelburne River remain intact. Only positive changes have taken place on the river. The river is worthy of continued designation as a nationally significant river within the CHRS.

2.0 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 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. In 1997, after years of study, the Shelburne River was designated as a Canadian Heritage River.

The Canadian Heritage River System (CHRS) is Canada's program by which to promote freshwa-



ter heritage conservation and recognize 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. CHRS requires annual reports, monitoring, and ten-year reviews to ensure that CHRS rivers maintain the values for which they were nominated.

The objectives of this report are to:

- determine the degree to which the actions outlined in the management plan have been implemented;
- establish the current condition of the outstanding heritage values based on a review of values for which the river was nominated;
- determine whether the CHRS integrity guidelines are still being met;
- describe changes that have occurred in relation to the river over the past decade; and
- review the state of the river and to

report on progress or setbacks the river has experienced.

3.0 Background

The Shelburne River flows northerly to Pine Lake and then easterly to Lake Rossignol in the central area of Southwestern Nova Scotia, south of Kejimkujik 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 the Minister announced that the Department of Natural Resources would work toward nomination of the river. In January 1993, the Shelburne River was accepted for nomination as a CHRS river. *The Shelburne Canadian Heritage River Management Plan* was submitted to CHRS in 1996 and in 1997 the river was designated as a Canadian Heritage River.

In 1998, lead responsibility for the CHRS program in Nova Scotia was transferred to the Protected Areas Branch of Nova Scotia Department of the Environment from the NS Department of Natural Resources. After the transfer, DNR Regional Services Division continued as a key partner in program delivery. Many of the objectives laid out in the management plan were implemented jointly, or with several partners.

4.0 Methodology

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

- (i) review of annual reports submitted to the CHRS Board and field surveys
- (ii) secondary source research
- (iii) interviews with key individuals

Interviews with key individuals provided ample information on changes, research and activities that

have taken place on and around the river since its designation. Discussions took place among Nova Scotia Environment staff, key stakeholders and Mersey Tobeatic Research Institute and Southwest Nova Biosphere researchers.

New CHRS frameworks were developed since the Shelburne River was nominated. This report converts identified values to coincide with current national frameworks. The recreational framework used was adapted from the Red River CHRS study. The condition of heritage values since designation was discussed along with relevant projects or management plan actions. The condition of integrity guidelines was also examined to determine whether the river was still worthy of designation as a river of national significance within the Canadian Heritage River System.

5.0 Chronology of Events

1997

- Shelburne River officially designated as a Heritage River within the CHRS.

1998

- Responsibility for the CHRS program in Nova Scotia transferred to Nova Scotia Department of Environment from Nova Scotia Natural Resources.
- Tobeatic Wilderness Area officially designated under the *Wilderness Areas Protection Act*.

1999 - 2000

- Appointment of a regional protected areas coordinator with responsibility for CHRS rivers in western Nova Scotia.
- Proposal for Southwest Nova Biosphere Reserve initiated by a local community Association.
- Initiation of water quality monitoring for the Shelburne River, led by NS Environment and Labour and Environment Canada.

2000-2001

- Publication of *Keep It Wild*, a guide for low-impact recreation in Wilderness Areas that follows the principles of Leave No Trace
- Implementation of an access signage program for Wilderness Areas and identification of

priority field management initiatives with the Department of Natural Resources.

- Kejimkujik designated as a National Historic Site recognizing it as a Mi'kmaw Cultural Landscape.
- Southwest Nova Biosphere Reserve (which includes the Shelburne Canadian Heritage River) nomination document submitted to United Nations Educational, Scientific and Cultural Organization (UNESCO) for consideration, and subsequently designated.
- A new hydrometric sampling station installed on the Shelburne River; planning underway for community-based water-quality monitoring
- Scoping exercise to begin a management planning process for Tobeatic Wilderness Area.

2001-2002



- Kejimkujik initiates planning to review its management plan.
- Southwest Nova Biosphere Reserve undergoes review and receives endorsement from key partners including the Province of Nova Scotia, Parks Canada and 5 county municipalities.
- New hydrometric sampling station installed with plans for a community-based water quality monitoring program.
- Tobeatic Wilderness Area Management Planning Exercise launched with broad citizen advisory group.

2002-2003

- The Kejimkujik Management Plan process continues, led by Parks Canada planners and senior staff members of the national park. Several broad stakeholder meetings were completed on a range of topic areas. Following these discussions, a draft management plan

was developed for public comment.

- Tobeatic Wilderness Area Management Planning exercise begins with the first phase of public consultation meetings of the advisory group.

2003-2004

- Wilderness Area management: planning exercise for Tobeatic Wilderness Area continues with second phase of advisory group work
- Collaboration with Kejimkujik to redesign the Back Country Guide and Map
- Recognition of moose as an endangered species in Nova Scotia.
- Southwest Nova Biosphere Reserve's official designation ceremony.



2004-2005

- Tobeatic Wilderness Area Management Planning Exercise continues with release of Draft Management Plan for Tobeatic Wilderness Area and conclusion of advisory group tasks.
- Publication of *Into the Tobeatic* - a guide for planning wilderness travel .
- Mersey Tobeatic Research Institute (MTRI) established to facilitate research and monitoring activity.
- Publication of *Paddling the Tobeatic: Canoe Routes of Southwestern Nova Scotia* by Nimbus Publishing; the book includes the Shelburne Canadian Heritage River.

2005-2006



- Approval of the Tobeatic Wilderness Area Management Plan.
- Development of *The Tent Dwellers* heritage canoe route project with Heritage River partners.
- Mersey Tobeatic Research Institute field station continues work on the Parks Canada Innovation Project entitled, "Collaborative research, management, and monitoring of aquatic health and landscape connectivity in the Southwest Nova Biosphere Reserve".
- Amendments to the *Special Places Protection Act* streamline the process used in the identification and designation of significant ecological sites on private and crown lands.
- MTRI receives charitable status and purchases a field station for 6 full-time staff, with matching funds from three Heritage River partners (Bowater, Kejimkujik, NSE)
- MTRI research on: Eastern pipistrelle bat distribution; 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; and the effects of dams on wetland species at risk.

2006-2007

- Extensive field work on the Shelburne River with MTRI focussing on the water quality of headwater lakes.
- DNR research on Jack Pine budworm defoliation of old growth pine.
- First annual Rivers Day celebration on Sand

- Lake includes a public guided outing
- Extensive field evaluation of Bowater lands on the Shelburne River.
- Acquisition of Bowater land, which will be designated as the Shelburne River Wilderness Area in 2008.
- Planning and development of The Tent Dwellers Centennial Festival with several community, municipal and agency partners. Friends of Keji as the host organization for the project to commemorate the 1908 publication of the book featuring the Shelburne River.

6.0 Natural Heritage Values

6.1 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 IBP site which con-

tains some of the oldest old growth trees in Nova Scotia (They were the oldest known at time of designation, but older trees have since been found south of the watershed).

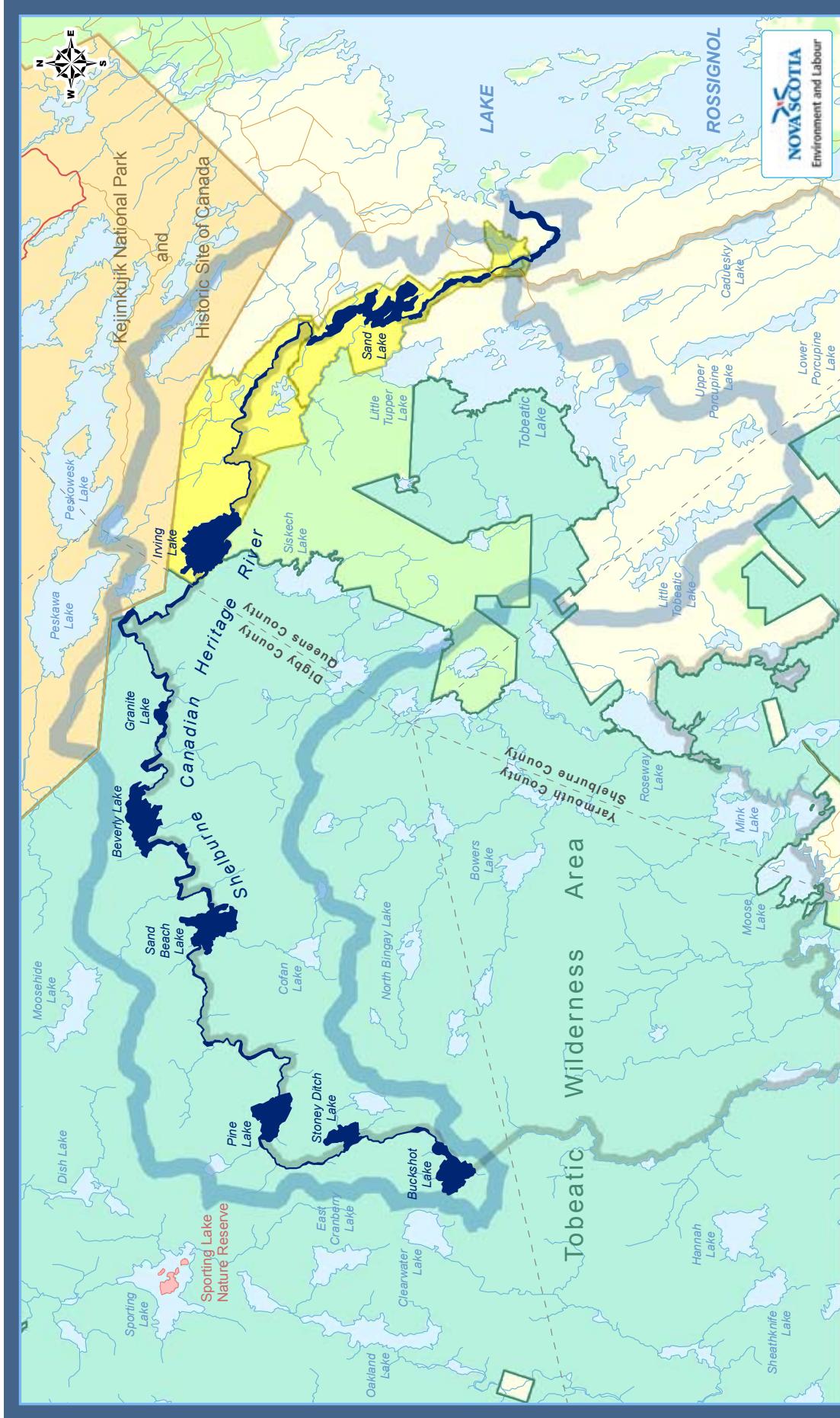
The Shelburne River was noted for its outstanding wilderness canoeing opportunities, including the most remote wilderness tripping opportunity in Nova Scotia. It offers a variety of canoeing experiences and connects to other major routes as well as Kejimkujik National Park.

A new national framework for natural heritage values has been developed since the Shelburne River was designated in 1997:

- A Framework for the Natural Values of Canadian Heritage Rivers, 2nd Edition. 2001

The values for which the Shelburne River was nominated are summarized in the following table, according to this new natural heritage values framework. The table also outlines significant actions over the last ten years, and any changes to nomination values.





Shelburne Canadian Heritage River

Produced by Nova Scotia Environment and Labour (NSEL), March 2008
Data obtained courtesy of NSEL, the NS Department of Natural Resources and Municipal Relations.
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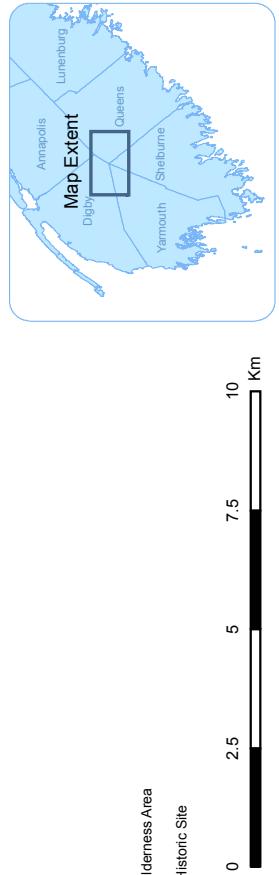


Table 1 Shelburne River Natural Heritage Values

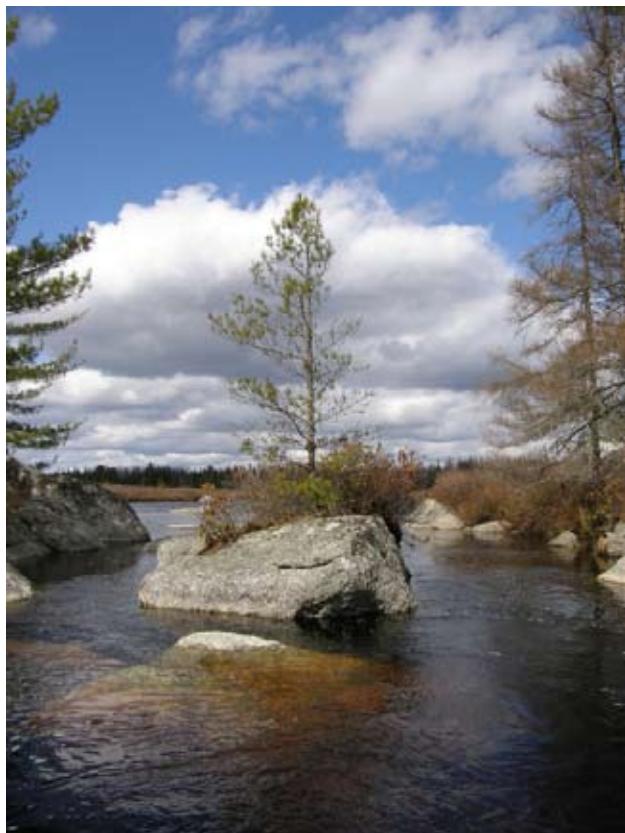
CHRS Natural Framework (2001) Themes & Sub-themes	Shelburne River Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1 Hydrology			
1.1 Drainage Basins	Atlantic Ocean Basin; stream number 2 (the river is actually a tributary of the Mersey River, through Lake Rossignol)		None
1.2 Seasonal Variation	Period of highest flow is April; period of lowest flow is May-September		None
1.3 Water Content	Heavy sediment load >400mg/l (>20.0 JU); rated low in Total Dissolved Solids (0-50 mg/l)	Water quality monitoring has taken place since 2000 when a new hydrometric sampling station was installed	Water quality monitoring on the river has improved, but the coordination of information requires further work
1.4 River Size	Flow volume at lowest point of nomination - small river or <85m ³ /sec. Length is 85km.	NSE encouraging completion of a central database for historic and future parameter values	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 (1-2m/km). Height above sea level is 0-400m.		None
3 River Morphology			
3.1 Valley Types	Rounded interfluves - narrow floodplain		None

CHRS Natural Framework (2001) Themes & Sub-themes	Shelburne River Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
3.2 Channel Types	Lake chain		None
3.3 Channel Profile	Pool and riffle		None
3.4 Fluvial Landforms	Mild braiding		None
4 Biotic Environments			
4.1 Aquatic Ecosystems	Lake systems: eutrophic lakes; wetland systems: bogs and fens	Research on: invertebrates as indicators of bog health; effects of dams on wetland species at risk; and ecological effects of forest roads	Improved awareness and stewardship of the natural and cultural heritage components.
		Southwest Nova Biosphere Reserve Project officially designated in 2000	Capacity-building for research, monitoring, education, and community-leadership.
		MTRI working with Parks Canada on the Ecological Integrity Innovation Project, which examines aquatic health and landscape connectivity	Coordinated research efforts.
4.2 Terrestrial Ecosystems	Ecozone: Atlantic Maritime	Southwest Nova Biosphere Reserve Project officially designated in 2000	Coordinated research efforts, monitoring and stewardship.
		Amendments to the Special Places Protection Act streamline the process used in the identification and designation of significant ecological sites on private and Crown land	Improved ability to designate adjacent lands.

CHRS Natural Framework (2001) Themes & Sub-themes	Shelburne River Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
		Research on: ecological effects of forest roads; forest ecosystem classification; and ecology and management of the pale-winged gray moth	Coordinated research efforts, monitoring and stewardship.
5 Vegetation			
5.1 Significant Plant Communities	Aquatic/Riparian plants: in floating bogs and fens; Trees: dynamic old growth hemlock	Research on: lichens in old growth forests; ecological effects of forest roads; forest ecosystem classification; ecology and management of the pale-winged gray moth; and invertebrates as indicators of bog health	Improved research efforts.
5.2 Rare Plant Species	<i>Woodwardia areolata</i> (Netted chain fern)	<i>Woodwardia areolata</i> is nationally imperiled, species only exists in NS where it is imperiled	Improved research efforts.
	Atlantic Coastal Plain Flora	Parks Canada, Applied Geomatics research Group and Natural Sciences and Engineering Research Council of Canada research on Coastal Plain Flora at Beaverskin and Pebblelogitch Lakes.	Improved research efforts.
6 Fauna			
6.1 Significant Animal Populations	Mainland moose and Eastern pipistrelle bats	Research on: mainland moose (Species at Risk); Eastern pipistrelle bats; invertebrates as indicators of bog health; effects of dams on wetland Species at Risk; and ecology and management of pale-winged gray moth	Improved research efforts through a proactive ecosystem management and outreach program

CHRS Natural Framework (2001) Themes & Sub-themes	Shelburne River Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
6.2 Rare Animal Species	Mainland moose	<p>Research on: mainland moose (Species at Risk) and the effects of dams on wetland Species at Risk.</p> <p>Recognition, by formal listing of Mainland Moose as an endangered species in Nova Scotia in 2003-2004</p>	<p>Improved research efforts.</p> <p>Improved by a proactive ecosystem management and outreach program</p> <p>Improved protection of species in watershed</p>

6.2 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 Program, but work needs to be done in terms of coordination of information.

These efforts, combined with Mersey Tobeatic Research Initiative and academic research efforts, have improved the quantity of data collected with regards to the river and watershed ecosystems and significant species. The Southwest Nova Biosphere Reserve Project (SWNBRP) and MTRI work has increased capacity for research, monitoring and educational efforts along with augmenting opportunities for community leadership.

Through collaborative efforts and coordinated research, particularly through the Mersey Tobeatic Research Institute, there is increased awareness and stewardship of the natural and cultural heritage components of the Shelburne River. Also, amendments to the Special Places Protection Act streamline the process used in the identification and designation of significant ecological sites on private and crown lands.

Some MTRI projects occurred outside of the heritage river corridor, but did take place on lakes that flow into the Shelburne River. Songbird Detectability During Point Counts (Beaverskin Lake); The Kejimkujik-Mersey Loon Watch Program (Beaverskin Lake, Back Lake, and Lower Silver Lake); and Assessment of Coastal Plain Flora (Beaverskin Lake).

Nova Scotia Department of Natural Resources research identified hemlock stands at Irving Lake, Sand Lake and at the mouth of the river; no damage by pale-winged gray moths was indicated along the Shelburne River. Research did show, however, an outbreak of Jack Pine Budworm to the east of Pine Lake, which affects mature and old growth pine stands.

Many of the actions that have occurred along the Shelburne River have led to improved protection of species within the watershed. The collaborative work of the MTRI and the SWNBRP, along with the official designation of Tobeatic Wilderness Area and the announcement proposed designation of the Shelburne River Wilderness Area, has led to proactive ecosystem management and outreach programs, which often, in turn, lead to improved natural heritage values.



7.0 Cultural Heritage Values

7.1 Background & Status

A new national framework for cultural heritage values has been developed since the Shelburne River was designated in 1997:

- A Cultural Framework for Canadian Heritage Rivers, 2nd Edition. 2000

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 the following table, according to the new cultural heritage values framework developed for the CHRS. The table also outlines significant actions over the last ten years, and any changes to cultural heritage values.

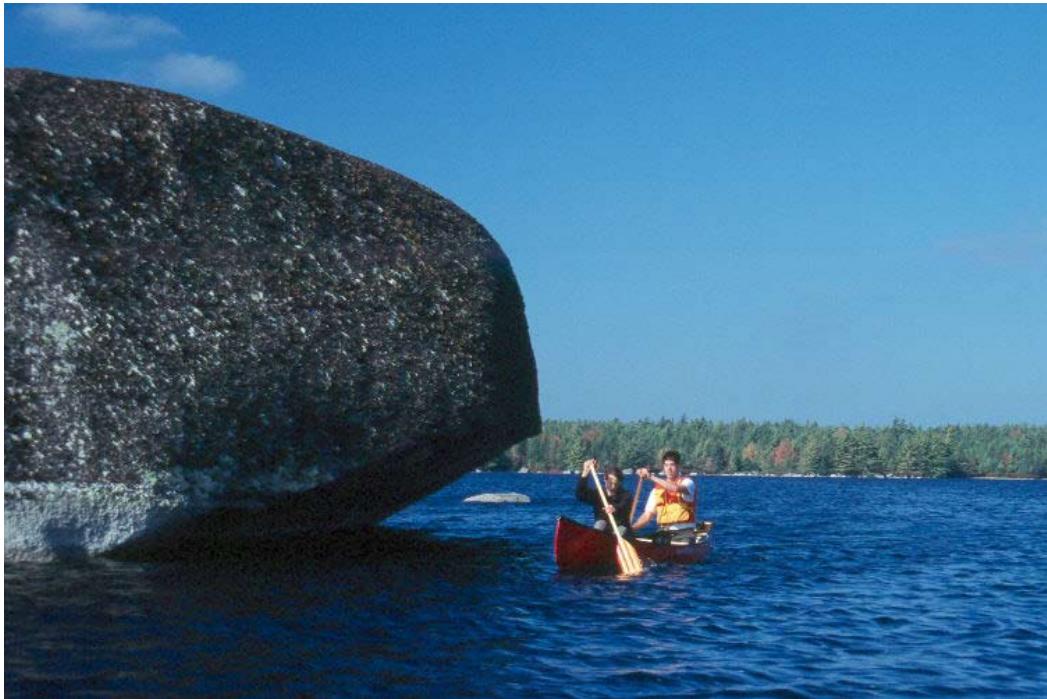


Table 2 Shelburne River Cultural Heritage Values

CHRS Cultural Framework (2000)	Shelburne River 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 pre-contact use of the river.
1.2 Shoreline Resource Harvesting	Archaeological evidence suggests hunting on the river at least 3000-5000 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 Aboriginal use of the area.
1.3 Extraction of Water	The Mersey Paper Company had a sawmill near the Shelburne River in 1940.		None
2 Water Transport			
2.1 Commercial Transportation	The Mersey Paper Company probably used the river for transportation purposes	MTRI, Parks Canada, Bowater Mersey Paper Company, NSERL, Atlantic Center for Global Change and Ecosystems Research, Acadia University and School for Resource and Environmental Studies (Dalhousie University) worked together to locate dams and dam remnants (such as flumes that were used for moving logs) in the Mersey Watershed and to determine the effects of dams on the distribution of certain wetland species at risk.	Improved knowledge of dam and dam remnant locations with potential for knowledge concerning their impact of wetland Species at Risk.

CHRS Cultural Framework (2000)	Shelburne River Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
2.2 Transportation Services	Not discussed at time of nomination	Not applicable	None
2.3 Exploration & Surveying	Not discussed at time of nomination	Albert Bigelow Paine travelled the area in 1908; the trip is detailed in his book "The Tent Dwellers;" many have followed his route in the last 100 years.	None
3 Riparian Settlement			
3.1 Siting of Dwellings	Pre-contact natives likely had settlements on the river	Kejimkujik National Park (excluding Seaside Adjunct) designated as a National Historic Site of Canada as a Mi'kmaw cultural landscape in 2000	Improved cultural heritage efforts and interpretive activities in the region
3.2 River-based Communities	There is archaeological evidence that suggests a village site at the river's mouth	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.
3.3 River-influenced Transportation	Not discussed at time of nomination	Mi'kmaq Rights Initiative Research into traditional use sites	
4 Culture & Recreation			
4.1 Spiritual Associations	Not discussed at time of nomination	Mi'kmaq Rights Initiative Research into traditional use sites	Inventory of traditional Mi'kmaq use sites
4.2 Cultural Expression	Not discussed at time of nomination		
4.3 Early Recreation	Canoeing the Shelburne River was popularized in the 1908 book <u>The Tent Dwellers</u> by Albert Bigelow Paine	The Tent Dwellers canoe route is being developed and promoted	Improvements to the heritage route concept and promotion of the river
5 Jurisdictional Uses			

CHRS Cultural Framework (2000)	Shelburne River Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
5.1 Conflict & Military Associations	Not discussed at time of nomination		
5.2 Boundaries	The river is transboundary between Queens and Digby counties. It forms the boundary between Kejimkujik National Park & Historic Site and Tobeatic Wilderness Area. The river also serves as the northern boundary of Tobeatic Wildlife Management Area.		no changes
	The river links the lower portion of the Annapolis Valley to the South Shore of the province, 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		
5.3 Environmental Regulation	Not discussed at time of nomination	MTRI, Parks Canada, Bowater Mersey Paper Company, NSEL, Atlantic Center for Global Change and Ecosystems Research, Acadia University and School for Resource and Environmental Studies (Dalhousie University) worked together to locate dams and dam remnants (such as flumes that were used for moving logs) in the Mersey Watershed and to determine the effects of dams on the distribution of certain wetland species at risk.	Improved knowledge of dam locations and their effects on wetland Species at Risk.

CHRS Cultural Framework (2000)	Shelburne River Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
		A portion of the Mersey watershed has been managed as a sanctuary since 1927, a Wildlife Management Area since 1968 and as Wilderness Area since 1998.	

7.2 Condition of Cultural Values Since Designation

Kejimkujik National Park was designated a Canadian National Historic Site as a Mi'kmaq cultural landscape in 2000, which has led to improved cultural heritage protection and interpretive efforts in the region. For example, a new publication features the Aboriginal heritage in southwestern Nova Scotia, on-site learning programs are offered by Mi'kmaq interpreters, and sites of significance such as the petroglyphs found within the national park are routinely patrolled.

The Mi'kmaq Rights Initiative conducted research on traditional use sites within southwestern Nova Scotia at the request of Nova Scotia Environment and the Nova Scotia Department of Natural Resources. The research led to improved knowledge of pre-contact use of the river and an inventory of Mi'kmaq traditional use sites. This data complements existing information concerning sites near Sand Lake and Lake Rossignol to give a broader perspective of aboriginal land and water use 3500 to 500 years ago.



Mersey Tobeatic Research Institute research into the effects of dams on wetland Species at Risk has led to improved knowledge of dam and dam remnant locations while offering significant potential for knowledge concerning their impact of wetland Species at Risk.



Nova Scotia Environment and its government and community partners are celebrating the 100th anniversary of the publishing of *The Tent Dwellers*, by Albert Bigelow Paine. This celebration will focus on the [The Tent Dwellers](#) heritage canoe route, and will include interpretation materials and related community events; all of which will increase local and visitor knowledge of the heritage river and its values.

8.0 Recreational Values

8.1 Background & Status

Because there is no national framework for recreational values, the activities listed in the Red River Background Study were adapted for use in this section. • (Canadian Heritage River System: Red River Background Study, 1998)

The values for which the Shelburne River was nominated are summarized in the following table, according to this recreational values framework. The table also outlines significant actions over the last ten years, and any changes to those values.

Table 3 Shelburne River Recreational Values

Recreational Capability Themes & Sub-themes (adapted from Red River CHR'S Background Study)	Original Shelburne River Recreational Capability Rating	Significant Actions, Research or Studies	Description of Current Situation	Changes or Threats to Nomination Value(s)
1 Boating				
1.1 Whitewater canoe, kayak & raft	Whitewater canoeing opportunities exist			None
1.2 Extended Canoe Tripping (motor & non-motor)	Non-motorized canoeing in the main means of river travel	<i>Into the Tobeatic guide</i> published by NSEL <i>Paddling the Tobeatic</i> book by Andrew Smith published	The Tent Dwellers canoe route is being developed and promoted	Increased awareness of river, which may lead to increased recreational and interpretive use
1.3 Day paddling & rowing (from urban center)	Day trips are not possible 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 tourboats	Not applicable			None
2 Angling				
2.1 Day angling (from urban center)	The Shelburne River is not a fishing destination			None
2.2 Weekend angling (from urban center)	The Shelburne River is not a fishing destination			None
2.3 Extended angling vacation	The Shelburne River is not a fishing destination			None

Recreational Capability Themes & Sub-themes (adapted from Red River CHRIS Background Study)	Original Shelburne River Recreational Capability Rating	Significant Actions, Research or Studies	Description of Current Situation	Changes or Threats to Nomination Value(s)
2.4 Fly fishing	The Shelburne River is not a fishing destination			None
2.5 Ice fishing	The Shelburne River is not a fishing destination			None
2.6 Specific fish species	Limited population of brook trout			
3 Water Content				
3.1 Swimming	Not discussed at time of nomination		Water quality is suitable for swimming.	None
3.2 Water skiing	Not discussed at time of nomination		not applicable	None
3.3 Snorkel/scuba	Not discussed at time of nomination		not applicable	None
4 Water Associated Activities				
4.1 Trail use (hiking, walking, cycling)	Not discussed at time of designation; some people use old logging roads for these activities	Hiking potential recognized in Tobeatic Wilderness Area Management Plan	Commitment to conduct feasibility study for a long-distance hiking trail through the river corridor	Improved management direction.
4.2 Camping	Low capability	Recognized in Tobeatic Wilderness Area Management Plan	Plans to designate tenting sites along the lower Shelburne River at Sand, Little Tupper and Tobieatic Lakes	Improved management direction.
			20 informal tenting sites were identified on maps in Andrew Smith's book Paddling the Tobeatic along with three camps (one of which is Pollards Falls Ranger Camp)	Improved public information to support management and existing use.

Recreational Capability Themes & Sub-themes (adapted from Red River CHRS Background Study)	Original Shelburne River Recreational Capability Rating	Significant Actions, Research or Studies	Description of Current Situation	Changes or Threats to Nomination Value(s)
4.3 Hunting	Not permitted in the National Park; limited to 6 day primitive hunt in Wildlife Management Area	Completion of Tobeatic Wilderness Area Management Plan	Vehicle use restricted for hunting or other recreational uses Baiting of animals for hunting is prohibited within Tobeatic Wilderness Area	Reduced opportunity for habituation of bear and deer. Reduced impacts associated with vehicle use.
5 Winter Activities				
5.1 Snowmobiling/dog sledding	Not discussed at time of nomination; not applicable	Tobeatic Wilderness Area Management Plan Section 4.2.5)	Vehicle use not permitted in Wilderness Area	Improved public information and policy clarification.
5.2 Cross-country skiing (day use urban center)	Not discussed at time of nomination		People use the area from Pebblelogitch Lake (Mason's cabin) along the Shelburne River	None
5.3 Skating (urban center)	Not discussed at time of nomination; not applicable			None

Recreational Capability Themes & Sub-themes (adapted from Red River CHRS Background Study)	Original Shelburne River Recreational Capability Rating	Significant Actions, Research or Studies	Description of Current Situation	Changes or Threats to Nomination Value(s)
6 Natural Heritage Appreciation	6.1 Wildlife	42 km (79%) of the river corridor has outstanding wilderness attributes; it is Nova Scotia's most remote wilderness river	Regional Protected Areas Management planning Intent to designate Shelburne River Wilderness Area Development of Tent Dwellers route New wilderness travel planning guides & the implementation of the Keep It Wild Program Southwest Nova Biosphere Reserve Project and development of MTRI	Improved outreach, interpretation, and public and stakeholder education.
	6.2 Vegetation	Old growth hemlock and pine stands; excellent examples of extensive barrens and semi-barrens that have been subject to repeated burns	Acquisition of land from Bowater secures additional high quality old growth forest sites	Improved

Recreational Capability Themes & Sub-themes (adapted from Red River CHRS Background Study)	Original Shelburne River Recreational Capability Rating	Significant Actions, Research or Studies	Description of Current Situation	Changes or Threats to Nomination Value(s)
6.3 Vistas/scenic quality	Undisturbed barrens, bogs and forests. Panoramic scenes are associated with the river's eskers	Acquisition of land from Bowater secures additional vistas and scenic landscapes	Scenic vistas also associated with islands in Sand and Irving Lakes, which are Crown land	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	Pre-contact archaeological sites exist at the mouth of the river			Improved information base for future work.
7.2 Cultural Landscapes	Not discussed at time of nomination	Kejimkujik National Park has been designated as a National Historic Site of Canada as a Mi'kmaw cultural landscape		Improved
7.3 Sporting Events/Activities	Not discussed at time of nomination; not applicable		Annual Rivers Day events will take place on Shelburne River	Improved
7.4 Cultural events/activities	Not discussed at time of nomination		Activities are being developed around the promotion of <u>The Tent Dwellers</u> canoe route	Improved

8.2 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. *Paddling the Tobeatic: Canoe Routes of Southwestern Nova Scotia* describes various ways to travel along the Shelburne River and may make the routes better known. This increased awareness will probably mean greater recreational use of the river and increased interpretive opportunities. There are plans to develop tenting sites along the lower Shelburne and Sand, Tupper and Tobeatic Lakes. Annual Rivers Day events are planned for the Shelburne River.

Protected areas management planning; the designation of the river as a candidate wilderness area; the development and promotion of the Tent Dwellers canoe route, popularized in 1908; new wilderness travel planning guides; implementation of the *Keep It Wild* program and the emergence of the Mersey Tobeatic Research Institute and the Southwest Nova Biosphere Reserve project.

A number of the recreational capability themes and sub-themes have been supported through priority actions in the management framework of the Tobeatic Wilderness Area Management Plan.

Natural heritage appreciation opportunities have been improved through the acquisition of land from AbitibiBowater, which secured additional high quality old growth forest sites, vistas and scenic landscapes. The acquisition means greater representation of old forest stands and additional scenic vistas associated with islands in Sand and Irving Lakes, which are Crown land.

9.0 Integrity Guidelines

Natural, Cultural and Recreational integrity guidelines were all considered when the Shelburne River was nominated to the CHRS. However, only natural and recreational guidelines apply as the river was not nominated for its human heritage value.

Table 4 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 4 Shelburne River Integrity

CHRS Principles, Procedures & Operational Guidelines (2001)	Shelburne River Integrity Guideline(s)	Changes or Threats to River Integrity
3.3.1 Natural Integrity Guidelines		
The nominated section is of sufficient size to include significant representations of all of the natural processes, features, or other phenomena which give the river its outstanding natural value	The Shelburne Rivers is 53km in length and is free flowing with a drainage area of 27739 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 will be further improved with the designation of Shelburne River Wilderness Area. These areas encompass old growth forests, undisturbed glacial landforms and extensive barrens.
The nominated section includes those ecosystem components which contribute significantly to the provision of habitat for species in need of protection	Approximately 95% of the river corridor is in provincial crown ownership and is essentially in wilderness condition. The remaining 5% is owned by the Nova Scotia Power Corporation.	Mainland moose, a Species at Risk, inhabit the river corridor as well as wetland Species at Risk. Bowater sponsored Atlantic Canada Conservation Data Center research on rare species in 2000-01.
There are no human-made impoundments within the nominated section	No impoundments exist on river	A historic dam was removed from Irving Lake according to research by Karen McKey on the effects of dams on wetland Species at Risk.
All key elements and ecosystem components are unaffected by impoundments located outside the nominated section	Dam remnants exist in the watershed; they are not active and the system has naturalized to their presence. An active hydroelectric dam exists on Lake Rossignol and effects flowage on associated with the lower Shelburne River.	None
The water in the nominated section 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

CHRS Principles, Procedures & Operational Guidelines (2001)	Shelburne River Integrity Guideline(s)	Changes or Threats to River Integrity
The natural aesthetic character of the nominated section is free of, or not adversely affected by, human developments	Aesthetics have not been adversely affected by human developments	None
3.3.3 Recreational Integrity Values		
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 water may irritate some swimmer's eyes.	None
The river's visual appearance is capable of providing river travellers 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 rivers known for extensive barrens, conspicuous eskers and old growth forests	A Special Management Corridor ensures long term integrity of the river is maintained; acquisition and designation of 95% of corridor as legally protected area.
The river is capable of supporting recreational uses without significant loss of, or impact on, its natural and cultural values or its visual character	The river has been used recreationally since the 1800s, but maintains its original appearance	The Tent Dwellers canoe route is being developed to promote the heritage values and aesthetics of the river

10.0 Review of Management Plan Objectives

Management goals and objectives for the Shelburne River were outlined in 1996, as a part of the CHRS nomination process, in The Shelburne Canadian Heritage River Management Plan. The creation of the management plan allowed the Shelburne River to be designated in 1997. Table 5 lists the management plan recommendations and reports on the degree of achievement by government and other groups.

Note:

Many references to Nova Scotia Department of Natural Resources (NSDNR) in the management plan now apply to Nova Scotia Environment (NSE), as provincial responsibility for the CHRS was transferred to Environment in 1998.



Table 5 Shelburne River Management Plan Objectives

The Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement (Initiated, On-going, Addressed, Partial, Complete)	Action(s)
Redesign and implement a permit system (in cooperation with Kejimkujik National Park) 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 those actions defined in the Tobeatic Wilderness Area Management Plan.	Action reiterated in the Tobeatic Wilderness Area Management Plan as priority actions : 4.2.3a - establish a voluntary user registration system 4.2.3b - Investigate the feasibility of establishing a mandatory user registration system, to provide information and encourage personal responsibility for safety
NSDNR, in cooperation with Bowater and NS Power, to establish and maintain wilderness campsites with minimal basic facilities	Initiated. This action is supported for sites within the Tobeatic Wilderness Area and the candidate Shelburne River Wilderness Area.. No on-site work has been done.	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, Beverley 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	Complete	Development of the <i>Into the Tobeatic educational campaign</i> Development of the <i>Keep It Wild</i> guide for low-impact recreation, which follows the leave no trace principles

The Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement (Initiated, On-going, Addressed, Partial, Complete)	Action(s)
Clear and develop portages to a minimal standard required for safe passage and minimized site impacts	Partial	<p>Discussions are underway with Canoe Kayak Nova Scotia and local clubs to develop a portage maintenance agreement.</p> <p>Addressed in the Tobeatic Wilderness Area Management Plan:</p> <p>4.2.3f - Work with partners to clearly mark and maintain carries (portages) on major canoe routes on the Sissiboo, Shelburne, Roseway, and West Branch Jordan Rivers. All other canoe route carries will remain unmarked, unless future use levels demand greater management of these routes.</p>
Prohibit motorized boats, except for wildlife management purposes	Complete for upper watershed within TWA, this prohibition does not apply to the lower reach of the river, nor for Sand and Irving Lakes at this time.	<p>The use of motorized boats is prohibited in the Tobeatic Wilderness Area as per Management Framework 4.2.5 - NSEL will not permit vehicle use in the Tobeatic Wilderness Area except in specific limited circumstances, recognizing that vehicle use is permitted on the Crown road from Indian Fields to Silvery and DeMoliter Lakes.</p> <p>The use of motorboats on Sand Lake will be reviewed through the designation of Shelburne River Wilderness Area.</p>
NSDNR will build and maintain wardens' cabins	On-going	Existing cabins (Cofan, Mason's, and Pollard's Falls) are being maintained through a partnership between NSE, DNR and Kejimkujik National Park.

The Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement (Initiated, On-going, Addressed, Partial, Complete)	Action(s)
NSDNR will maintain the Cofan and Buckshot camps as cultural features	Initiated - preliminary review of cabin sites is complete.	Addressed in the Tobeatic Wilderness Area Management Plan: 4.2.1b - Evaluate heritage sites and consider restoration measures to protect or commemorate identified values. In particular, consider commemoration or restoration of the ranger cabin at Buckshot Lake, and the maintenance of the ranger cabins at Sand Beach Lake and at Tobeatic Lake.
NSDNR will produce a back country 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.
NSDNR and Kejimkujik will act in partnership to cooperate in the recreational use management requirements of the river	On-going	NSE provided resource information to Andrew L. Smith for his book, <i>Paddling the Tobeatic: Canoe Routes of Southwestern Nova Scotia</i>
Bowater will continue to restrict public access to forest roads on company lands to ensure quality wilderness experiences	On-going	Kejimkujik 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. Kejimkujik's Plan has not been released to the public at this time.
		Bowater is complying with this action via public access control at Mersey River bridge.

The Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement (Initiated, On-going, Addressed, Partial, Complete)	Action(s)
NSDNR will initiate a detailed interpretive plan	Partial	<p>Some ad hoc interpretation has been completed, and there is an intention do more associated with the Tobeatic Wilderness Area</p> <p>The Tent Dwellers Centennial festival is planned for 2008.</p>
		<p>Addressed in the Tobeatic Wilderness Area Management Plan:</p> <p>4.4.2c - Support the development of interpretation materials for both on-site and off-site programming</p>
Formal legislative protection of the Tobeatic Candidate Protected Area	Complete	<p>The Tobeatic Candidate Protected Area became a Wilderness Area in 1998</p> <p>The Shelburne River Wilderness Area is in the planning stages</p>
		<p>Bowater has 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>
	On-going	<p>Bowater has 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>
	On-going	<p>There will be no harvesting in the 30m corridor immediately adjacent to the river</p>
		<p>There will be no harvesting in fens, bogs and swamps adjacent to the river that extend beyond the 30m corridor</p>

The Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement (Initiated, On-going, Addressed, Partial, Complete)	Action(s)
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	On-going	Designation of Shelburne River Wilderness Area will result in protection of most of this corridor
Where management activities outside the 150m SMC will impact on the views seen while travelling the river, care will be taken to reduce their impact	On-going	This objective has been met by Bowater
Operations will be scheduled, where possible, outside of peak periods of river travel	On-going	
The establishment of an agreement with NS Power to protect features and values associated with the lower portion of the river owned by the power corporation	Initiated	Preliminary discussions have been initiated on this objective.

The Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement (Initiated, On-going, Addressed, Partial, Complete)	Action(s)
Resource inventories of natural, cultural and integrity values	Addressed / On-going	<p>A range of projects have been completed or initiated through the Mersey Tobeatic Research Institute, and other partners.</p> <p>Addressed in the Tobeatic Wilderness Area Management Plan:</p> <ul style="list-style-type: none"> 4.1.1a - Continue work towards a comprehensive biodiversity inventory to identify the species, genetic variability, habitats and ecosystems of the Tobeatic Wilderness Area. 4.1.2a - In collaboration with academic, agency, and community partners, improve research capacity by building on existing programs and encouraging new research projects. 4.1.2b - Evaluate information gaps and set clear research priorities for the wilderness area 4.1.2c - Share information with partners to maximize the use of research findings. Where possible, use findings of relevant research in the region to aid management. 4.1.2d - Develop a comprehensive monitoring program framework to identify key ecosystem functions, structures, and stressors. Develop monitoring and reporting activities with regional agencies, and corporate and community partners. 4.2.1c - Identify cultural heritage research needs, and encourage new research projects, seeking funding to support priorities.

The Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement (Initiated, On-going, Addressed, Partial, Complete)	Action(s)
The adoption and implementation of a Wilderness Recreation Management Strategy	Initiated	NSE intends to designate a new wilderness area, which will be known as the Shelburne River Wilderness Area Addressed in the Tobeatic Wilderness Area Management Plan: 4.2.3j - Develop a recreation risk-management strategy with established protocols for search and rescue and emergency evacuation, in conjunction with other agencies and community partners.
The preparation and implementation of an interpretive plan	Partial / Initiated	The Tent Dwellers Festival is planned for 2008. Addressed in the Tobeatic Wilderness Area Management Plan: 4.4.2c - Support the development of interpretation materials for both on-site and off-site programming.
The establishment and implementation of a monitoring system to meet CHRS 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 NS Power will be managed in a manner consistent with CHRS objectives	On-going	This objective is currently under discussion.
NSDNR will give priority, as resources permit, to the inventory of rare and unique species, the inventory of archaeological sites associated with the river, and the collection of water quality benchmark data	On-going	Addressed through: MTRI and Mi'kmaq Rights Initiative research Water quality monitoring through installation of a new hydrometric sampling station

The Shelburne Canadian Heritage River Management Plan (1996)	Degree of Achievement (Initiated, On-going, Addressed, Partial, Complete)	Action(s)
		<p>The Tobeatic Wilderness Area Management Plan:</p> <p>4.1.1a Continue work towards a comprehensive biodiversity inventory to identify the species, genetic variability, habitats, and ecosystems of the Tobeatic Wilderness Area.</p>
NSDNR will encourage other government agencies and universities to conduct research on the Shelburne River, especially in association with Kejimkujik National Park	On-going	<p>Collaborative research is being conducted through the Mersey Tobeatic Research Institute</p>

11.0 Summary and Conclusions

The Shelburne River remains as Nova Scotia's largest pristine wilderness river. Many of the significant events that followed its recognition as a Heritage River strengthen or improve the protection afforded to its values. These include: designation of Tobeatic Wilderness Area; recognition of Kejimkujik as a Mi'kmaw Cultural Landscape; the designation of the Southwest Nova Biosphere Reserve; and the Crown's acquisition of the lower river corridor from AbitibiBowater to be designated as Shelburne River Wilderness Area. Similarly, the community-led projects of the SNBRA and MTRI 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, river use remains relatively low.

Impacts from human use or development have been minimal since designation. Annual community events, and The Tent Dwellers 2008 centennial festival, will continue to draw experienced wilderness travellers to the river.

Due to collaborative efforts and management planning, there have been no negative effects on the river since its designation in 1997 - although acid precipitation may have negative effects on already acidic lakes. This report has determined that the heritage and recreational values of the Shelburne River remain intact, or have improved since designation. Based on this report, the Shelburne River is deemed worthy of continued designation as a river of national significance within the Canadian Heritage Rivers System.

12.0 References

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