



Tatshenshini River

Ten Year Monitoring Report

Prepared for:
Yukon Parks
Department of Environment
Government of Yukon
Whitehorse, Yukon

Prepared by:
Bruce K. Downie
PRP Parks: Research & Planning
Whitehorse, Yukon

Purpose of the Report

The Tatshenshini River was designated as a Canadian Heritage River in 2004. The Canadian Heritage River System requires regular monitoring of the natural, heritage and recreational values underpinning each designation. This report presents the results of the ten year review of the river values and key elements of the management strategies for the Yukon portion of the Tatshenshini watershed. The report also points out which characteristics and qualities of the designated river have been maintained as well as the activities and management actions that have been implemented to ensure the continued integrity of the river's values. And, finally, the report also highlights issues that require further attention in order to maintain the heritage values of the designation. On the basis of these findings, the report assesses the designation status of the Tatshenshini River within the Canadian Heritage River System.

Acknowledgements

Thanks are due to the those individuals consulted through this analysis and especially to the dedicated individuals in Yukon and First Nations governments who continue to work towards the protection of the natural and cultural values and the wilderness recreational opportunities of the Tatshenshini River.

Appreciation is also extended to Parks Canada and the Canadian Heritage Rivers Board Secretariat for their assistance and financial support of this review.

All photos provided by: Government of Yukon

Table of Contents

Executive Summary.....	4
1. Introduction.....	5
1.1 CHRS.....	5
1.2 Tatshenshini River.....	6
1.3 Objectives of this Review.....	7
1.4 Location	8
1.5 Methodology for Report.....	9
2. Chronology	10
3. Assessment of Nomination Values.....	12
3.1 Natural Resource Values.....	13
3.2 Cultural Heritage Values	20
3.3 Recreational Values	25
3.4 River Integrity Values.....	31
3.5 Benefits Since Designation.....	36
4. Assessment of Management Plan Activities	38
5. Conclusion and Recommendations.....	42
6. References.....	43
7. Appendix 1: Third Party Interests in the Tatshenshini River CHRS Designated Area	44
8. Appendix 2: Backcountry Recreation Impact Monitoring [BRIM]	45

Executive Summary

The Yukon portion of the Tatshenshini River was designated as a Canadian Heritage River in 2004. It was the third designation made by Yukon government to the Canadian Heritage Rivers System [CHRS]. All of the CHRS criteria – natural heritage, cultural heritage, and recreational values – are considered extremely significant in the river's designation. The Tatshenshini is a critical and central component of the traditional territory of the Champagne and Aishihik First Nation [CAFN]; their history and culture are inextricably linked to sites like Klukshu and Shāwshe [Dalton Post]. Protecting the natural character of the area is therefore important to the CAFN but also to Yukoners generally. The Tatshenshini also provides an internationally significant recreational opportunity in a remote wilderness environment.

This is a periodic review required by the CHRS every ten years to assess the status of the rivers in the System to determine the conditions of the river values that were the basis of their nomination. The review evaluated the status and integrity of the values for which the river was included in the CHRS and determined whether these qualities remained sufficient for the river to continue to be part of the System.

There is no doubt that the resource values for which the Tatshenshini River was nominated are indeed still able to support the designation. Little change has been experienced in the river corridor due to its relatively remote location and the lack of adjacent land use development. The natural heritage, human heritage and recreational values that underpin the nomination are being monitored, conserved and maintained.

The report provides an assessment according to the frameworks and criteria currently accepted by the CHRS for such reviews. It acknowledges the work that has been implemented since the designation of the river and makes some final suggestions concerning actions that might be helpful in determining future actions.

1. INTRODUCTION

While the Yukon River and its tributaries drain a major portion of the territory into the Bearing Sea, other portions of Yukon drain into either the Arctic Ocean or the Pacific Ocean. This representation of the territory's watershed divide was a contributing factor for the inclusion of the Tatshenshini in the Canadian Heritage River System [CHRS], as the river is the primary contributor to the relatively small portion of the territory that drains to the Pacific. The 2004 designation of the Tatshenshini made it the third Yukon river (outside of a national park) to be designated to the CHRS; the Thirty Mile segment of the Yukon River was designated in 1991 and the Bonnet Plume River was designated in 1998.

1.1 CHRS

Yukon participated in the CHRS program from its outset in 1984. Initially, interest in the territory was focused on two rivers as potential CHRS candidates – the Alsek River and the Thirty Mile segment of the Yukon River. However, there was a sense at the time that to truly recognize the river heritage of the territory, a more comprehensive analysis upon which to base selection of potential candidate rivers was necessary. A system study was therefore undertaken from 1986 to 1989 to determine how many and which rivers within Yukon should be considered for CHRS status. A total of 77 rivers throughout the territory were assessed in that review for their potential contribution to the CHRS – through their natural, cultural and recreational significance to Yukon. Consideration was also given to integrity of river values in line with the CHRS criteria. Preliminary analysis reduced the number of rivers to 36 which were to undergo more detailed analysis. The rich river

heritage seemed to suggest that with so many potential candidates, a territorial system of managed rivers might also be pursued. A two-step ranking process was conducted which resulted in a five-category grouping of river values; those in the highest rank were considered significant candidates for CHRS nomination. The systems study report identified the following candidate rivers: Alsek, Big Salmon, Bonnet Plume, Firth, Porcupine, Tatshenshini and Yukon.

The Tatshenshini River makes an important contribution to the CHRS system in Yukon. It ranked very highly in the systems study in both heritage and recreational value. At the time of its consideration, there was considerable focus on alternative resource uses in the general area [specifically mining] and the potential nomination served to raise the profile of the CHRS in Yukon through the very heated

public debate that ensued and the recreational use of the river that was prompted by the debate. Today the river continues

1.2 Tatshenshini River

The Tatshenshini River was nominated for its outstanding representation of a coastal river system possessing high quality natural heritage values, for representing a central place in the history of the people of the Champagne and Aishihik First Nation and for providing an internationally significant river recreation opportunity in a wilderness environment. It was the third river nominated to the CHRS by Yukon government. The management strategy that supported the designation was developed in close cooperation with – and was approved by – three partnering governments: Canada, Yukon and the Champagne and Aishihik First Nation [CAFN]. The river was designated to the System in 2004.

to offer a remarkable historic and recreational experience in a natural wilderness setting.

The Tatshenshini . River links a complex of protected areas in the territory and surrounding region. Both Kluane National Park and the Tatshenshini-Alsek Park in British Columbia are World Heritage sites. Resource extraction potential – specifically a potential copper mine on Windy Craggy Mountain in northern British Columbia – brought attention to the area in the early 1990s, prompting a huge response from environmentalists that were beginning to appreciate the value of the river and the area as a whole. The international attention brought many visitors to the Tatshenshini to experience it as a recreational wilderness river.

1.3 Objectives of this Review

This review of the status of the Tatshenshini River is the first ten-year review following the CHRS designation in 2004. As with all heritage river reviews, the essential objectives are:

- to describe the values of the river for which it was designated and the extent to which those values have been maintained;
- to review the present conditions of the river designation area in light of the integrity guidelines;
- to assess the level of implementation and continuing suitability of the management strategy for the river's watershed; and,
- to determine if the designation of the Tatshenshini should be maintained within the CHRS.

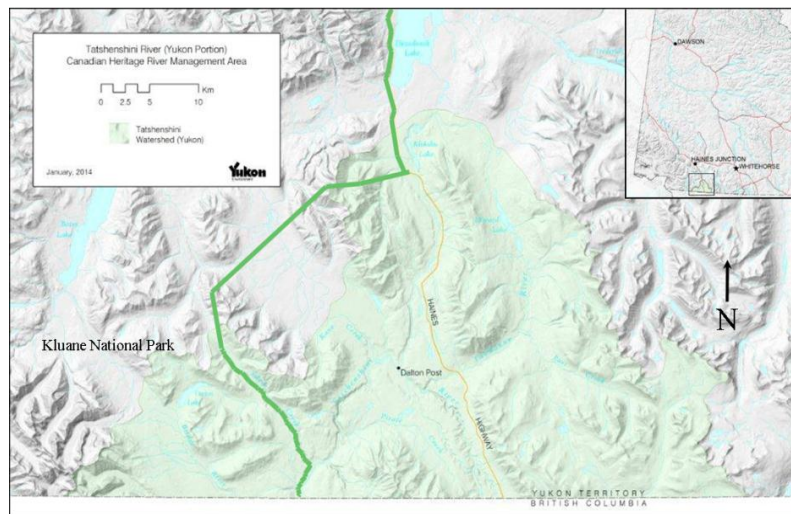
The review will also identify any shortfalls in the management of the river during review period and will provide guidance for future management of the area.



1.4 Location

The Yukon portion of the Tatshenshini River contains a significant component of the river's headwaters even though the actual length of the main stem river within Yukon is only approximately 45 kilometres. The river originates in British Columbia, flows northward into Yukon and then loops back into British Columbia again on its way through the Alaska Panhandle to the Pacific Ocean.

The area designated to the CHRS is the entire watershed of the river within Yukon, which encompasses Klukshu Lake on the north, Howard Lake, the Takhanne River and Pass Creek on the east and Onion Lake and the Bridge River on the west. The southern boundary of the area is the BC/Yukon border [see inset map]. This watershed area includes two portions of Kluane National Park: the western edge of the park, as well as a small section of the north of the park on the western side of the Haines Road, across from Klukshu Lake.



The area is divided east / west by the Haines Road, which joins the Alaska Highway approximately 60 kms to the north of Klukshu Lake. The highway provides ready access to the river both for day use and extended river trips. The vicinity of the historic Shāwshe [Dalton Post] is the takeout point for day trips from further upstream and is the launching point for extended river trips to the coast.

The Tatshenshini flows out of Yukon into the Tatshenshini-Alsek Park of British Columbia and heads southwest, soon joining with the Alsek River – another CHRS river nominated and managed by Parks Canada within Kluane National Park.

From its junction with the Alsek, the Tatshenshini then cuts its way through the Coast Mountains and through Glacier Bay National Park in Alaska to the Pacific coast.

The river watershed remains in a natural state, as the area is generally not a priority for resource development activities. Rather, it is recognized as an area rich in scenery and wilderness recreational opportunities.

1.5 Methodology for Report

This report is essentially a review of existing documentation provided by the major stakeholders in the area: Yukon government, Kluane National Park and the First Nations with interests and traditional territories within the area. Each of the three jurisdictions maintains its own authority and responsibility for areas and activities on the lands they control [See Appendix #1].

From Yukon government perspective, departments with significant roles in the area are:

- the Department of Environment – Yukon Parks [with overall management responsibility for the CHRS program in Yukon];
- the Department of Tourism and Culture – Historic Sites and Cultural Services Branch [which has responsibility for the preservation, management and interpretation of historic resources]; and, the Tourism Branch [which has responsibility for the monitoring and promotion of

recreational opportunities for general public use and appreciation of the territory]; and,

- the Department of Energy, Mines and Resources [which includes branches responsible for permitting and monitoring mining and oil and gas exploration and development activity].

Parks Canada manages lands within Kluane National Park, the southwest corner of which is within the designated CHRS area, including Onion Lake and Bridge River. These are backcountry areas within the park supporting wilderness recreation activities in keeping with the Tatshenshini River designation.

The Champagne Aishihik First Nation, through their departments of Lands and Resources and Language, Culture and Heritage have a major role to play in the planning, management and monitoring of the sites within the river corridor that are part of and contribute to their cultural heritage.

Actions to specifically protect and promote cultural values have been identified within the Final Agreement negotiated with the territorial and federal governments and have been implemented consistent with the provisions of this agreement.

The approach in this report is to analyze the information gathered and present it within the frameworks provided by the CHRS for the natural, cultural and recreational values of the river as well as for the river integrity requirements. In each

case, the recommended CHRS tables have been used to summarize the assessment and key actions that have been taken to ensure resource sustainability. In addition, the actions described in the river's management strategy have also been reviewed to determine what actions have been successfully achieved and what actions are outstanding. Recommendations are then advanced to suggest future directions that could improve or ensure the continued good standing of the Tatshenshini River within the CHRS system.

2. CHRONOLOGY

Regular monitoring of the Tatshenshini River is conducted by Yukon Parks. These reports are filed annually and record events of significance to the integrity of the river. The annual reports themselves are not noted below but reference to the events and other significant actions that have been undertaken with respect to the heritage resources and recreational opportunities are highlighted in the table as significant to the river's CHRS designation.

Table # 2.1 Activities Affecting the Tatshenshini River [2004 to 2013]

Year	Significant Event, Actions, Research or Studies since designation [2004]
2004	<ul style="list-style-type: none"> • formal acceptance of the nomination and designation of the Tatshenshini River by the CHR Board
2005	<ul style="list-style-type: none"> • dedication ceremony marking the designation of the river to the CHRS • installation of the CHRS plaque on site

2006	<ul style="list-style-type: none"> • backcountry Recreational Impacts Monitoring [BRIM] survey conducted throughout the river corridor • results indicate vast majority of the upper river corridor [Blanchard to Shäwshe / Dalton Post] remains in pristine condition with only minor site disturbance
2008	<ul style="list-style-type: none"> • work continued [draft design stage] on interpretive panels intended for installation at the Pringle Tower pullout as identified within the pre-existing Alaska Highway West and Haines Road Interpretive Plan [2002] prepared by Yukon Tourism, Heritage Branch
2009	<ul style="list-style-type: none"> • two mineral exploration land use permits were issued • one of the permits was for the construction of an airstrip at Squaw Creek however restriction in the permit were included to limit flying heights and restrict flying over the river corridor to minimize impact on recreational users
2013	<ul style="list-style-type: none"> • backcountry Recreational Impacts Monitoring [BRIM] survey conducted throughout the river corridor • results indicate vast majority of the upper river corridor [Blanchard to Shäwshe / Dalton Post] remains in pristine condition with only minor site disturbance

3. ASSESSMENT OF NOMINATION VALUES

The timing of the documentation upon which the Tatshenshini designation was based, including the Background Study [1993] and the Nomination Document [1998], preceded changes within the Canadian Heritage Rivers program. Thus these documents contain analysis frameworks that have been replaced by more recent national theme structures for the System. In addition, the Tatshenshini River management strategy document reflects on the condition of the full range of heritage and recreational values and does not limit itself to the key themes for which the river was nominated.

This assessment report has therefore gone back to the original studies and nomination proposal to determine the key themes underpinning the nomination and to link them to the new CHRS frameworks. The tables that follow therefore illustrate the values as they are reflected in those new frameworks. For example, the natural values used to recommend the Tatshenshini River for CHRS status were highlighted in the nomination document's "Summary of Values". It is in this section of the report that those features of outstanding significance were identified. These key values were then investigated in other sections of the nomination document and background study to gain a more complete understanding of the rationale for nomination. . This understanding was then used to complete the tables within the revised CHRS structure.

The outlines in this and each of the subsequent sections below reflects the transition and linkage presenting the resulting set of heritage and recreational values used in the nomination of the Tatshenshini as they fit into the current theme structure.



3.1 Natural Resource Values

The Yukon portion of the Tatshenshini River is a significant component of the upper watershed. Although the river's headwaters are in British Columbia, a number of important streams [e.g. Klukshu, Takhanne, and Bridge] contribute flow to the main stem of the river and are important salmon habitat – a highly significant characteristic of the river that is central to much of its cultural and historical significance. The surrounding watershed divide rises to approximate elevations of approximately 1900 meters. The watershed is covered at lower elevations by white spruce forest and at higher elevations by shrub birch and willow. The lack of development in the area has meant that it has remained in a predominantly natural state.

Represented Themes

Under the current framework for Natural Resource Values of Canadian Heritage Rivers, the values identified for the Tatshenshini River fall into four of the six CHRS themes: 2) physiography; 3) river morphology; 4) biotic environments; and, 6) fauna. These subthemes are listed below with a brief description of the significant resources and their relevance to the Tatshenshini designation.

Theme 2: Physiography

Sub-theme 2.2 geological processes

The Tatshenshini River is located within the Denali fault zone displaying a complex geological structure of sedimentary and volcanic rock of Proterozoic to Triassic age as well as granitic intrusions from the Triassic and Jurassic periods. This complex base has been modified extensively by glacial ice movement and many of the landscape features originating from glacial action – U-shaped valleys, hanging valleys, striations, horns, cirques, tarns, moraine and till. Glaciation is a continuing influence in the landscape as change is now being brought about by deglaciation. The last such period was approximately 12,000 years ago.

Sub-theme 2.3 hydrogeology

In the evolution of the Tatshenshini, its route through the northern Coast Range is of significance. The Coast Mountains are a watershed divide and most of the streams which drain this region westward reach the Pacific Ocean in less than 50 kilometres. The Tatshenshini on the other hand managed to breach the mountain range in one of the highest areas within the range and thus exhibits a remarkable range of environments along its route. Traversing the mountain range has also created some significant landscape features such as the upper and lower canyons that add significantly to the character and experience of the river.

Sub-theme 2.4 topography

The combination of the headwaters component of the river along with its evolution of breaching the watershed divide of the Coast Ranges has resulted in a significant gradient of the river especially associated with the upper and lower canyons. The elevation of the river is over 1,000 metres at its source and over its entire length to the coast averages a gradient of approximately 4 meters per kilometre with greater gradients in the upper reaches within the Yukon portion of the watershed.

Theme 3: River Morphology

Sub-theme 3.1 valley types

The result of the river gradient and topography is a prolonged series of rapids and whirlpools through an often straight channel combined with river cliffs and undercuts. The character of the channel varies as it encounters tributaries producing alluvial fans and river terraces.

Theme 4: Biotic Environments

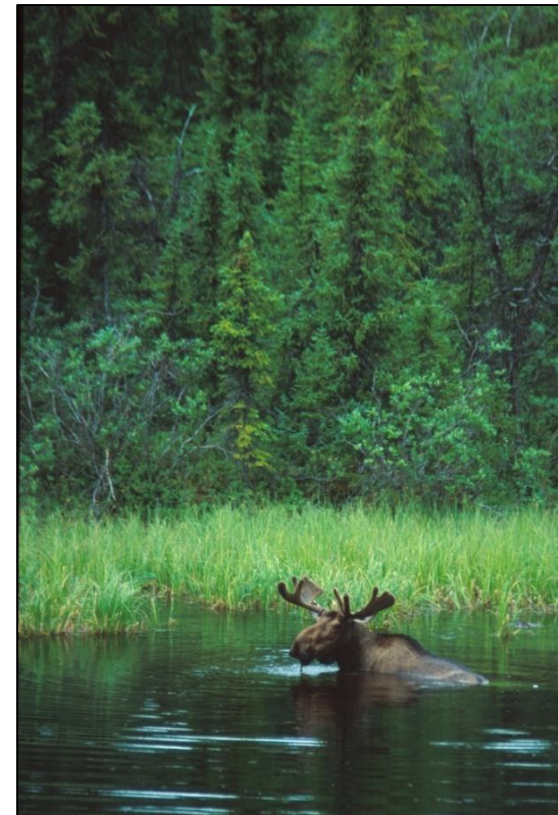
Sub-theme 4.2 terrestrial ecosystems

The Tatshenshini represents the Coast Mountain ecoregion within the CHRS. It is an area of rugged mountains with tree growth [mostly white spruce] only in the lower valleys and shrub birch and willow in the sub-alpine. It is a zone of climatic transition from the wetter coastal into the rainshadow areas of the Coast Mountains resulting in the decrease of precipitation moving from west to east and more moderated temperatures as a result of the maritime influence.

Theme 6: Fauna

Sub-theme 6.1 significant populations

The Tatshenshini area is characterized by what has been recognized as “highly significant wildlife habitat”. The combination of boreal forest habitat along with the presence of high mountain environments produces a significant diversity of habitats. Moose, black bear and a range of smaller furbearers such as wolf, fox, coyote, lynx, wolverine, marten, beaver and hare inhabit the area. A few species are of special note. Mountain goats are relatively abundant here, although generally throughout Yukon their population is small. Dall’s sheep are at the southern end of their range in the Tatshenshini area, although populations here are well established. The density of Grizzly bears in the area are generally considered typical, although anecdotal reports



suggest more concentrated numbers, in part perhaps related to the year-round feeding grounds in the watershed and the bears' movements in the narrow valley bottoms.

Approximately 180 bird species are also present in the area. Of special importance are the significant densities of some raptor species such as gyrfalcon and Golden eagles, which presumably benefit from the high quality nesting sites in the area.

The Tatshenshini also supports a critically important salmon fishery including sockeye, chinook, coho and steelhead trout. Most of the sockeye and chinook spawn in the upper Tatshenshini watershed including such tributaries as Klukshu, Blanchard



and Takhanne. The peak runs for chinook occur in late June to mid-July, for sockeye in late July to early September and for coho in mid-September to early October.

Condition of Natural Resource Values

There has been virtually no change in the natural resource values that are the foundation of the Tatshenshini River's CHRS designation. The area does not receive high impact use and the use is primarily recreational /river-oriented with minimal impact in the rest of the watershed. Issues related to impact from recreational users are less significant due to the relatively low volumes but also due to the responsible conduct by commercial operators providing river experiences who typically demonstrate environmentally sensitive practices on their trips. In addition, independent river users tend to be very experienced and also highly sensitive to their responsibilities for environmental integrity.

Potential large scale impacts such as land use change or industrial development are not factors for the Tatshenshini anymore. Protection in the region stems in part from the groundswell of public opposition to a major industrial development in the area (the potential copper mine on Windy Craggy Mountain in the early 1990s). The creation of the Tatshenshini-Alsek Park in British Columbia is a result of the legacy of the public opposition to that development, and it is very unlikely that the protection of this area would be rescinded. . Hunting pressure is predominantly First Nations and levels of activity are very low.

The one exception to this pattern is the salmon fishery which has declined significantly. This resource is managed internationally; however, maintaining the appropriate levels of catch to allow for sufficient numbers in the spawning grounds has proven difficult. Much like other salmon fisheries along the west coast, significant attention is being placed on both regulatory practices and the state of knowledge and research being devoted to ensuring the health of these fish populations.

The impact on resources has been limited since the designation of the Tatshenshini River to the CHRS. This is likely to continue as the Tatshenshini is not located in an area that is the focus of any large scale developments or drivers of change. Large scale developments that occur in central Yukon would be linked to the Pacific coast through the Chilkoot Pass and Skagway, Alaska, rather than along the Haines Road corridor. As a result of this low level of activity, few studies or monitoring efforts have been undertaken. The lack of impact and change is good for the designation, and consequently, managing agencies have placed a lesser emphasis on documenting change. The table below illustrates both this lack of priority and the stable nature of the resource.

Table # 3.1: Changes to Natural Heritage Values Since 2004

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
2. Physiography			
2.2 geological processes	<ul style="list-style-type: none"> • complex and not well understood tectonic history • part of the western margin of North American which formed through the action of oceanic crustal plates • Devonian to Permian sedimentary and volcanic rock • also more recent plutonic rocks • influenced by sedimentation, faulting, folding, vulcanism and metamorphosis • active mass wasting and periglacial processes 		<ul style="list-style-type: none"> • noticeable retreat of glaciers has hastened processes of erosion and fluvial action within the stream courses • as a natural process this does not represent a threat to the nominated values
2.3 hydrogeology	<ul style="list-style-type: none"> • fluvial sediments on floodplains, alluvial fans and terraces • moraine and till on lower valley slopes • talus and scree found on steep slopes • drains to Pacific Ocean drainage basin 		- none -
2.4 topography	<ul style="list-style-type: none"> • steep: > 5m / km • > 1000 metres above sea level 		- none –

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
3. River Morphology			
3.1 valley types	<ul style="list-style-type: none"> • straight and convex at different locations • canyon-like river cliff topography 		- none -
4. Biotic Environments			
4.2 terrestrial ecosystems	<ul style="list-style-type: none"> • Coast Mountains ecoregion • transition zone between the coast and inland rainshadow areas • less precipitation and moderated temperatures • significant biological diversity 		<ul style="list-style-type: none"> • spruce beetle kills have been significant in the area • a highly visible but natural process
6. Fauna			
6.1 significant animal populations	<ul style="list-style-type: none"> • nationally significant concentrations of grizzly bears • significant populations of mountain goats and raptors • southernmost range of Dall's sheep • moose populations regionally significant • salmon habitat is regionally and territorially significant 	<ul style="list-style-type: none"> • monitoring of salmon stocks is regularly done through international agreements 	<ul style="list-style-type: none"> • salmon runs are of significant concern • international recognition of the issue and attempts to address the situation are being taken

3.2 Cultural Heritage Values

Traditionally, the Tutchone and the Tlingit gathered and lived together at Shāwshe [Dalton Post] which, during pre-contact times, was probably Yukon's largest aboriginal settlement. Here was both a major fishing area, important for collecting of food supplies for the winter, and also a centre of trade. The Tatshenshini's salmon were a major attraction, encouraging travel along the river to various fish camps. It is estimated that 300-400 Tutchone from around the territory would gather here for the fish runs in Village and Klukshu creeks. Trade also figured prominently in building strong links between the Tutchone and Tlingit. The extent of trade and the celebrations and storytelling that accompanied this travel, along with the inevitable intermarriage between the two groups, strengthened the relationships.

Originally, goods such as eulachon grease and sea shells were exchanged for hides and raw copper between the two groups. With the advent of Europeans arriving on the Pacific coast, and especially the focus on the fur trade, the Tlingit took on and protected their role of middle man in the changing nature of the trade with the interior. Now European goods were

exchanged for furs, which prompted the Tutchone to expand trapping as part of their yearly activities.

Just after the middle of the 19th century, a smallpox epidemic hit the area and decimated the First Nation population. Most of the Tlingit population died in the epidemic. The survivors rejoined their relatives on the coast, ending the expansion of Tlingit culture into Yukon.

Near the end of the 19th century, Edward Glave and Jack Dalton arrived in the area. Seeing the trade opportunities, they developed a horse pack trail and trading post that served the prospectors and eventually expanded dramatically into a major freight route during the gold rush. After the opening of the White Pass and Yukon Railway route in 1900, the prominence of Dalton's freight route declined, which marked the turning point of activity in the area. Since that time, only the building of the Haines Road, in conjunction with the US war effort in the region, has focused greater attention on the area. For the CAFN, however, this area remains a critical part of their cultural identity and continued cultural survival.

Represented Themes

The historical significance of the Tatshenshini River to the modern development of Yukon is extremely significant. This southwest corner of Yukon was critically important in the pre-history of the area for its salmon fishery and the cultural and trade links with the coastal Tlingit. Because of this traditional history, early European activity built on the established relationships and routes and the area became significant to the gold rush era as well. The heritage values are captured under three of the CHRS themes as follows.

Theme 1: Resource Harvesting

Sub-theme 1.1 Fishing

The salmon fishing resource of the Tatshenshini River system was the prime characteristic of the area that brought together so many Tutchone and Tlingit at villages such as Shāwshe [Dalton Post] up and down the river. It built strong relations between the coastal and interior people's and was a central part of their cultural identity and tradition. It built a strong connection to the area as a year round home.

Theme 2: Water Transport

Sub-theme 2.1 Commercial Transportation

The Tatshenshini watershed, because of its situation as a meeting place between the coastal and interior people's, developed a strong commercial character. Trading in pre-contact times focused on natural products of the two areas and in later years European goods were exchanged for furs. Naturally once the control of the trade through the area by the coastal Tlingit was broken and Europeans entered the scene, the trade route was expanded and replaced with a significant commercial freight route.

Theme 3: Riparian Settlement

Sub-theme 3.2 River-based Communities

There were a number of river-based communities along the Tatshenshini, including the largest and most significant – Shāwshe [Dalton Post] – that was the hub of the fishing activity. These communities started as seasonal fishing camps but grew more significant as trade and meeting places between the Tutchone and Tlingit. This area was thought to be the most densely populated area of the territory prior to European contact but a small pox epidemic of the mid-19th century decimated the population here.



Condition of Cultural Heritage Values

Physical cultural heritage resources exist in the area, such as the graveyard site associated with Shäwshe. While they are important artifacts for the CAFN to retain, they are not the only links to the significance of the area from a cultural and spiritual sense. It is the sense of place that is most important to the people of the CAFN, and the Tatshenshini watershed is a portion of their territory that they treasure and want to stay connected to. From this perspective, the condition of the heritage values will only be diminished if degradation of the natural environment that represents the people's connection to the land is allowed to occur.

The natural environment has remained intact. Earlier proposals for major industrial development in the area were overturned and increased conservation actions were implemented instead. A Special Management Area [SMA] was

identified in the CAFN Final Agreement surrounding Shäwshe and a management plan is being developed. To date, the priority on maintaining the integrity of the natural environment, the cultural significance and the recreational potential of the area has protected and continues to protect the cultural values that were the foundation of the CHRS nomination.

The physical artifacts along the river, especially from the beginning of the Dalton period of expansion into a major freight route from the coast, remain on site. Without ongoing attention, such resources will deteriorate naturally and be reclaimed by the natural processes of landscape change. Both Yukon government and, more importantly, CAFN must determine which resources should receive more specific protection and stabilization efforts.

Table # 3.2: Changes to Cultural Heritage Values Since 2002

CHRS Cultural Framework (2000) Themes & Sub- Themes	Cultural Heritage Value(s) Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1. Resource Harvesting			
1.1 fishing	<ul style="list-style-type: none"> • possibly 10 or more fishing villages in the area in the 19th century • elders stories about 300-400 people gathering to fish sockeye 		- none -
2. Water Transport			
2.1 commercial transportation	<ul style="list-style-type: none"> • pre-contact trade between interior Tutchone and coastal Tlingit • high significance as an interregional transportation route • later significance as a freight route supporting exploration and the gold rush 		- none -
3. Riparian Settlement			
3.2 river-based communities	<ul style="list-style-type: none"> • Neskatahin / Shäwshe both a fish camp and a home base • Shäwshe also major regional trading centre of the 19th century • massive population losses and shifts in settlement patterns post-European contact 		- none -

3.3 Recreational Values

The Tatshenshini flows through a spectacular mountain wilderness that has been recognized as internationally significant. Although river travel on the Tatshenshini has always attracted visitors to the area, its profile as an area under development pressure during the debate over the potential Windy Craggy mine in the early 1990s galvanized a public response that increased recreational activity on the river dramatically. The success of the opposition to the mine proposal and the subsequent establishment of the Tatshenshini-Alsek Park in British Columbia seemed to mark the peak of visitation.

Two types of river-focused recreational opportunities dominate the watershed. The first is the day trip experience of rafting along the upper Tatshenshini from the Blanchard highway maintenance camp downstream to Shäwshe [Dalton Post]. This trip takes four to six hours, including typical lunch and rest stops. The second opportunity (extended river trips, which are also typically by raft), from Shäwshe [Dalton Post] to the Pacific Ocean, lasts for 11 days or more. These extended trips are led by a number of different rafting companies and numbers are controlled by the administering park agencies through which the river flows. These are two very different activities even though the mode of transport is the same.

The day use activity is a rafting experience where the thrill of white water and an experience of the river are the prime motivations for people on a holiday through the area. The extended trips are destination trips where people are coming to the region specifically for a backcountry wilderness experience.

While river recreation on the Tatshenshini remains strong for day use trips on the river, trends typical of the wilderness recreation environment influence activity levels for the extended trips. Managers have seen a significant increase in the number of river travellers undertaking independent trips as opposed to those joining a guided trip with the existing rafting companies.

At the same time, the Tatshenshini is experiencing the significant decrease in backcountry users that is now being felt throughout North American parks systems. Younger generations are simply not camping or using the backcountry as was the case 40 and 50 years ago and this is especially true for extended trips like the eleven or twelve days necessary to complete the Tatshenshini. Estimates of 1,000 extended trip river users in the late 1990s have shrunk to about half of that now. However, day use activity remains around the same level.



Other activities within the Yukon portion of Tatshenshini watershed, the area designated to the CHRS, are typical backcountry activities of hiking, nature appreciation and appreciation of the cultural history of the area.

The historic locations of Kluksu and Shäwshe [Dalton Post] are important tourist destinations. Travel along the Haines Highway as the prominent access through the region brings with it typical day and overnight use by vehicle-based travellers. Although a small portion of Kluane National Park is included in the watershed, the Onion Lake area receives very little visitation in spite of its very scenic and enjoyable environment.



Represented Themes

The following recreation values were identified in the Tatshenshini nomination. :

- 1) river travel – including canoeing, rafting and kayaking access along the river corridor;
- 2) land based activities – including camping, and hiking; and,
- 3) interpretation and appreciation – including human heritage appreciation, nature study, wildlife viewing, photography and scenic viewing.

This report records the management actions and research activities for each originally identified value that have taken place over the last ten years since the designation of the river to the CHRS. Also noted is any change in the value. The table below indicates the specifics of the prominent recreational activities and opportunities in the Tatshenshini area but there is a clear priority among those activities that characterizes the essential recreational experience of this river.

The priority is clearly as a rafting experience both on a day use basis [sub-theme 1.1] and as an extended river trip experience [sub-theme 1.1]. These are by far the dominant activities through which visitors experience the area. As noted earlier,

day use activity has focused on white water rafting. The extended river trip experience is quite different, providing the feeling and experience of true wilderness. While not directly captured in the themes of the CHRS framework, for the purposes of this report, the extended river trip is categorized in the sub-themes under nature heritage appreciation [sub-theme 6.1 and 6.3].

Another strong priority in the area is the appreciation of the historical character of the river watershed [sub-theme 7.1]. Many visitors, both those taking advantage of river experiences and those passing through the area by vehicle are both interested in and seek out a connection to the historical experience and the sites and remnants of the pre-contact cultural landscape of the First Nations people, as well as the emerging transportation focus that linked Yukon to the coast and was a noteworthy part of the gold rush story as well.

Beyond these priority components, there are other associated recreational activities that are also components of the framework and that warrant acknowledgement, such as camping and appreciation of the cultural landscape of the CAFN.

Condition of Recreational Values

The recreational resources of the corridor are excellent. It is a wild and remote area where people are generally cognizant of and respectful of the need to maintain the character of the area and minimize their impact. At the same time, the area is accessible to a wide variety of users due to the access provided by the Haines Highway linking both Haines (Alaska) and Whitehorse residents and visitors to the area. . .

The lack of development interest in the area reinforces the Tatshenshini's role as an ideal recreational opportunity for individuals with the necessary backcountry skills to be independent, as well as for people of lesser skills to experience the river with the guidance of the commercial companies. A variety of guided tour operators have a longstanding interest in the area and serve these recreational needs well.

Impacts on recreational resource values are virtually non-existent. Of course, minor impacts related to camping and day use sites can be found, but generally these are highly localized and not significant. Of more importance is the access to launching and pull-out areas, which are the key nodes of activity where levels of service significantly influence the visitor experience and where conflict between users can take place. Generally, visitor conflicts are negligible; however, road conditions to Shäwshe [Dalton Post] are reportedly periodically problematic, with vehicles being stuck in mud and clients having to walk out. In the river corridor backcountry, regular monitoring of campsites and the implementation of

the BRIM monitoring system [see Appendix #2] will help to identify areas of impact and concern on an ongoing basis.



Table # 3.3: Change to Recreation Values Since 2002

Recreational Capability Themes & Sub- Themes	Recreational Values	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1. River Travel			
1.1 white-water canoe, kayak and raft trips	<ul style="list-style-type: none"> • nationally significant river rafting kayaking and canoeing opportunities • only initial stages of extended trips which traverse the river to the Pacific through BC and Alaska 		<ul style="list-style-type: none"> • lack of maintenance of road access to the launch site has been reported as an issue
1.3 day paddling, rowing (and rafting)	<ul style="list-style-type: none"> • high quality river experience on day rafting trips above Shāwshe 		<ul style="list-style-type: none"> • lack of maintenance of road access to the pullout site has been reported as an issue
2. Angling			
2.1 angling	<ul style="list-style-type: none"> • angling focused on the salmon runs which are highly significant but also highly regulated 		- none -
4. Water-associated Activities			
4.1 trail use (hiking, walking, cycling)	<ul style="list-style-type: none"> • the area is a small part of an international wilderness recreation destination • includes a small portion of Kluane National Park 		- none -
4.2 camping	<ul style="list-style-type: none"> • high quality wilderness camping opportunities associated with both river travel and upland hiking 		- none -

Recreational Capability Themes & Sub- Themes	Recreational Values	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
6. Natural Heritage Appreciation			
6.1 wildlife	<ul style="list-style-type: none"> • nationally significant concentrations of grizzly bears – also noted for their size • overall quality and size of grizzly habitat 		- none -
6.3 vista / scenic quality	<ul style="list-style-type: none"> • exceptional scenery as part of the overall wilderness experience along the river and within the watershed • biological diversity 		<ul style="list-style-type: none"> • spruce beetle kills have had a very visible impact in the area • as a natural process it represents an opportunity for education on ecological processes
7. Human Heritage Appreciation			
7.1 historic sites	<ul style="list-style-type: none"> • Neskatahin / Shāwshe are regionally significant • many other CAFN significant heritage sites within the watershed 	<ul style="list-style-type: none"> • work has begun on a management plan for the Shāwshe SMA • no formal completion of the Shāwshe draft plan or work on other sites of interest has taken place • historic trail work in the area has been undertaken 	- none -

3.4 River Integrity Values

The nomination document for the Tatshenshini River reported that the integrity guidelines required for designation within the CHRS were met. Integrity guidelines focus on three themes: size, continuity and water quality. The assessment of the Tatshenshini River at the time was as follows:

Size

While not specifically addressed within the nomination document, the management strategy addresses this criterion. The nomination document, however, through its analysis of the natural and cultural heritage and recreational values, acknowledged the need to maintain adjacent lands and visual landscapes as part of the process of maintaining integrity. Special emphasis was placed on the success in the area of limiting incompatible development in the region and building a strong, protection-focused complex of lands within the multiple jurisdictions on the area. The designation of the entire watershed of the Tatshenshini River within Yukon supports and illustrates this intention.

Continuity

This portion of the Tatshenshini River contains all the ecosystem components required for the continuity of its natural and recreational heritage features. Although the area is traversed by the Haines Road, this development has not significantly detracted from the character of the area and other forms of development have not expanded significantly in the area. In addition, the strong protection mandates of the adjacent [Tatshenshini-Alsek] and overlapping [Kluane] park areas enhance the capacity to maintain these criteria.

Water Quality

The water quality of the Tatshenshini River remains very good. The nomination document and management strategy for the river both acknowledge that while detailed formal water quality data is not available, the water is considered to be uncontaminated and able to meet the Canadian Water Quality Standards [1984]. There is no reason to believe otherwise, given the minimal levels of land use activity that could impact such integrity.

Current Integrity Assessment

In general, the status of the river corridor is very similar to its condition at the time of nomination. Little has changed with respect to the qualities noted above. In the table below, the current integrity criteria are identified and comments with respect to changing conditions are noted where appropriate. The assessment provided in the table confirms that the Tatshenshini River continues to meet the integrity requirements of the CHRS.

Table # 3.4: Condition of River Integrity Values - 2013

CHRS Values	Nomination Value	Changes	Actions
1.0 Natural Integrity			
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	<ul style="list-style-type: none">• the entire river watershed has been designated• the area includes all the significant features which were the basis of designation	<ul style="list-style-type: none">• there have been no significant changes	- none -
1.2 The nominated area contains those ecosystem components required for the continuity of the species features or objects	<ul style="list-style-type: none">• the key ecosystem component requiring protection is wildlife habitat	<ul style="list-style-type: none">• there have been no significant changes	- none -

CHRS Values	Nomination Value	Changes	Actions
1.3 There are no human-made impoundments within the nominated area	<ul style="list-style-type: none"> there are no impoundments present 	N/A	- none -
1.4 All key elements and ecosystem components are unaffected by impoundments located outside the nominated area	<ul style="list-style-type: none"> there are no impoundments in the vicinity that affect the character of the area 	N/A	- none -
1.5 Natural values for which the river is nominated have not been created by impoundments	<ul style="list-style-type: none"> there are no impoundments in the vicinity that affect the character of the area 	N/A	- none -
1.6 The water of the nominated area of the river is uncontaminated to the extent that its natural aquatic ecosystem is intact	<ul style="list-style-type: none"> no reports are available on water quality no indicators exist to suggest any alteration to the natural aquatic ecosystem have been reported 	<ul style="list-style-type: none"> no changes in factors related to water quality have been reported 	- none -
1.7 The natural aesthetic value of the river is not compromised by human developments	<ul style="list-style-type: none"> there is very little presence of or impact from modern human activity – the human heritage assets of the area and the continuing use by First Nations people is a component of the aesthetic value 	<ul style="list-style-type: none"> minimal placer mining activity continues within a tributary of the Tatshenshini but impacts are not considered significant 	<ul style="list-style-type: none"> ongoing monitoring will identify any areas of concern as they develop

2.0 Cultural Integrity			
2.1 The nominated area is of sufficient size and contains all or most of the interrelated and interdependent elements to demonstrate the key aspects of the features, activities, or phenomena which give the river its outstanding cultural value	<ul style="list-style-type: none"> the CAFN heritage sites relating to the themes of water transport and resource harvesting are within the watershed which forms the boundary of the river designation 	<ul style="list-style-type: none"> there have been no significant changes 	- none -
2.2 The visual appearance of the nominated area of river enables uninterrupted appreciation of at least one of the periods of the river's historical importance	<ul style="list-style-type: none"> the visual character of the key cultural sites Shäwshe /Dalton Post and Klukshu are of high quality and reflective of the historical experience 	<ul style="list-style-type: none"> increased use of Klukshu village by CAFN members is being experienced through the development of residential lots 	<ul style="list-style-type: none"> CAFN regulates, monitors and documents residential development to encourage visual integrity
2.3 The key artifacts and sites comprising the cultural values for which the river is nominated are unimpaired by impoundments and human land uses	<ul style="list-style-type: none"> the key artifacts are an integral part of the cultural heritage experience of the area 	<ul style="list-style-type: none"> a plan for Shäwshe SMA is under development private family interests / ownership oppose historical designation 	<ul style="list-style-type: none"> CAFN can negotiate compatibility of personal and FN interests in the site completion of SMA management plan
2.4 The water quality of the nominated area does not detract from the visual	<ul style="list-style-type: none"> water quality is perceived to be very high although testing has not been documented 	<ul style="list-style-type: none"> there have been no significant changes 	- none -

character or the cultural experience provided by its cultural values			
3.0 Recreation Values			
3.1 The river possesses water suitable for contact recreational activities, including those recreational opportunities for which it is nominated	<ul style="list-style-type: none"> • water quality is perceived to be very high although testing has not been documented 	<ul style="list-style-type: none"> • there have been no significant changes 	- none -
3.2 The river's visual appearance provides travelers with a continuous natural experience or a combined natural and cultural experience, without significant interruption by modern human intrusions	<ul style="list-style-type: none"> • the viewscape from the river is of very high quality and reflective of the wilderness and historical experience 	<ul style="list-style-type: none"> • there have been no significant changes 	- none -
3.3 The river is capable of supporting recreational uses without loss or impact on its natural and cultural or aesthetic values	<ul style="list-style-type: none"> • there is a high capacity of the river corridor to support quality recreational experiences 	<ul style="list-style-type: none"> • there have been no significant changes 	- none -

3.5 Benefits since Designation

In addition to the assessment of values for which the Tatshenshini River was nominated, the CHRS ten year review is required to identify the benefits the CHRS designation has made relative to the objectives of the program. The table below documents those benefits based on the status of the river values, the integrity assessments and the CHRS statement of objectives:

“The objectives of the Canadian Heritage Rivers program are to give national recognition to Canada's outstanding rivers as part of a comprehensive and representative system and to encourage long-term management that will conserve their natural, cultural and recreational values for the benefit and enjoyment of Canadians, now and in the future”.



Table # 3.5: Summary of Benefits since Designation

Type of Benefit	Description
2. Cultural Benefits: e.g. improved appreciation of aboriginal or other history of river use, increased protection of sites/resources	<ul style="list-style-type: none"> • increased national awareness of cultural values of the watershed
4. Improved Knowledge: e.g. increased understanding of natural and cultural values	<ul style="list-style-type: none"> • increased broader public knowledge of the river and its values through CHRS promotions – calendar, website, conferences, etc.
6. Increased Stewardship: e.g. increased involvement in stewardship activities, number of activities and events	<ul style="list-style-type: none"> • regular monitoring of recreational and industrial impacts from corridor activities
7. Community Engagement and Collaboration: e.g. increased dialogue with community and other partners and stakeholders, increased participation in river management discussions; increased involvement in river activities	<ul style="list-style-type: none"> • significant agency collaboration – information sharing and regular discussions of regulatory linkages
9. Communication Products: e.g. increase in media being employed to describe the designation and its benefits	<ul style="list-style-type: none"> • increased media addressing CHRS values of the river – e.g. Yukon Parks participation in highway signage, Department of Environment website information, contributions to the CHRS calendar, presentations at CHRS and other conferences, etc.

4. ASSESSMENT OF MANAGEMENT PLAN ACTIVITIES

The management strategy for the Tatshenshini River was signed in 2004 by the three participating governments – Canada, Yukon and CAFN. The strategy outlined the fundamental principles for future management of the area to respect the qualities that justified its CHRS status. Four specific goals represent the commitment of the parties:

1. To protect and conserve the natural and human heritage values of the Tatshenshini River, including its outstanding natural features, historical significance, ecological diversity and cultural importance;
2. To provide a diverse range of recreational opportunities for residents and visitors to the region while continuing to conserve the natural and cultural values of the river;
3. To support communication between all agencies, the public, and First Nations in managing the Tatshenshini River in the best interests of its heritage and recreation values; and,
4. To support continued appreciation and interpretation of the natural and human heritage values of the Tatshenshini River and to promote its significance as a Canadian Heritage River.

One of the challenges referenced in the goals is the multi-jurisdictional nature of managing such a watershed. The Yukon portion of the Tatshenshini River is relatively small by comparison to the lower segments of the river in British Columbia and Alaska. Yet its significance, especially from a cultural perspective as well as its role in the recreational use of the river is critical. A collaborative approach to managing the river is clearly needed and the management plan recognized this necessity. In both of the lower segments of the river and even in the Yukon portion of the headwaters, the collaboration is among park agencies since a portion of Kluane National Park lies within the Yukon watershed area, the river corridor in British Columbia lies within the Tatshenshini-Alsek Park and the lower reaches in Alaska are within Glacier Bay National Park and Preserve. The management plan for the CHRS portion of the Tatshenshini River in Yukon is therefore consistent with the strong protection mandates articulated by the management plans for the national parks and the Management Direction Statement for the Tatshenshini-Alsek Park [see Appendix #1 for information on specific land areas of responsibility]. There is also a strong and cooperative relationship among the three government partners in Yukon that are formalized in cooperative management agreements.

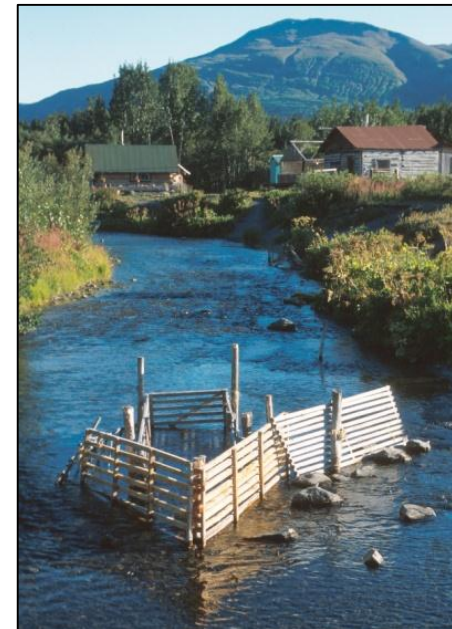
Beyond the goal statements described earlier, the management strategy for the Tatshenshini River CHRS designation focused on key management issues. Two key issues are described in the strategy as being important for action in the near future. The first was the regulation of commercial and recreational river traffic. Due to the wilderness character of the area and the visitor preference for an experience consistent with that character, controls to minimize user impacts and disperse user groups were recommended. Provisions were included to increase permit restrictions if necessary to achieve the identified goals.

The second key issue was concern for expanding trail and road access to areas outside of Shāwshe / Dalton Post. Although experience at the time of the management plan's writing demonstrated that impacts were not problematic, there was some anticipation that controls might be necessary in the future. Off-road access was reportedly directly linked to the salmon runs and access to fishing opportunities.

Both key issues have been successfully addressed in the intervening years. The cooperative management of visitor use on the river has been very successful. Coordination is well executed among the controlling agencies and use levels have diminished which has eased the anticipated pressure at the time the issue was identified. Similarly with the off-road access issue, the greatly reduced fishery has made concerns

over access to fishing largely irrelevant and additional constraints on access have not proven necessary.

A further priority for implementation in the management strategy was the development of an education and interpretation strategy cooperatively between Yukon and CAFN governments. While a formal strategy has not been prepared as such, joint efforts to promote the river and its CHRS status have been made especially with site facilities along the Haines Road. Naturally, commercial operators also promote the area and their expeditions to a broad national and international public.



In summary, the management strategy provided a framework of actions based on the issues identified at the time. This framework provides a useful way to demonstrate the intended major directions set out in the strategy and to indicate where things have been accomplished and where no action was

taken or required. Such a reflection is useful at least in clarifying what key issues remain and which potential problems have not materialized [see table below].

Table # 4.1: Designation Document Recommendations and Current Status

Designation Document Recommendation	Degree of Achievement	Actions/Notes
River recreational watercraft use <ul style="list-style-type: none"> • annual monitoring of shoreline impacts • visitor satisfaction surveys • management actions to be implemented as necessary including: permit system to limit use; limiting of shoreline access points; implement visitor use facilities and policies 	<ul style="list-style-type: none"> • on-going • visitor satisfaction assessed only through commercial operators • monitoring of river corridor impacts by agency is every 5 years 	<ul style="list-style-type: none"> • intensive management has not been necessary • users cooperative and satisfaction good • majority of users are managed on site by commercial operators and operators are responsible
Off-road vehicle use <ul style="list-style-type: none"> • implement management controls if linear disturbance, length of roads or new camps and trails were documented • use public education to limit off-road vehicles to existing trails if needed 	<ul style="list-style-type: none"> • not yet initiated • possible issue to be addressed in Shāwshe SMA management plan 	<ul style="list-style-type: none"> • level of activity has not created problems • no need to increase control on use levels

<p>Snowmobile use</p> <ul style="list-style-type: none"> • implement management controls over numbers of users and/or frequency if impacts on visitor satisfaction or moose habitat were documented 	<ul style="list-style-type: none"> • not yet initiated 	<ul style="list-style-type: none"> • level of activity has not created problems • no need to increase control on use levels
<p>Shoreline developments</p> <ul style="list-style-type: none"> • manage water quality and visual impact through land use permits if required 	<ul style="list-style-type: none"> • not yet initiated • limited third party interests along the river shoreline 	<ul style="list-style-type: none"> • level of shoreline activity has not increased • no need to increase existing monitoring or control over land use activity
<p>Industrial development [e.g. mining, forestry]</p> <ul style="list-style-type: none"> • manage water quality and visual impact through land use permits and environmental assessments if required 	<ul style="list-style-type: none"> • not yet initiated • level of activity is very low 	<ul style="list-style-type: none"> • level of industrial activity has not increased • no need to increase existing controls over land use activity

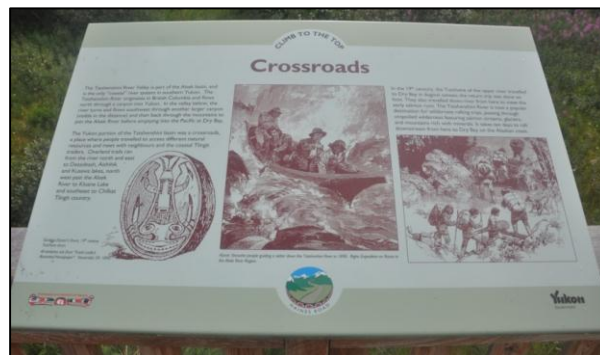
5. CONCLUSION AND RECOMMENDATIONS

The substantive conclusion of this analysis is that the Tatshenshini River [Yukon portion] should maintain its status as a designated river within the Canadian Heritage Rivers System. The natural and cultural values for which the Tatshenshini River was nominated remain in excellent condition. Recreationally, the river continues to make an important contribution to the diversity of river experiences available to Canadians and international visitors alike.

While a strong commitment exists among the jurisdictions responsible for the management of the Tatshenshini to continuing to conserve the integrity of the river, there are some actions that could contribute to the effectiveness and efficiency of the generally passive management approach.

Accordingly, the following recommendations are put forward for consideration:

- undertake a review of access facilities and routes to the launching points and make improvements as necessary;
- improve the integration the regulatory and permitting processes among the managing agencies for visitors undertaking extended river trips to the coast;
- maintain a regular monitoring program for impacts along the river corridor; and,
- encourage greater profile of the heritage river status of the Tatshenshini River in the marketing and promotion of the territory as both a natural and cultural resource and as a tourist destination.



6. REFERENCES

Government of Canada. 2003. *Information on Standard Drainage Area Classification (SDAC) 2003*. Statistics Canada. Retrieved from web at: <http://www.statcan.gc.ca/subjects-sujets/standard-norme/sdac-ctad/sdacinfo1-ctadinfo1-eng.htm>

Government of Yukon. 2012. *Annual Monitoring Report*. Internal reports prepared annually between 2005/06 and 2011/12. Yukon Parks, Dept. of Environment. Whitehorse, Yukon.

Government of Yukon. 2011. *Summary report on the backcountry recreational impact assessment [BRIM] of the Yukon River: thirty mile section*. Yukon Parks, Dept. of Environment. Whitehorse, Yukon.

Government of Yukon. 1999. *Highlights from the 1997 Yukon River survey*. Parks and Protected Areas, Dept. of Renewable Resources. Whitehorse, Yukon.

Government of Yukon. 2002. *Alaska Highway West and Haines Road Interpretive Plan*. Heritage Branch, Department of Tourism. Whitehorse, Yukon.

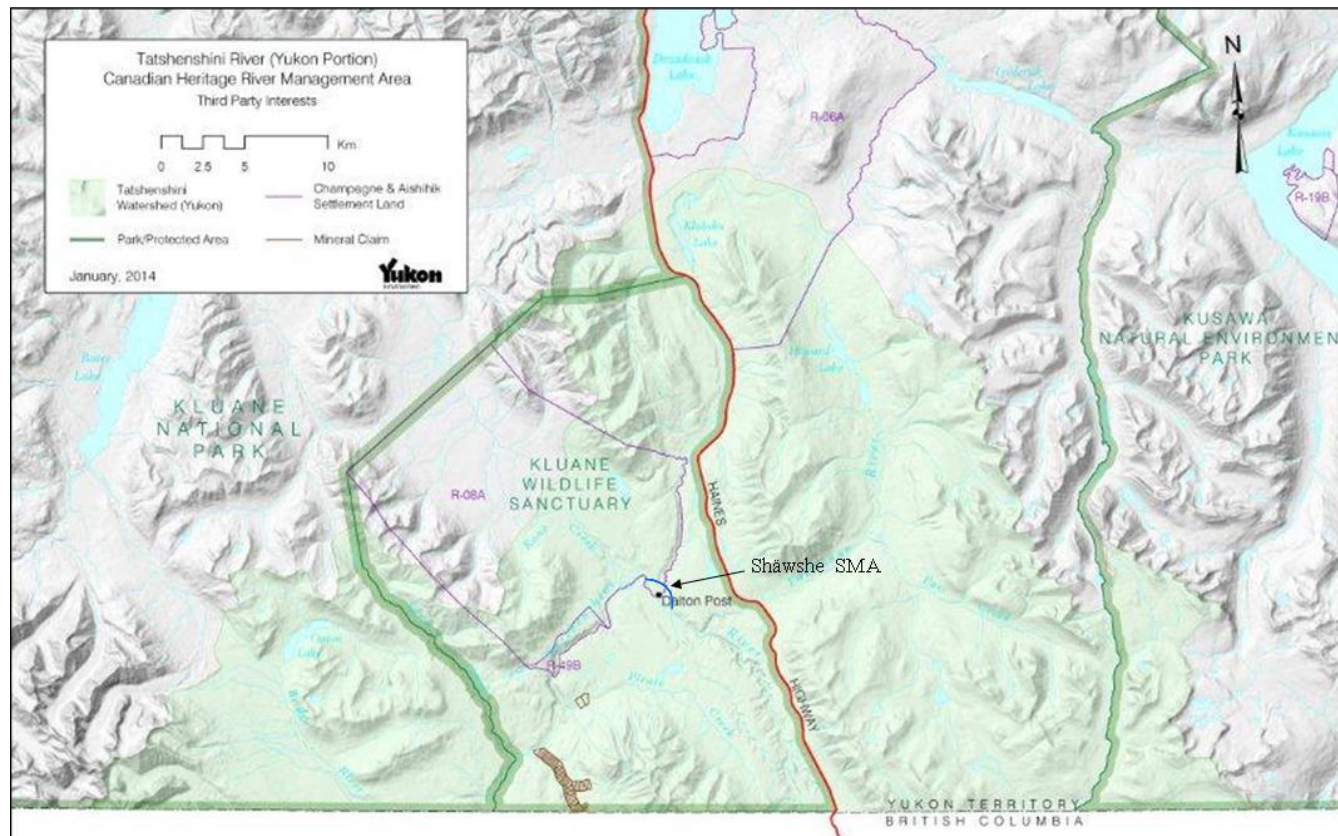
Government of Yukon. 1998. *1997 Yukon River survey: preliminary analysis*. Yukon Bureau of Statistics. Whitehorse, Yukon.

Minister of Indian Affairs and Northern Development. 2002. The Ta'an Kwach'an Council Final Agreement. Minister of Public Works and Government Services Canada, Ottawa, Ontario. <http://www.taana.ca/assets/files/WEBMASTER-dtm/WEB-01-AGREEMENT-Final.pdf>

PRP Parks: Research and Planning Inc. 1988. *CHRS Yukon system study: stage II background data report*. Report prepared for Yukon Dept. of Renewable Resources. Whitehorse, Yukon.

7. APPENDIX 1: THIRD PARTY INTERESTS IN THE TATSHENSHINI RIVER CHRS DESIGNATED AREA

Responsibility for managing the lands and waters within the Tatshenshini River CHRS designated area lies with three different governments, federal, territorial and First Nations and their associated departments and agencies. Each of their areas of interest is noted on this map: federal lands are managed by Parks Canada within Kluane National Park; First Nations lands are land claim selections including the Shāwshe SMA and are managed by CAFN; and the territorial government maintains regulatory responsibility on the remainder of public lands within the area.



8. APPENDIX 2: BACKCOUNTRY RECREATION IMPACT MONITORING [BRIM]

The BRIM monitoring system was developed in British Columbia by staff of BC Parks. It has been adopted as a mechanism for monitoring backcountry sites along Yukon's designated Canadian Heritage Rivers. The methodology that has been developed enables consistent assessment and documentation of changes caused by recreational use in natural environments of protected areas, outside of formally developed areas. The BRIM system monitors the most common impacts that are connected to camping and trail situations such as the percentage of bare soil area, the density of impact on the vegetation, tree damage and exposure of tree roots. The process involves defining campsite areas, trail sections or trail sampling points as permanent plots. Observation points must be the same in each survey to enable subsequent comparisons. Sketches and photo documentation are completed and standard forms are filled in. How often the area is assessed depends on the rate of change that is expected. With Yukon's backcountry rivers, intervals of 3 to 5 years are considered adequate since little change is expected.