
BUILDING A COMPREHENSIVE AND REPRESENTATIVE CANADIAN HERITAGE RIVERS SYSTEM: **A GAP ANALYSIS**

EXECUTIVE SUMMARY

Canadian
Heritage
Rivers
System





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FOREWORD

THIS DOCUMENT IS AN ABRIDGED EDITION OF A 109-PAGE CANADIAN HERITAGE RIVERS SYSTEM POLICY PAPER TITLED *BUILDING A COMPREHENSIVE AND REPRESENTATIVE CANADIAN HERITAGE RIVERS SYSTEM: A FINAL TECHNICAL REPORT*¹. THIS POLICY PAPER, WHICH WAS COMPLETED IN 2010, IS OFTEN REFERRED TO AS THE “GAP ANALYSIS,” WHICH IS THE TERM USED THROUGHOUT THIS DOCUMENT IN REFERENCE TO THE ORIGINAL REPORT.

03

The purpose of the Gap Analysis was to provide the Canadian Heritage Rivers Board with key information that would inform future river nominations and guide the Board's decisions concerning the growth of the System. The report identified natural, cultural and geographic gaps in the current System, including gaps in the representation of specific river values and features. As a result of this analysis, a list of priority rivers for nomination was established; this list is provided in Table 4 of this document.

This Executive Summary has been written to avoid the technical vocabulary employed in the full report, while nonetheless presenting its key components, recommendations and conclusions. Although no specific or firm cap on the number of rivers required to complete the System is contained in the Gap Analysis, it does recognize that as the Canadian Heritage Rivers System (CHRS) enters its fourth decade, it is now a mature conservation program with perhaps a range of 10 to 15 future nominations for the System to be considered representative of Canada's river heritage.

For river advocates who may not see their river identified as a priority river in this document, the possibility of a future nomination does remain. Managing jurisdictions have flexibility concerning nominations, and a case can be made that a river that is not identified in the Gap Analysis nonetheless fills one or more of the natural or cultural gaps in the System, or is a river of national importance that merits consideration for inclusion in the Canadian Heritage Rivers System.

The identification of particular rivers in this document in no way implies an obligation for a provincial or territorial managing jurisdiction to nominate that river. It is up to each managing jurisdiction to make a final decision to nominate a river based on the heritage values of the river, its management complexity, its contribution to the national System, and the degree of public and political support for such a nomination.

¹ A copy of the full technical report is available through the CHRS Secretariat or from members of the Canadian Heritage Rivers Board. Contact information for these members of the CHRS team is available on the program website: www.chrs.ca

INTRODUCTION

THE CANADIAN HERITAGE RIVERS SYSTEM

The Canadian Heritage Rivers System (CHRS) is Canada's national river conservation program. Through the CHRS, federal, provincial and territorial governments work with local communities, Aboriginal peoples and stewardship groups to nominate and designate Canadian Heritage Rivers, and to manage them in order to conserve their natural, cultural and recreational values.

The CHRS is administered by the Canadian Heritage Rivers Board, which is comprised of members representing participating federal, provincial and territorial government agencies. The Board determines whether rivers meet the selection guidelines and integrity criteria required for a river's inclusion in the System, and makes recommendations to the responsible federal, provincial, and territorial government Ministers to approve nominations and designations. The Board is governed by a Charter that delineates the overarching vision and principles of the CHRS, and administers the program according to a ten-year strategic plan. Both the Charter and the current strategic plan can be viewed online at: www.chrs.ca

THE NOMINATION AND DESIGNATION PROCESS

There are several key documents that proponents of river nominations must provide as part of the process of nominating and designating a river to the System. These include, in chronological order:

- **A pre-screening document that provides a summary of the unique role the river will play in the CHRS if successfully designated and what geographic or thematic gaps in the current System it would fill;**
- **A background study that provides an inventory of the river's outstanding natural, cultural and recreational values;**
- **A nomination document that provides clear substantiation of the river's merits as a Canadian Heritage River and its meaningful contribution to the CHRS from a national perspective; and,**
- **A designation document (sometimes referred to as a management plan or heritage strategy) that outlines how the heritage values for which the river was nominated will be wisely managed and maintained in the long term².**

The above-listed documents describe the river values and features for the waterway being considered for nomination and/or designation. River values in the CHRS are defined as characteristics of a river which are part of its overall nature, which are intangible or which cannot be given a specific location. All heritage river nominations are based on a river's outstanding natural, cultural and recreational values. River features are characteristics of a river which are tangible, in situ, and which can be identified in one or more specific locations within the river's watershed.

To be considered for nomination, rivers must have outstanding natural or cultural values, which may be supplemented with important recreational values. Rivers must also meet certain integrity natural or cultural integrity guidelines in order to be nominated as a Canadian Heritage River.

² A more detailed description of the Canadian Heritage River nomination and designation process can be found on the CHRS website (www.chrs.ca) and in the online CHRS publications *Your River, Your Heritage, Your Future*, and the *Canadian Heritage Rivers System: Principles, Procedures and Operational Guidelines*, in the Resources section of the website.

IDENTIFYING GAPS AND COMPLETING THE CANADIAN HERITAGE RIVERS SYSTEM

As of February 2016, 43 rivers have been nominated to the CHRS, totaling over 12,000 kilometres. Thirty-eight of these have been designated, meaning that designation documents detailing how their heritage values will be conserved have been tabled with the Canadian Heritage Rivers Board and the responsible provincial or territorial and federal ministers have approved their designation.

The growth of the national system of heritage rivers can be broken down into three distinct phases defined by decades. The first decade of the System, commencing in 1984, featured 14 designations of largely wild rivers in northern Canada which fell within provincial and national parks. These rivers could be added quickly to the System based on their outstanding natural values and, as many were already in existing protected areas, management plans were already in place that could be adapted to allow for designation.

With the designation of the Grand River in southern Ontario in 1994, the focus of the program for the next decade shifted to the addition of rivers in more settled areas of southern Canada. This decade was the period of the fastest growth in the history of the CHRS, and included the designation of 17 additional rivers.

The management complexity of these rivers was considerably higher than previous designations, and many of the rivers were nominated largely based on their cultural values.

The third decade of growth, commencing in 2004, featured seven designations. As the System matured, the Canadian Heritage Rivers Board adopted a new key priority focused on conserving the natural, cultural and recreational values and integrity of existing Canadian Heritage Rivers.

On September 11, 2007, the Ministers responsible for the CHRS program approved a ten-year CHRS strategic plan which commenced on April 1, 2008. This strategic plan put forward the priority of building a comprehensive and representative system that recognizes Canada's river heritage, with a goal that: "By 2018, there will be a comprehensive system of Canadian Heritage Rivers representing a full range of natural, cultural and recreational values of importance to Canadians." The outcomes associated with this goal are listed below:

- a) Components of a comprehensive and representative System of Canada's outstanding rivers are identified and understood.**
- b) Criteria and policies are refined to support the identification of additional rivers for inclusion in the CHRS.**
- c) Opportunities to strengthen the CHRS are filled through the nomination of key outstanding rivers of Canadian significance that add value to the System.**
- d) CHRS policies and the level and nature of government participation reflect the needs of the System and support effective program implementation.**

Identifying Gaps and Completing the Canadian Heritage Rivers System (CONTINUED)

It was recognized in this strategic plan that to truly represent Canada's entire river heritage, we need to understand what values are represented by existing heritage rivers, and where there are gaps that should be filled. Some of these gaps may be thematic in nature, while others may be geographical. It is also important to consider how to approach individual rivers that are clearly of national importance but do not fall neatly into planning criteria.

The strategic plan confirmed that additional nominations to the CHRS will need to focus on the best available additions to the System. This requires both the consistent use of national theme-based frameworks for natural and cultural heritage values and fair consideration of the interests of the public and each nominating jurisdiction.

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ATHABASCA RIVER, ALBERTA, CANADA

GENESIS OF THE GAP ANALYSIS

In 2008, the Board sought to identify which river nominations would be the most efficient means of building a comprehensive system that would fully reflect the spectrum of Canada's river heritage. A system-wide Gap Analysis was undertaken over a two-year period based on the natural and cultural frameworks that had been adopted by the Board in 2001³.

The hierarchy of themes, sub-themes and elements in the frameworks provide an orderly identification of values and features of Canadian rivers. Since the adoption of the frameworks in 2001, all nomination documents have used the frameworks as guides to identifying river values and features.

To find the best possible new nominations, the Gap Analysis utilized the frameworks in tandem with existing nomination and designation documents to identify and assess values and features that are already represented in the CHRS and to determine those that are currently absent or under-represented. Provincial and territorial CHRS Systems Studies and all ten-year CHRS monitoring reports were also cross-referenced as part of the Gap Analysis.

Natural and cultural heritage elements of rivers are of primary importance in helping to identify specific river values and features on Canadian Heritage Rivers. For this reason, the representation of natural and cultural heritage elements is also the key to identifying gaps in the System. Those rivers that have been identified in the Gap Analysis as priority rivers for future nomination contain at least two natural or cultural heritage elements that are not currently represented in the CHRS.

EXAMPLE OF NATURAL VALUES FRAMEWORK: THEME, SUBTHEMES AND ELEMENTS

The natural values framework identifies six themes, 18 subthemes and 61 natural heritage elements. The themes identified are:

- **Hydrology**
- **Physiography**
- **River morphology**
- **Biotic environments**
- **Vegetation**
- **Fauna**

The following example from the natural values framework presents the theme of hydrology with the subtheme of drainage basins. Four of the five oceanic drainage basins were identified in the Gap Analysis as having some degree of under-representation in the current System. The Atlantic Ocean drainage basin was identified as the most represented in the CHRS and the Gulf of Mexico Basin the least represented.

Theme:	Hydrology
Subtheme:	Drainage Basins
Elements:	Hudson Bay Basin; Arctic Ocean Basin; Pacific Ocean Basin; Gulf of Mexico Basin; Atlantic Ocean Basin.

³ The two frameworks, titled *A Cultural Framework for Canadian Heritage Rivers* and *A Framework for the Natural Values of Canadian Rivers* are available online at www.chrs.ca

EXAMPLE OF CULTURAL HERITAGE FRAMEWORK: THEME, SUBTHEMES AND ELEMENTS

The cultural framework identifies seven themes, 22 subthemes and 81 cultural heritage elements. The themes identified are:

- **Resource harvesting**
- **Water transport**
- **Riparian settlement**
- **Hydraulic power generation**
- **Culture and recreation**
- **Jurisdictional use**
- **Environmental regulation**

The following example from the cultural framework presents the theme of culture and recreation with the subtheme of artistic expression. One of the cultural heritage elements listed in this subtheme, architectural responses to river locations, was identified in the Gap Analysis as under-represented in the existing System.

Theme: Culture and Recreation

Subtheme: Artistic Expression

Elements: Literature on topics including human/river relations, value of particular rivers; paintings of specific rivers, or of people using rivers; river folklore; architectural responses to river locations including lodge designs, river-front parks, historic churches.



FRASER RIVER, BRITISH COLUMBIA, CANADA

ANALYSIS OF NATURAL HERITAGE ELEMENTS

1. REPRESENTATION OF NATURAL HERITAGE ELEMENTS IN THE CHRS

The Gap Analysis identified five natural heritage elements that were under-represented in the current System. These five priority natural heritage elements are: drainage basins, terrestrial ecosystems, terrestrial ecozones, aquatic ecosystems, and rare fish.

1.1 DRAINAGE AREAS

Four under-represented drainage areas were identified in the Gap Analysis. These are listed in order of priority:

Gulf of Mexico – no rivers are currently in the CHRS in this basin, which lies in southern Saskatchewan and Alberta;

Pacific Ocean – Yukon River basin – the Thirty Mile section of the Yukon River is the only designated river in this basin, which lies almost entirely in Yukon Territory;

Pacific Ocean – Columbia River basin – the Kicking Horse River is the only designated river in this basin in British Columbia;

Arctic Ocean – the lower section of the Coppermine River, nominated to the CHRS in Nunavut, is the only CHRS representative in this basin.

1.2 PHYSIOGRAPHIC REGIONS

Three physiographic regions were identified as under-represented in the current CHRS:

Peace-Slave Lowlands – only the lower portion of the Clearwater River represents this region, which lies mostly in northern Alberta;

Laurentian Region of the Canadian Shield – only the Mattawa and French represent this region, which lies mostly in southern Quebec and Labrador;

Mackenzie Lowlands – only the lower part of the Arctic Red River represents this region, which lies mostly in the Northwest Territories.

1.3 TERRESTRIAL ECOSYSTEMS

Four terrestrial ecosystems were identified as under-represented in the current CHRS:

Arctic Cordillera – no rivers are included in this relatively small part of Nunavut, where most drainage comprises short streams flowing into fiords;

Boreal Plain – only the lower section of the Clearwater River represents this region, which lies mostly in northern Alberta;

Northern Arctic – only the Soper River represents this region, which falls entirely in Nunavut and which comprises the second largest ecosystem in Canada;

Boreal Cordillera – three sections of the Yukon, Alsek and Tatshenshini rivers represent this region in Yukon and northern British Columbia.

MAP 1: UNDER-REPRESENTED DRAINAGE AREAS, PHYSIOGRAPHIC REGIONS AND TERRESTRIAL ECOSYSTEMS

The map and table below provide more information on these first three natural heritage elements, identifying under-represented areas (on Map 1) and possible rivers that could fill these gaps (in Table 1).

The shaded areas of the map illustrate priority areas of the country that are under-represented in the current System for natural heritage values. The under-represented areas include the Arctic Islands (situated largely in Nunavut), parts of the Yukon and Northwest Territories, parts of northern British Columbia and northern and central Alberta, southern British Columbia, Alberta and Saskatchewan along the border with the United States, and the Laurentian region of the Canadian Shield running through southern Quebec and Labrador.

MAP 1

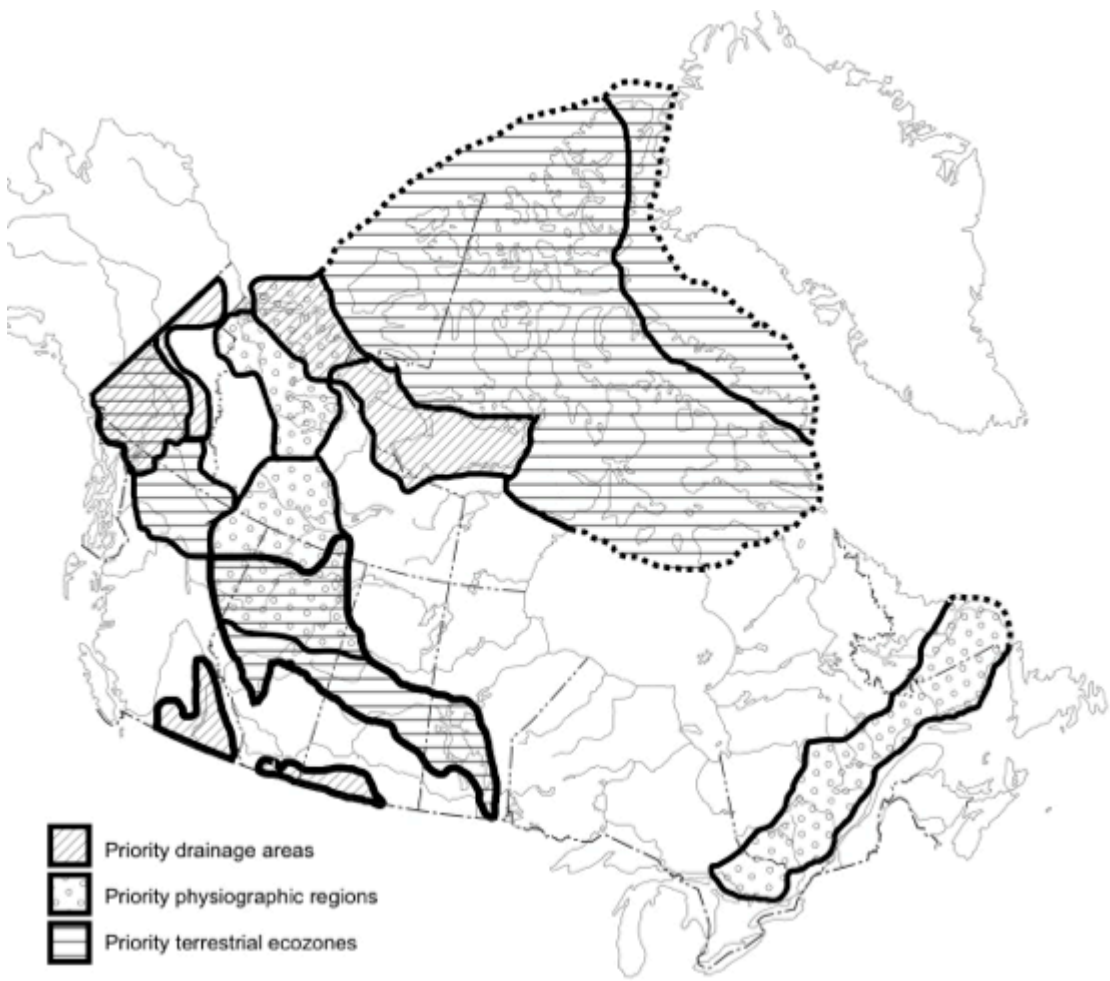


TABLE 1: POSSIBLE REPRESENTATIONS OF UNDER-REPRESENTED DRAINAGE BASINS, PHYSIOGRAPHIC REGIONS, AND TERRESTRIAL ECOZONES

Table 1, below, identifies rivers that could fill at least one of the missing natural heritage elements under-represented by drainage basins, physiographic regions and terrestrial eco-zones.

NATURAL ELEMENT	CHRS WITH EXISTING REPRESENTATION	POSSIBLE EXTENSIONS/ ADDITIONS WITHIN CHRS	POSSIBLE REPRESENTATIONS OUTSIDE CHRS
DRAINAGE AREAS			
Gulf of Mexico drainage basin			Battle (AB) Milk (AB, SK), Frenchman (SK)
Yukon drainage basin	Yukon	Yukon (YT)	Porcupine, Yukon tributaries (Stewart, Pelly, Teslin) (YT)
Columbia drainage basin	Kicking Horse		Columbia (BC)
Arctic Ocean seaboard	Coppermine	Coppermine (NT)	Back, Anderson, Hornaday , Burnside, Hood, Back, Thomsen, Quoich (NU)
PHYSIOGRAPHIC REGIONS			
Peace Slave Lowlands	Clearwater		Mackenzie (NT), Peace, Slave (BC, AB), Hay (AB, NT), Athabasca (AB)
Laurentian Shield	Mattawa, French	Ottawa (QC)	St. Lawrence (ON), St. Maurice, Jacques Cartier, Saguenay, Manicauogan, Moisie (QC), Natashquan, Little Megatina, Churchill (NL)
Mackenzie Lowlands	Arctic Red		Mackenzie, Liard (NT)
TERRESTRIAL ECOZONES			
Arctic Cordillera			No named rivers
Boreal Plain	Clearwater		Peace, Athabasca, Slave (AB), Saskatchewan (SK)
Northern Arctic	Soper		Thomsen (NWT)
Boreal Cordillera	Yukon, Tatshenshini, Alsek	Yukon (YT), Tatshenshini (BC)	Liard (YT, BC), Dease, Upper Stikine (BC)



1.4 AQUATIC ECOSYSTEMS

Aquatic ecosystems could not be analyzed in the same way as the three spatial natural elements. There is no available single source identifying all types of aquatic ecosystems across Canada⁴. To assess how well they are represented in the present CHRS, it was necessary to devise “river regions” and to analyze how many existing Canadian Heritage Rivers contain representations of each type of aquatic ecosystem in each region. In this way it was possible to see not only which ecosystems were under-represented overall, but also in which parts of Canada they were not represented at all.

Among aquatic ecosystems, four types were possibly under-represented in the current CHRS: eutrophic lakes, and swamps, which were found on only 12 rivers even though they would seem to be ubiquitous in Canada; and salt-marshes and sub-tidal zones which, even taking into consideration that only 13 Canadian Heritage Rivers flow into salt-water, were nevertheless uncommon in the System.

⁴ *The Atlas of Canada publishes maps of wetland distribution but this only displays the proportion of land coverage for these types of ecosystems.*



FRASER RIVER, BRITISH COLUMBIA, CANADA

TABLE 2
PRIORITY RANKING OF RIVER REGIONS
AND NEEDED AQUATIC ECOSYSTEMS

Table 2 summarizes the types of ecosystems under-represented in the CHRS and the general locations (regions) where their further representation would be most beneficial. The first four regions listed in the table (the Quebec/Labrador Shield, the Northern Arctic, the Mackenzie Shield and the Mississippi region) are the four most under-represented aquatic ecosystems in the current System.

PRIORITY RANK	RIVER REGION	% ECOSYSTEMS UNREPRESENTED	NO. ECOSYSTEMS MISSING	NEEDED ECOSYSTEM TYPES
1	Quebec/ Lab. Shield	100 %	12 of 12	All
2	Northern Arctic	100 %	11 of 11	All
3	Mackenzie Shield	100 %	8 of 8	All
3	Mississippi	100 %	8 of 8	All
5	Mackenzie Plain	73 %	8 of 11	Subtidal zones, salt-marshes, swamps
6	Interior Plains	63 %	5 of 8	Eutrophic lakes, swamps
7	Eastern Arctic	56 %	7 of 12	Swamps
8	S. Arctic Plain	55 %	6 of 11	Eutrophic lakes, subtidal zones, salt-marshes, swamps
9	Kazan Taiga Shield	50 %	5 of 10	Subtidal zones, salt-marshes, swamps
10	Northern Cordillera	50 %	4 of 8	Eutrophic lakes, swamps
10	James Bay Shield	50 %	4 of 8	Eutrophic lakes, swamps



1.5 RARE FISH

In contrast to the first four priority natural elements, it was possible to identify actual rivers rather than regions where rare fish might be represented. About half of fish species recognized as rare in Canada are actually found on existing Canadian Heritage Rivers. The following five rivers outside the CHRS are named more than once in the Gap Analysis as supporting several rare fish species:

- **St. Lawrence River (Quebec/Ontario)** – Lake Sturgeon, Bridle Shiner, Pugnose Shiner, Striped Bass;
- **Columbia River (B.C.)** – Columbia Mottled Sculpin, Shorthead Sculpin, Westslope Cutthroat Trout, White Sturgeon, and possibly Speckled Dace;
- **Kootenay River (B.C.)** – Westslope Cutthroat Trout, White Sturgeon, and possibly Speckled Dace;
- **Milk River (Alberta)** – Eastslope Sculpin, Western Silvery Minnow;
- **Shubenacadie River (N.S.)** – Aurora Trout, Striped Bass, and possibly Fundy Atlantic Salmon.



KICKING HORSE RIVER, BRITISH COLUMBIA, CANADA

ANALYSIS OF CULTURAL HERITAGE ELEMENTS

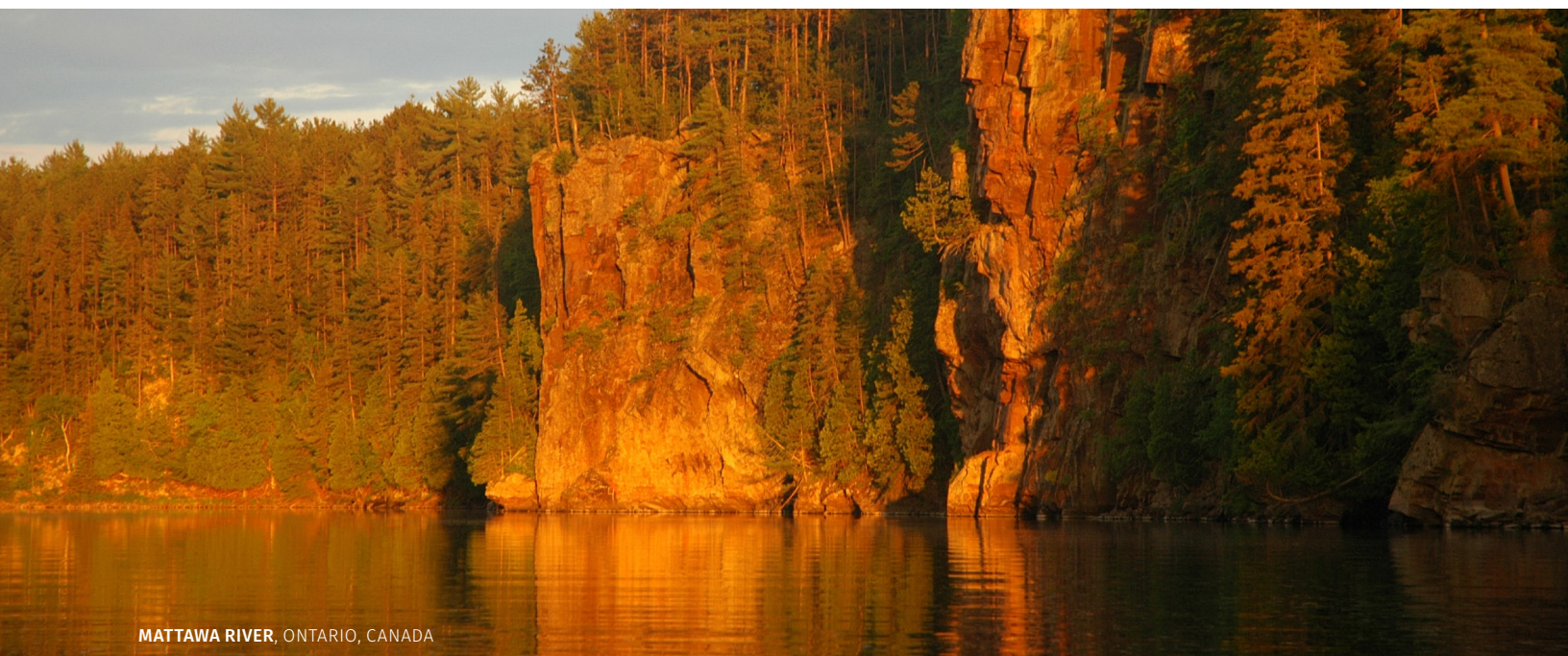
2. REPRESENTATION OF CULTURAL HERITAGE ELEMENTS IN THE CHRS

In the Gap Analysis, eight cultural heritage elements were identified as under-represented in the current System. These eight priority cultural heritage elements, in order of importance are:

- **Agricultural Extraction,**
- **Architectural Responses to River Locations,**
- **Human Consumption,**
- **Aboriginal-European Conflict,**
- **Interprovincial-Territorial Boundaries,**
- **Trans-boundary Rivers,**
- **Collection of Shellfish, and**
- **Land-based Tourism⁵.**

There are a number of rivers that could fill missing cultural heritage elements identified in the Gap Analysis. These rivers are presented in Table 3 on page 16. Three rivers were identified as containing representations of more than one of the under-represented cultural elements: the Milk, Souris and Qu'Appelle.

⁵ There are questions as to whether these elements are truly under-represented in the System. It is possible that some of these elements may have been overlooked in some nominations. Many nominations made prior to the Framework's adoption in 2001 did not recognize some of these under-represented elements as fulfilling CHRS selection guidelines. Further investigation of existing nominations could reveal more representations. Rivers which appear to hold the most opportunities for this are the Grand, Fraser, Red, Saint John and Ottawa.



MATTAWA RIVER, ONTARIO, CANADA

TABLE 3
POSSIBLE REPRESENTATIONS
OF UNDER-REPRESENTED CULTURAL
ELEMENTS

CULTURAL ELEMENT	CHRS WITH EXISTING REPRESENTATION	POSSIBLE ADDITIONAL RIVERS IN THE CHRS	RIVERS WITH POSSIBLE REPRESENTATIONS OUTSIDE CHRS
Agricultural Extraction	Detroit, Cowichan	Fraser, Red, North Saskatchewan, Grand, Thames	St. Mary, Bow, Belly, Oldman, Milk, Battle, South Saskatchewan, Red Deer, Wapiti (AB), Maple Creek, Swift Current Cr., South Saskatchewan, Qu'Appelle (SK), Pembina, Souris, Winnipeg (MB), Okanagon, Thompson (BC)
Architectural Responses	Red, Thames, Restigouche, Tatshenshini	None	None identified
Human Consumption	Humber, Thames, Detroit, North Saskatchewan	Grand, Saint John, Ottawa, Red, St. Mary's, Cowichan, Fraser, Rideau	None identified
Aboriginal-European Conflict	Detroit, Saint John, Ottawa, Humber, Red	None	Red Deer, Oldman, South Saskatchewan, La Biche, Beaver, Battle (AB), Battle, Saskatchewan, Frenchman, Beaver, Qu'Appelle, Fond du Lac, Montreal (SK), Berens, Roseau, Beaver Cr. (MB), Eel, Buctouche, Richibucto (NB)
Interprovincial-Territorial Boundaries	Ottawa	Restigouche, Kicking Horse, Athabasca, North Saskatchewan	Churchill (NL) George (QC)
Trans-Boundary Rivers	Red, Saint John, Coppermine, Tatshenshini, Clearwater, Bloodvein	None	Richelieu, Coaticook, Des Anglais (QC), Souris, Pembina (MB), Belly, Waterton, Milk, North Milk, St. Mary (AB), Frenchman, Battle Creek (SK), Kootenay, Columbia, Kettle, Mission, Skagit (BC)
Collection of Shellfish	PEI Rivers, Hillsborough, Thames, North. Sask. Cowichan, St. Croix	Fraser, Saint John, Bay du Nord, Main, Margaree, Red, Detroit, Grand	None identified
Land-based Touring	North Saskatchewan, Red, Saint John, Athabasca, Detroit, Cowichan, Kicking Horse	Margaree, Grand, Ottawa, Fraser	None identified

IDENTIFICATION OF PRIORITY RIVERS

TABLE 4
RIVERS CAPABLE OF REPRESENTING
MORE THAN ONE UNDER-REPRESENTED
ELEMENT

The names of a number of rivers outside the CHRS occur several times in each of the two (natural and cultural) analyses. These rivers, which are listed in Table 4, below, could be considered as top priority rivers for future nominations with respect to efficiently filling representation gaps.

RIVER	NATURAL ELEMENTS REPRESENTED	CULTURAL ELEMENTS REPRESENTED
Milk (AB)	Gulf of Mexico drainage basin, East slope sculpin/western silvery minnow, all aquatic ecosystems present	Agricultural extraction Trans-boundary rivers
Frenchman (SK)	Gulf of Mexico drainage basin, All aquatic ecosystems present	Aboriginal-European conflict Trans-boundary rivers
Battle (AB, SK)	Gulf of Mexico drainage basin, all aquatic ecosystems present	Agricultural extraction Aboriginal-European conflict
Columbia (BC)	Columbia drainage basin, Columbia mottled sculpin, shorthead sculpin, Westslope cutthroat trout, white sturgeon	Trans-boundary rivers
South Saskatchewan (AB, SK), Qu'Appelle (SK)		Agricultural extraction Aboriginal-European conflict
Souris (SK), Pembina (MB)		Agricultural extraction Trans-boundary rivers
St. Mary (AB)		Agricultural extraction Trans-boundary rivers
St. Lawrence (ON, QC)	Boreal Shield physiographic region, Lake Sturgeon, Bridal shiner, pugnose shiner, striped bass	
Yukon (YT)	Boreal Cordillera Ecozone, Cordilleran Plateau Physiographic Region, Aquatic ecosystems: eutrophic lakes, swamps	
Peace (BC, AB), Athabasca (AB), Slave (AB, NT), Hay (AB, NT)	Boreal Plains ecozone, Peace Slave Lowlands physiographic region, Aquatic ecosystems: eutrophic lakes, swamps	
Mackenzie (NT)	Peace-Slave Lowlands physiographic region, Mackenzie Lowlands physiographic region	



TABLE 5
RIVERS PREVIOUSLY
RECOGNIZED BY THE BOARD FOR
POSSIBLE FUTURE CONSIDERATION
AS CANADIAN HERITAGE RIVERS

In addition to the rivers identified in Table 4, there is an additional set of priority rivers which had been previously identified by managing jurisdictions as possible candidates for future nomination. Rivers included on this list have been recognized by the Board as being potential additions to the Canadian Heritage Rivers System, and are therefore not subject to the same pre-screening requirements as other possible additions. The list includes some rivers that have already received CHRS study funding. There is, however, no obligation for a managing government to nominate a river listed below.

RIVER	MANAGING JURISDICTION
Adams River	British Columbia
Athabasca River Extension	Alberta
Bow River	Alberta
North Saskatchewan River	Saskatchewan
St. Lawrence River	Ontario
Shubenacadie Canal	Nova Scotia
Back River	Nunavut
Mackenzie River	Northwest Territories

FUTURE NOMINATIONS: A RECOMMENDED APPROACH

The Canadian Heritage Rivers Board and its working group, the Technical Planning Committee, verified and accepted the conclusions of the Gap Analysis and agreed to implement its recommended course of action, which included creating a pre-screening process and applying this process to all proposed new nominations.

The pre-screening process was integrated into the 2013 updates to the Canadian Heritage Rivers System: Principles, Procedures, and Operational Guidelines. When a pre-screening report is deemed necessary, this process requires that proponents of river nominations demonstrate their river brings to the System:

- **Natural regions or zones that are absent or under-represented in the present CHRS;**
- **Aquatic ecosystems in regions which presently do not contain any; and/or**
- **Cultural heritage elements which are significant in terms of quantity or quality and which are absent or under-represented in the present CHRS.**

This pre-screening process will inform the jurisdictional Board member's consideration of the river for its potential inclusion in the CHRS and its advancement to the background study stage.

CONCLUSION

The Gap Analysis report concludes that there are a limited number of rivers that could each fill several gaps in the present System and many which could fill individual gaps. There is no exact number of new nominations that will make the System fully representative of Canada's river heritage. Up to 11 river nominations may be needed to fill the gaps in the natural heritage elements. Representation needs for aquatic ecosystems and cultural heritage elements are more open-ended, but any one nomination could represent several priority elements, natural or cultural. Each subsequent new nomination will complete some gaps and raise the priority of others.

Even with the identification of Canadian rivers that can best fulfill System needs, there remains the need for public and political support for these river nominations for them to move forward. It is not expected that the nomination of some key rivers will occur in time for the objective of representing the full range of natural and cultural values by 2018 to be fulfilled.

Over the past three decades, the Canadian Heritage Rivers System has grown to be a strong, vibrant conservation program that includes outstanding examples of Canada's rich river heritage. As the CHRS enters its fourth decade, the Gap Analysis will be an important policy tool that will help guide the addition of new rivers to the System, broadening its representation, and adding value to this important national conservation program.



ATHABASCA RIVER, ALBERTA, CANADA | PHOTO: YU SHENG