

Department of Sustainable Development

Parks and Tourism Division

# Thelon Heritage River: Ten-Year Review

November 2000



Canadian  
Heritage  
Rivers  
System



Le Réseau  
des rivières  
du patrimoine  
canadien





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# Introduction

## Purpose of the Report

The Canadian Heritage Rivers System (CHRS) has adopted a policy of ten year reviews for rivers within the system. The intention of the review is to assess the integrity of the values for which the river was originally nominated and to ensure that the river remains a viable and meaningful component of the CHRS. In addition, the Government of Nunavut has an interest in reviewing the status of the management plan for the Thelon River and the progress that has been made in its implementation.

This report documents the review undertaken to address both of these tasks. A review of the background document, nomination document and management plan done for the Thelon River in 1989 provided the basis for comparison. A wide variety of sources were then explored to determine the nature and extent of change in the areas of significance to the river's Heritage River status. These sources included published reports, resource people in government agencies with responsibilities for relevant aspects of the river's resource base, other contacts within groups and organizations with an interest in the watershed, and public contacts within the community of Baker Lake.

In addition to recognized changes in the resource base, attention was also paid to concerns regarding the management of the watershed and the expectations of the local people regarding the benefits and opportunities associated with Heritage River status. Recommendations for updating the heritage river management plan for the river have also been developed in this review.

In summary the purpose of this report can be stated as:

- ✓ To update the Heritage River status of the Thelon River according to the prevailing heritage value assessments;
- ✓ To document changes in the heritage values over the ten years that the river has been designated within the CHRS; and,
- ✓ To recommend changes in management direction for the river on the basis of current heritage value status and regional circumstances.



## Background

### Nomination Process

In September of 1988, the Government of the NWT with the support of Parks Canada began a community based initiative to research and prepare documentation of the Heritage River values of the Thelon and Kazan Rivers. This was an initiative undertaken at the request of the community of Baker Lake and stemming from the earlier system analysis of potential CHRS candidates with the NWT (Baker, 1984). A major emphasis was placed on gathering information from local residents and ensuring a high level of community awareness and support.

Background reports and nomination documents were prepared for both rivers over the winter and were tabled with the CHRS Board in 1989. The formal nominations were made by three cooperating parties - the Municipality of Baker Lake, the Government of the NWT and the Department of Indian Affairs and Northern Development (DIAND). The nomination was officially accepted by the Board on June 15th, 1989. A management plan for the Thelon was subsequently submitted to the CHRS Board in 1990 to fulfill designation requirements.

Throughout the process a wide array of groups, organizations and individuals contributed to and supported

the nomination. Locally these included the Hamlet Council, the Hunters and Trappers Association (HTA) and Qilautimiut Elders group in Baker Lake as well as the Arviat Hamlet Council and the Lutsel K'e Dene Band Council. Regional organizations such as the Kivalliq Inuit Association (KIA) and the Keewatin Wildlife Federation (KWF) were also involved along with territorial and national level organizations such as the Inuit Tapirisat of Canada (ITC), Nunavut Tungavik Inc. (NTI), and the Inuit Cultural Institute (ICI). Of course a number of departments within both territorial and federal governments also provided a great deal of background information and assistance. Finally private sector interests in the tourism business and in the mining industry were also contacted and supported the initiative. Letters of support are contained as an appendix to the original plan documents.

### Overview of the Thelon River Corridor

The Thelon River flows about 940 km from the Mackenzie District of the Northwest Territories northeast of Great Slave Lake, through the Thelon Wildlife Sanctuary, into Beverly, Aberdeen and Schultz Lakes and finally into Baker Lake. This 142,400 km<sup>2</sup> drainage basin (including that of its major tributary, the Dubawnt) lies in the heart



of the mainland portion of the Nunavut Territory and is noteworthy for its pristine, undisturbed character. The upper reaches of the river traverse the transition zone between the boreal forest of black spruce and tamarack and the treeless tundra adding significantly to the diversity of the biological character of the river corridor. From its entry into Beverly Lake the river course combines its former character with that of these large lakes surrounded by open tundra

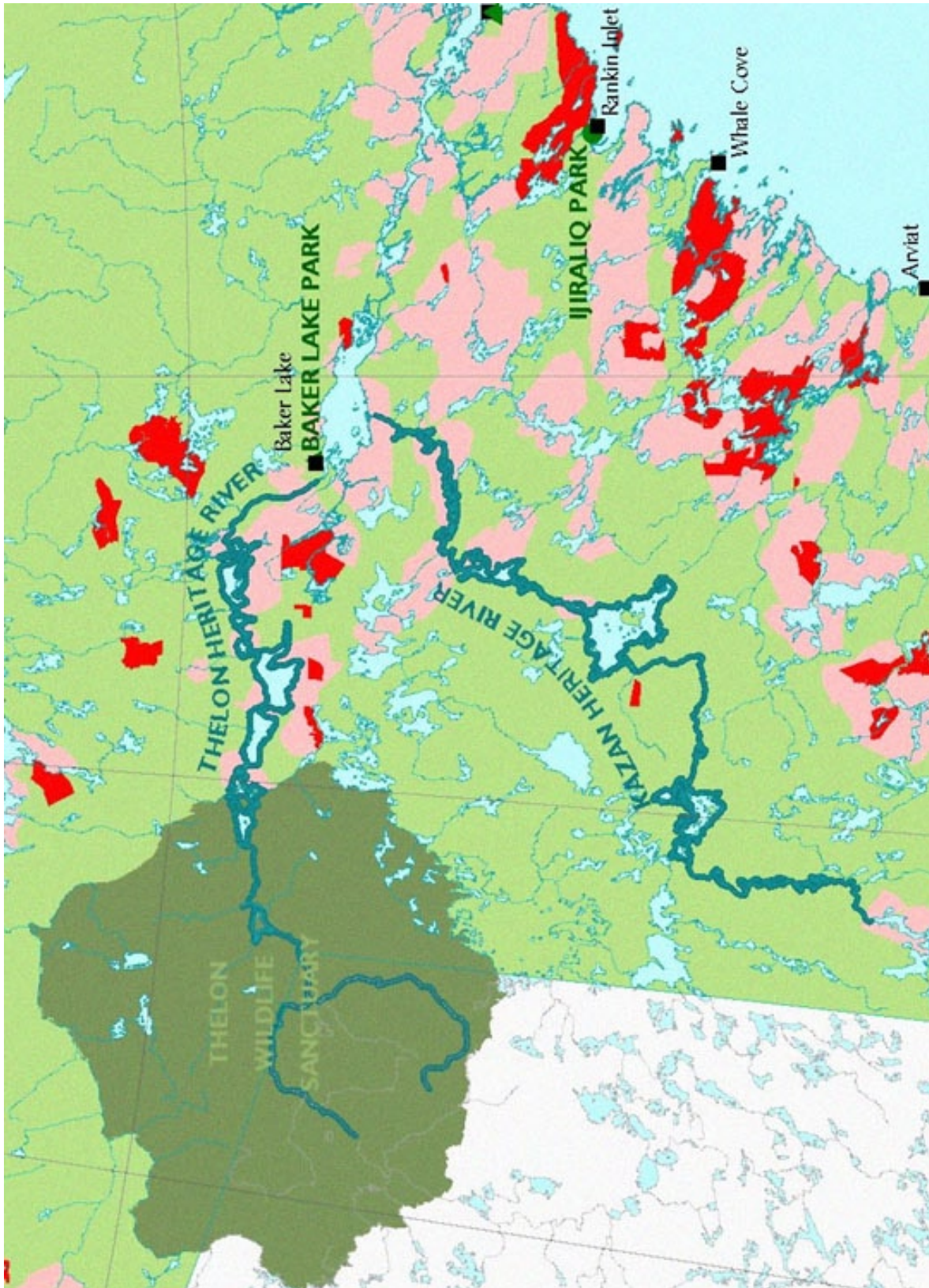
The actual river corridor recognized within the CHRS begins at Warden's Grove at the confluence of the Thelon and Hanbury rivers and extends from there to the mouth some 545 km distant. The corridor thus straddles the new boundary between the NWT and Nunavut Territories and includes a strip of land one kilometre from each bank of the river. The upper reaches of the corridor, the area including and above Beverly Lake, lie within the Thelon Wildlife Sanctuary, one of the most protected and longstanding conservation areas in the north. This has significantly contributed to the pristine character of the area and the wealth of natural resource values associated with the river corridor.

Most prominent of the wildlife associated with the river corridor are the caribou of the Beverly and Kaminuriak

herds. On their annual migration route, the Thelon lies just to the south of the one of the major calving areas of the Beverly herd. Other notable species in the area include the muskox which appears to be expanding its range from the core area within the Thelon Wildlife Sanctuary and increasing their numbers to the southeast. A variety of other mammals are found along the river corridor particularly associated with the character of the river as a transition zone between the boreal forest and the tundra, including species such as grizzly bear, moose, fox, and lynx.

Of course, the river corridor, along with the vast mainland tundra areas, are also significant for a wide variety of waterfowl species. These areas hold major significance for nesting and molting areas for Canada geese and there is a significant inland nesting site on Ursus Island for Lesser Snow geese. Trout, grayling and whitefish are among the resident fish species.

The Thelon River corridor has been very important in the life and traditions of the Inuit people. From the earliest inhabitants of the region following the Ice Age, the Northern Plano people, through the Pre-Dorset, and Thule traditions, the corridor has been an important homeland. It has provided a wealth of resources to sustain the people hunting and fishing along its banks. Even in recent times the Inuit





have continued to depend on the resources of the corridor which has remained important for social and cultural reasons as well.

Similarly, Dene from the Great Slave Lake area extended their activities into the upper reaches of the river corridor although this use declined significantly in the period preceding the establishment of the Sanctuary. It was only at the turn of the 20th century that white adventurers and explorers arrived in the region. Beginning with the travels of David Hanbury in 1899 and followed by other pioneers such as John Hornby, W.H.B. Hoare, C.H.D. Clarke, J.P. Kelsall and J.S. Tener, the Thelon River was the focus of considerable interest as an area of tremendous natural history value and a focus for northern conservation efforts. A number of cabins connected with the establishment of the Sanctuary remain as significant historical resources within the corridor.

Because of its wild and captivating natural characteristics and the presence of the Thelon Wildlife Sanctuary as a major conservation area, as well as its cultural significance, the Thelon River has also been attractive as a destination for wilderness river users. Because of its remoteness and the length of the trip from natural starting points such as Warden's Grove to the terminus at Baker Lake, the

numbers have not been high but have remained relatively steady during recent years. Such trips have incredible value in appreciating the undisturbed character of this wilderness transition zone and as a way to appreciate the life of the early inhabitants of the area. They are also very rich in scenery and opportunities for the appreciation of the outstanding wildlife populations of the region.

### **Basis of Nomination**

At the time (1989) the CHRS nomination framework was based on a series of guidelines within each of the categories of natural heritage values, human heritage values and recreation values. The ability of the river to meet these guidelines was assessed as a measure of its suitability for CHRS status. The Thelon River met: two of the four natural heritage value guidelines; four of the five human heritage value guidelines; and both of the recreation value guidelines. The highlights of the assessment are noted in point form below.

## Natural Heritage Values

1. Outstanding example of evolutionary history
  - This guideline was not met
2. Outstanding example of ongoing fluvial, geomorphological and biological processes
  - This guideline was not met
3. Unique, rare or outstanding examples of natural phenomena, features or areas of exceptional natural beauty
  - 'Arctic oasis': wildlife, wilderness and diverse habitats; a unique natural phenomenon whereby the river helps to create a boreal environment surrounded by Arctic tundra
4. Habitats of rare or endangered species or outstanding concentrations
  - Nesting of peregrine falcons
  - Wolverine said to be numerous, although nationally classified as rare
  - Tundra swans, lesser snow geese and nesting and molting areas for a major population of Canada geese
  - Outstanding concentration of caribou
  - Associated populations of predators thrive in the absence of human competition or harassment

## Human Heritage Values

1. Outstanding importance in historical development of Canada or major influence in its region
  - Important representation of the Caribou Inuit culture
2. Strongly associated with persons, events or ideas of Canadian significance
  - Important connection to the conservation movement in Canada through the establishment of the Thelon Game Sanctuary
  - Researchers and adventurers associated with the historical development of the Sanctuary: Hornby, Clarke, Hoare, Kelsall, Tener
3. Unique or rare historical or archaeological structures
  - Several cabins connected to the establishment of the Thelon Game Sanctuary
4. Concentrations of historical or archaeological structures representative of major themes
  - Important archaeological sites representative of various periods of Inuit cultures beginning with the Northern Plano people
5. Integrity of the visual experience within the river environment
  - Undisturbed
  - Clean, clear, unpolluted state

## Recreation Values

1. Capability for outstanding recreational experiences
  - Enjoyable canoeing and kayaking opportunities;
  - Remote location; strong sense of wilderness
  - Excellent fishing
  - Enjoyable and accessible off river hiking
  - Outstanding wildlife viewing opportunities
  - Sufficient water flow for navigability
  - Diversity of landscape and scenic vistas
  - Easy opportunity to appreciate historical use of the river corridor
2. Capable of supporting recreational use without loss of heritage values
  - Supports non-consumptive use; wilderness users tend to value low impact activities
  - Remoteness and access limits user numbers to relatively low levels





### CHRS River Framework

During the 1990's considerable effort was aimed at upgrading the framework for Heritage River nomination. Focus was still on the significance of candidate rivers within the three general areas of natural heritage, human heritage, and recreational values. However, systematic frameworks were developed for natural and cultural heritage that greatly exceeded the sophistication of the earlier models. The final reports in these areas provide a thematic framework with much greater detail and are now being used as the basis for assessing all new nominations to the CHRS.

The Natural Values Framework is based on the traditional hydrological cycle. Six thematic areas (Hydrology, Physiography, River Morphology, Biotic Environments, River Vegetation, River Fauna) are divided into varying numbers of subthemes. River candidates identify the characteristics that are of special significance within each of the subtheme areas as a way of documenting their overall natural heritage value. The new framework has been linked back to the original Natural Heritage Guidelines to assist jurisdictions in relating currently designated rivers to the more detailed and systematic view of rivers within the CHRS.

Similarly the Cultural Framework seeks to develop a more

systematic basis for placing a river in its national context and for assessing the significance of the cultural values it represents. This is done through the identification of seven themes of human activity related to rivers (Resource Harvesting, Water Transport, Riparian Settlement, Hydraulic Power Generation, Culture and Recreation, Jurisdictional Use, Environmental Regulation). As with the Natural Values Framework, these themes are divided into subthemes which attempt to specifically describe significant values.

### New Nomination Basis for the Thelon

A brief review of the resource documentation for the Thelon River used in its original nomination and in the current review identified the basis for CHRS status according to the new natural and cultural thematic frameworks. The following table highlights the primary values that support the Thelon's continued status within the CHRS. It is important to recognize that the frameworks tend to be more descriptive in many subthemes, i.e. drawing out the characteristics of the river corridor rather than highlighting only those features which are outstanding or of relative significance. Thus some characteristics will be recognized here that were not considered significant in the original nomination. The recreation values identified in the original documentation remain valid.

## Natural Values Themes

### Theme 1: Hydrology

Water Content	✓
Seasonal Variation	✓
Drainage Basin	✓
River Size	✓

### Theme 2: Physiography

Hydrogeology	--
Geological Events	✓
Physiographic Region	✓
Topography	✓

### Theme 3: River Morphology

Valley Types	✓
Lakes and Ponds	--
Waterfalls and Rapids	✓
Fluvial Landforms	--

### Theme 4: Biotic Environments

Aquatic Ecosystems	✓
Terrestrial Ecosystems	✓

### Theme 5: River Vegetation

Significant Plant Communities	✓
Rare Flora	--

### Theme 6: River Fauna

Significant Animal Populations	✓
Rare Fauna	--

## Recreation Themes

The framework for documenting recreational values has not been restructured. The qualities recognized within the original nomination document remain valid as originally described.

## Human Heritage Values

### Theme 1: Resource Harvesting

Fishing	✓
Hunting and Trapping	✓
Resource Gathering	✓
Water Extraction	--

### Theme 2: Water Transport

River Navigation	--
Onshore Services	--
Surface Bulk Transportation	--

### Theme 3: Riparian Settlement

Siting of Dwellings	✓
Community Adaptations to Rivers	✓
River Crossings	--

### Theme 4: Hydraulic Power Generation

Direct-Drive Water Power	--
Innovative Hydro-Electric Power	--

### Theme 5: Culture and Recreation

Spiritual and Symbolic Uses	✓
Artistic Expression	✓
Pioneering or Early Recreation	--

### Theme 6: Jurisdictional Use

Exploration and Route Surveys	✓
Military Uses	--
Boundary Delineation	--

### Theme 7: Environmental Regulation

Early Flood Control Structures	--
Pioneering Improvements to Water Quality	--
Pioneering Improvements to Aquatic Ecosystems	--
Pioneering Access and Use Regulation	✓



## Ten Years in the CHRS: 1989-1999

### Natural Resources

#### Landscape

The significant landscape features of the Thelon River valley are related to major events and processes. The Canadian Shield bedrock formation, glaciation, and isostatic rebound following glaciation are examples of the scale of features recognized in the revised theme framework for their significance to the Thelon landscape. While these examples did not appear to warrant recognition within the original Heritage River nomination, they are significant landscape characteristics represented by the rivers of this region but are not subject to short term change.

While generally speaking little change naturally occurs related to such resources, land use activities such as mining can potentially significantly alter landscapes. Mining activity has been an important economic activity in the region and there remains significant potential for further exploration and development. Recent and current activity exists northwest of Baker Lake although not directly within the CHRS corridor. Only very minor potential impacts have any potential of directly affecting the corridor in the future through the access corridors used for mining support and extraction activities, however, the relationship of the mining

activity to the movement of caribou herds within the region is of greater concern locally.

The major aspect of the landscape that was recognized as a value upon which the CHRS nomination was made related to the beauty and special character of the Thelon River landscape and particularly the pristine condition of the corridor. These qualities have not been diminished since the time of the original nomination. Land use activities have been minimal in the corridor and visitor numbers have been low. As a result very little perceptible change has occurred in the visual character of the corridor.

#### Vegetation

The Thelon River is highly significant as a representative example of the transition zone between the boreal forest and the tundra environments. During the length of the corridor this transition is remarkable. The change in vegetation provides the basis for a clear understanding by the visitor of all the related changes in climatic conditions, landforms and wildlife habitats. The result is a rich diversity of species distinctly related to localized environments (see Norment et al, 1999).

While considerable interest has focused on the transition character of the Thelon River, very little attention was

given to the specific vegetation patterns throughout the watershed at the time of nomination. Baseline data is therefore not available. Only now is vegetation beginning to become a focus of research activity in the region. This has been made possible through advances in the interpretation of satellite imagery and in data presentation and storage technology. A pilot project is currently underway aimed at mapping vegetative communities in 10 different classes. The pilot project study area covers a rectangular area south and east of Baker Lake and including a relatively small segment of the lower Kazan River. The focal point of the pilot study area is the calving area of the Kaminuriak caribou herd reflecting the primary interest of such an effort which is to provide a better understanding of caribou habitat. The pilot project still requires ground truthing which is expected to be complete during the 2000 field season. Final completion of the pilot study is targeted for early 2001. Once proven successful, the approach will be extended over the rest of the Kivalliq region including the Thelon River corridor.

### Water

Water flow regimes for the Thelon River have been monitored throughout the past ten years and beyond. The data in Appendix 2, show the monthly record as taken on the first day of each month for survey stations on both the upper and lower reaches of the river. The upper Thelon station is located just above Beverly Lake while the lower station is located near the mouth of the river.

Water flows have shown a marked change during the past decade. Whether or not this represents a cyclical change that will not be significant over the long term is presently not known. Local input has supported the data indicating that river levels are unusually low and that the impact is mostly seen in changes to the vegetation along the river banks.

Water quality data is also available for the past decade (see Appendix 2) and beyond for the Thelon River at one site (near the mouth of the river). This site has been sampled opportunistically on an attempted quarterly basis for a few decades.

The data shows no significant change in any of the water quality parameters over the past ten years. Activity within

the watershed has remained virtually constant at a very low level and there is very little potential for degradation of water quality.

### Wildlife

One of the prime reasons for establishing the Thelon Wildlife Sanctuary was for the protection of muskox which at the time had been drastically over-harvested across the north. The Thelon Sanctuary was the key remnant habitat for this species in the early 1900's and the Sanctuary proved successful in sustaining the species and allowing for its redistribution. The central populations along the Thelon River have continued to remain healthy during the past decade and indeed are growing. Surveys were conducted in 1985, 1988, 1991, & 1999 and populations and range appear to be expanding to the southeast, although the core areas also appear to shift. The expansion of the population regionally has resulted in animals moving into the Kazan River area where numbers have traditionally been low. However, muskox numbers remain high in the Thelon and Dubawnt River valleys especially along segments of the river corridors within the Sanctuary.

Another prominent wildlife feature of the Thelon River CHRS corridor is the presence of the Beverly caribou herd which, according to a 1994 survey, approximates 330,000 animals. This represents a strong and healthy population. Surveys of the population are usually planned on a six year rotation, although another survey will not likely be undertaken until 2001 due to fiscal restraints. The long term research program studying herd movements using satellite collars remains ongoing and research efforts are also looking to identify areas that are critical in supporting the herd.

Another relatively plentiful species with an important role in the region is the wolf. While there is no population data available, the take numbers show high levels of harvest regionally. Wolves are inextricably associated with the caribou herd and the impact of the high take numbers is unknown but could be significant (either positively or negatively).

From a wildlife perspective there are no pressing concerns within the Keewatin. Caribou and marine mammals remain

the key priorities for the region. There are large numbers of the major species and populations appear healthy. Edge species are certainly more precarious in terms of numbers but that is logically related to the fact that they are on the extreme edge of their range and should not be expected to have high populations in this region (e.g. grizzly, black bear, wolverine, moose, river otter, beaver).

Contrary to indications presented in the original CHRS documentation for the Thelon River, it is questionable whether wolverine could be considered to be locally abundant. No concrete data was presented in the original reports and no data is available on animal numbers presently. As with the other edge species their presence is not common and in addition they are enthusiastically hunted on sight. There is no evidence to suggest that this situation has changed over the past ten years. Rather it is assumed that previous interpretations of anecdotal evidence drew more significance from the information than might be reasonably expected.

The grizzly bear, however, is a species that appears to be on the increase. Reported observations by long term regular users of areas within and near the river corridor indicate increasing numbers. While hunting quotas are low a significant number of animals are taken in personal defense and this supports what might be seen as increased numbers and interactions between grizzlies and human activity. However, research on grizzly populations is difficult because of the relatively high harvest rate. A study begun in 1994 collared 4 animals. Of the 4, 1 collar malfunctioned; 2 animals were killed; 1 collar recovered. In the muskox survey this past summer 8 grizzlies were sighted, although there may have been only 6 animals with the possible double counting due to animal movements.

Other edge species such as moose and otter have also been recognized as extending their range into areas of the river corridor where historical records of their presence have not been known. Clearly linked to habitat characteristics, the increase of these species over the past few decades has often been linked to climatic changes.

The nomination of the Thelon River to the CHRS also recognized the natural heritage value of protecting the then

endangered peregrine falcon. However, little peregrine falcon research has been conducted in any consistent manner on the Thelon River. Opinion in the late 1970's was that peregrine populations were suffering from the same decline experienced elsewhere in southern Canada, likely due to tissue contamination. In the mid 1990's the then present trend for populations to be on a recovery trend was also reported in the Thelon. It has been reported that no survey work has been done along the Thelon River although a long term study has been carried out in the coastal area of Rankin Inlet since 1982 and is still continuing. Research funding however, is increasingly difficult since the peregrine falcon was removed from the endangered species list. In the Rankin Inlet study populations were always healthier than in other areas of southern Canada. Although pesticide impacts on falcons would be widespread generally, the study area is dealing with a different subspecies which migrates to different locations and would have different population pressures. Over the period of the study to date a relatively healthy 1982 population of 20 territorial pairs has now increased to 29 pairs, although production rates have remained constant. No population data that can accurately compare peregrine numbers from the time of the CHRS nomination to the present. It is considered by this review that with the removal of the species from endangered status and with little evidence of the corridor's significance as prime habitat, that peregrine falcon habitat and success is not a resource value that should be seen as contributing to CHRS status.

Waterfowl species including tundra swans, lesser snow geese and Canada geese were also considered significant in the original Thelon River nomination. Waterfowl populations in the region are very healthy and while key areas along the river are certainly important habitats, they are by no means unique. The Thelon River definitely contributes to the success of these species and their presence adds an important dimension to the character of the corridor.

### Cultural Resources

The Akiliniq Hills on the northwest side of Beverly Lake were historically a prominent trading centre for Inuit from across the central and eastern Arctic. The area has been a



major traditional territory and ancestral home still of great significance to many residents of Baker Lake. Archaeological evidence of Inuit activity extends right up the length of the river corridor beyond the tundra and into the transitional forest zone. Conversely, it is clear that Chipewyan from the boreal forest extended their travel and seasonal living well into the tundra as far downstream as Beverly Lake. These extensions swung alternatively with evidence pointing to Chipewyan expansion during the 1700's and Inuit expansion during the 1800's.

As a result, campsites and evidence of hunting activity are plentiful along the entire length of the river corridor. Many very important sites are quite noteworthy and, of course, because of their prominence are also vulnerable to degradation. In general, the archaeological and historical remains of the Thelon River corridor have largely remained intact, although pressure from uninformed or disrespectful visitors always remains a concern.

Considerable efforts have been made by government agencies and individuals to undertake research into the cultural resources, recollections, place names and stories of the areas. One of the most comprehensive view of the cultural significance of the Thelon River has been documented by James Raffan (see Raffan, 1992) since the

nomination of the Thelon to the CHRS.

Other community based efforts including oral history documentation and place name research have been coordinated through the Qilautimiut Elders Committee. These research efforts have also contributed to the success of the Baker Lake Heritage Centre, a project undertaken to celebrate, preserve and present the cultural history of the Inuit of the Baker Lake region.

While the historical appreciation of early parties of explorers and adventurers is also an important aspect of the heritage of the Thelon River, little concrete action has gone into maintaining the resources or developing public awareness. The Visitor Centre in Baker Lake is one distinct action in this regard. Generally, however, little change in the character of the corridor or the state of the resources has been experienced in the last decade.

### Recreation

The level of recreational activity on the Thelon River has remained relatively constant over the past ten years. Wilderness canoeing is the major activity utilizing the river corridor and numbers of parties using the river each year are low. One commercial tour operator has been active on the Thelon River consistently for many years. While



numbers of clients is not large, the commercial outfitters have supported a steady flow of visitors to the river corridor and added to the visitor experience through their knowledge of and love for the river and its environment. Other commercial operators have also used the river corridor but without the same consistency of service.

An interesting assemblage of trip notes collected in the Hanbury River cairn. Due to the potential for loss or destruction of this valuable record, the notes were removed and published in 1991 (“Hanbury River Falls Canoeists’ Cairn 1962 - 1992”). The original scraps of paper have been mounted in an album which was put on display in the Baker Lake Visitor Centre and a waterproof copy was returned to the cairn.

Detailed records of wilderness canoeing use are not kept. The RCMP in Baker Lake serve as the registering authority for people using the river and they are confident that virtually all users register their trip with a detachment (usually in Yellowknife) and that these visitors also come by the Baker Lake office on the completion of their trip. Long term records are not kept and no details on each party (other than the number of people) is recorded.

Local use of the river corridor is also very low. Winter season

hunting activity is widespread closer to Baker Lake but activity diminishes significantly with distance from town. Summer activity is virtually non-existent although some boating activity up to the Beverly Lake area has been reported.

Public interest in and awareness of the Thelon River has been stimulated through publications that have come out during the past decade. In addition to producing the canoeists records mentioned earlier, David Pelly also published “Thelon: A River Sanctuary” in 1999.

### **Administration and Management**

The 1990’s have been an extremely significant period in the evolution of the northern territories. After many years of discussion and negotiation, the Nunavut Land Claim Agreement (NLCA) was finalized in 1993. The agreement not only addressed concerns around land, natural resource management and financial resources but also embraced all aspects of Inuit culture and re-drew the political map of Canada’s northern region. The new territory of Nunavut came into being in 1999, bringing with it a new management and administrative regime for areas such as the Thelon River.

The NLCA changed the roles of government in environmental protection. It recognizes the value and desirability of Parks and Conservation Areas, and further

defines an approach to the establishment of protected areas within Nunavut - which includes meaningful community involvement, management, and impact and benefit measures related to protected areas. Meeting these obligations must be completed prior to the consideration of a strategy for Protected Areas, and is a necessary first step in establishing existing and proposed Parks and Conservation Areas.

Article 9 of the NLCA defines Conservation Area as any Conservation Area in existence at the date of ratification of the agreement. This definition includes, among other areas, Canadian Heritage Rivers. It is further suggested that, in addition to parks, other areas that are of particular significance for ecological, cultural, archaeological, research and similar reasons require special protection, and that Inuit shall enjoy special rights and benefits with respect to these areas. Specific recognition of the provisions of the Agreement is important for Heritage Rivers in the following areas:

- Any changes to Conservation Area boundaries, which includes additional sections of Canadian Heritage Rivers, is subject to approval of the Nunavut Wildlife Management Board (NWMB), and the Minister of the Department of Sustainable Development (DSD);
- Conservation areas are subject to Land Use Planning, Development Impact, Water Management, and Inuit Water Management Rights articles in the NLCA;
- If requested, Government and Inuit are obligated to negotiate an Inuit Impact and Benefit Agreement (IIBA) with respect to any Conservation Area, including Canadian Heritage Rivers. Generally, IIBA's do not apply to a Conservation Area if that area does not raise any matter that would have a detrimental impact on Inuit, or could not reasonably confer a benefit on Inuit.

In general terms, within the Nunavut Territory, the Nunavut Government has taken over the responsibilities of the former NWT government (which now retains jurisdiction on lands of the remaining of the former territory west and south of the new Nunavut boundary). In addition, the Inuit organization NTI is the organization through which local interests and control in land and resources is realized. Regional Designated Inuit Organizations (DIO's) administer

matters on behalf of NTI through their direct connections to the communities. These responsibilities are focused on Inuit owned lands, whether such ownership is of surface rights only or includes sub-surface rights as well. The federal government, through DIAND, still controls land allocation and land use activities on the lands of the Nunavut Territory as it has in the past.

Specific to the Thelon River, these changes are reflected in the following administrative and management regime:

1. The Nunavut Department of Sustainable Development is now the agency that carries responsibility for the recognition and monitoring of rivers within the CHRS. It performs the functions previously handled by the Department of Economic Development and Tourism including territorial park development and management, wildlife regulation and research, commercial tourism interests, etc. Besides general land use interests in the lower segment of the Thelon River, it is responsible for resource and visitor management for the Thelon Wildlife Sanctuary.
2. The Government of Canada, DIAND, still retains interests in land and water use and controls land use activities on federal crown land throughout the Territory. In addition the Canadian Wildlife Service retains management and research interests in migratory birds.
3. The Government of the Northwest Territories continues to have an interest in the Thelon River as a component of the CHRS since the upper segment of the corridor remains in the NWT - the length of river from the new boundary of Nunavut to the Thelon's confluence with the Hanbury River. Continuing responsibility exists in the Department for the portion of the Thelon Wildlife Sanctuary remaining in the NWT.
4. The Kivalliq Inuit Association (KIA) is the DIO for the Thelon River CHRS corridor and has specific interests in land and resource use on Inuit owned lands. The extent of Inuit owned lands in the Thelon River corridor is significant. The lands within the CHRS corridor involve surface rights only. In general these lands are located over about 50% of the shoreline between the boundary



of the Thelon Wildlife Sanctuary and the mouth of the river. In particular, the shorter river segments between the major lakes of the lower Thelon are all almost entirely Inuit owned lands. Then key areas from a traditional occupation perspective along important bays and headlands of the major lakes have also been designated in this category. The upper portion of the CHRS corridor, of course, is within the Thelon Wildlife Sanctuary - a separate and special protected area designation.

In addition, intergovernmental bodies such as the Nunavut Planning Commission (NCP) and the Nunavut Wildlife Management Board (NWMB) are significant bodies established to assist in the co-management of land and resources with government. An example of the role of these bodies and their impact on CHRS corridors within Nunavut is the land use planning conducted by the NCP. As part of the transition to independent territorial status for the Nunavut Territory, the Keewatin Regional Land Use Plan was reviewed and revised by the NCP to conform to the NLCA. The plan was submitted for Ministerial approval in December of 1998. The contents of the plan also support and are consistent with the intentions and proposals of the CHRS management plan for the Thelon River and no changes in either of these plans is required. The Keewatin Regional Land Use Plan also underscores the process for ongoing development proposals and monitoring procedures that will ensure integrity of the land and resources of the region into the future. Any proposals for new initiatives associated with the CHRS corridor will naturally be subject to such processes.

### **Thelon Wildlife Sanctuary Management Plan**

Special mention of the management plan for the Thelon Wildlife Sanctuary is appropriate in this analysis. A plan was prepared by the Akiliniq Planning Committee under the terms of the NLCA. The proposed plan was submitted by the Committee to a further process of review and approval as defined by the NLCA but to date final approval has not been granted. It is critically important that the plan be acknowledged and approved since its implementation is critical to the community of Baker Lake in defining their ongoing relationship to and responsibility for the Sanctuary. Although there has been considerable discussion of elements of the plan, the strongly consultative approach both locally within Baker Lake and beyond used in the development of the proposals, should provide the basis for the acceptance of the majority of the management strategies.

Two significant aspects of the management plan are significant to this CHRS review. The first is the protection priority of the plan. Protecting the natural and cultural resources of the Sanctuary as well as the wilderness qualities of this pristine landscape are of prime importance in the plan. This influences the development and land use aspects of corridor management as well as approaches to public awareness and marketing. The second aspect of significance is the increased emphasis on local community responsibility in planning, decision-making and managing the area. This approach will hopefully encourage much greater cooperation and coordination of management and public education interests between the community and the interested levels of government involved in the CHRS.



## Thelon River Management Plan

### 1989 Highlights

As part of the CHRS designation process, a management plan was prepared for the Thelon River. The plan was a fairly low key document that acknowledged the existing roles of government agencies for resource protection and management. It included a few specific proposals for action that added new dimensions to the monitoring and management function and that also added to the visitor support that would be provided as part of the river experience. The highlights of the plan, that is those elements that added new dimensions to the existing management environment, are noted in Figure x.

The plan also made specific reference to the anticipated formation of the new territory of Nunavut. This was in relation to the actual length and boundary delineation of the corridor designated under CHRS status. It was stated in the plan that the current segment of the river was conservatively selected but that additions might be considered dependent on the outcome of Nunavut boundary negotiations. Specific reference was made to the possible extension of the corridor to the further upper reaches of the Thelon River and even the Hanbury River - a tributary of the Thelon River at the current end of the CHRS designated corridor.

It is unclear as to why a conservative position was taken, given the expressed support for the designation from such a wide range of interests including the communities of both Baker Lake and Lutsel K'e. The identified corridor clearly involved the interests of both Inuit and Dene at the time of the original nomination and would continue to do so even after the formation of the new Inuit territory.

The proposed areas for potential addition are outside of Nunavut. The Dene of Lutsel K'e, for whom these areas are most significant, are immersed in their Treaty Entitlement Process and any further consideration of CHRS corridor extensions must await the outcomes of that process. The Nunavut portion of the river corridor is the focus of the planning issues being dealt with in this report.

### Priorities

The priorities of the plan were seen to be:

1. Developing an interpretive centre in Baker Lake;
2. Developing a Territorial park/campground within the municipal boundary; and,
3. Developing cooperative agreements for management of heritage resources and river monitoring

## Resource Management

### Resource Management through Existing Agencies --

- Policy and Enforcement

### Monitoring of Conditions in the Corridor x

- Outfitters and River Users requested to report on conditions
- Investigators (Baker Lake Residents) regular survey of camping areas (every 2 years) unless use increases to warrant every year
- Prepare Inventory Sheets for this purpose

### Research --

- Encourage Archaeological Research
- Significant sites could be assessed to warrant park or historic site designation
- Gather oral histories
- Use Archival information to develop interpretive materials
- Continued Wildlife Research by [Renewable Resources] and the Canadian Wildlife Service

## Visitor Activities and Facilities

### Monitor Visitor Use x

- Registration with Travel Arctic; registration form, information

### Staff and/or Emergency Shelters x

- Located near Warden's Grove (service point for the corridor)
- Stabilization and clean-up of cabin sites at other locations along the river

### Territorial Parks x

- Investigate potential for development in the area of Aleksektok Rapids (70 km upstream from Baker Lake) and other sites as suggested by visitor use patterns

### Territorial Campsite within Municipal Boundary ✓

- Tent platforms, picnic tables, outhouse, etc.
- To serve travellers arriving in Baker Lake from river trips on the Thelon and Kazan Rivers

## Public Education and Promotion

### Visitor Centre in Baker Lake ✓

- Information
- Interpretation
- Registration and Check-out for Trips on the Thelon and Kazan Rivers

### CHRS Plaque ✓

- Located in Baker Lake

### Other Interpretive Materials --

- Guidebook for canoeists on the river
- Waterproofed map or map series

## Corridor Boundary

### Corridor Extension x

- Consider corridor extension in response to confirmed Nunavut boundary

-- Ongoing      ✓ Completed      x Incomplete



## Community Response

There is a distinct feeling in the community that the Heritage River status has not fulfilled its expectations. People reflected on this concern in terms of what they were told would be the benefits of CHRS designation. The first benefit was to be recognition and profile. People feel that there has been little effort on the part of the CHRS to promote the Thelon. Indeed the management plan was virtually silent on any specific actions aimed at widespread promotion of the river and its values. Education elements tended to focus on visitors once they were there, not at strategies to attract them. A river guidebook and canoe route maps were specifically mentioned but have not been produced. It was also noted that television productions, for example, promoted many other areas but not the Thelon and the people feel this shows an attitude of neglect on the part of the CHRS.

The second, and related, benefit was economic spin-offs from tourism development. This too is perceived to have been inadequately addressed. It was reported that little effort was made to support local initiatives for tourism development and that the community needed the interest and support of government to undertake such activities. People were not necessarily specific on how the expectations in this area could be met. Their inexperience in initiating such enterprises and

understanding the requirements and benefits accounts for this ambiguity. They simply had the expectation that tourism would increase as a result of CHRS designation and that there would be a measure of employment and economic benefits in the community that would accompany such increases. They are disappointed in the reality and feel let down by government.

It is also useful, perhaps to acknowledge what the community did not respond to. There was no awareness of the twinning relationship with the Zambezi. This is an example of how local communities have been left out of potentially significant profile and development opportunities in favour of satisfying the needs of individuals or agencies. A twinning initiative was conceived in Ottawa and resulted in exchange visits between CHRS Secretariat staff representing the Thelon River and commercial river operators in Zimbabwe representing the Zambezi. An article chronicling the exchange visit was written in a prominent Canadian outdoors magazine. The fact that local communities were not integrally involved in the twinning initiative and have been supported in a continuing relationship that could develop profile, local interest and commitment to the CHRS program within Baker Lake is a huge lost opportunity. This kind of situation offers support to the community feelings of being let down by government.



## Recommendations

It is natural to be sympathetic to the community's concerns and feelings, however, at the same time it should be acknowledged that based on the concept and track record of the CHRS, their expectations would seem to be unrealistic. CHRS status does not translate into major tourism initiatives without a concerted effort and usually the additional recognition of specific features or areas within the river corridor such as park designations. This is partly true because the CHRS status does not bring with it a significant level of single agency responsibility and control. Realizing the communities expectations requires a concerted effort towards cooperative ventures that build a significantly attractive experience for a wide potential audience.

However, the presence of the Thelon Wildlife Sanctuary and its status and size as a major conservation cornerstone within the Territory suggests that the even the existing potential has yet to be realized. The Sanctuary adds a huge boost to the three marketable characteristics of the Thelon River corridor: the wilderness recreational river experience of very high quality; the tremendous wildlife viewing opportunities; and, the heritage values of the area as Inuit homeland.

At best the wilderness and wildlife viewing opportunities have been passively marketed. The wilderness canoeing

market is naturally small and the competition intense from other areas across the Arctic for the same tourist sector, focusing on other rivers or other types of wilderness trips. Local operators have managed to do a consistent business in conjunction with a number of other private parties but the numbers have not been large and no significant effort has been made in the past decade to increase those numbers. Another perspective, of course, would be that the numbers need not be increased if the experience is to remain as it is.

Wildlife viewing itself, other than opportunities associated with wilderness river trips, has not been marketed or supported at all. The last characteristic, the heritage value of the area, has not been marketed to any extent and competition is intense across the Arctic to capture tourist interest in each community.

Addressing this situation for the benefit of Baker Lake would seem to require activity in two areas: developing a broader base of activity and services associated with the river corridor; and, marketing the experiences effectively. Each of these areas is discussed in more detail below and recommendations concerning how to take action are made. In addition, a summary of the previous plan elements that should be maintained is also included.

## Activities

The current activity base for visitors to the Thelon is essentially the single activity of wilderness canoe trips that are essentially unsupported by facilities or services. There has been a fishing lodge developed and operated on the lower reaches of the river but it has not been sustained. There appears to be interest currently in restarting the venture. The past experience was not particularly successful by comparison to other fishing lodge operations in the territories, of which there are many. The competition in this market segment is also significant.

The potential extensions to these activities lie in the areas of wildlife viewing opportunities and of interpreting the Inuit culture and its historical connection to the land. Also by expanding the service base for both the existing and potential activities, it is possible to expand the visitor market segment that could be attracted to all activities within the river corridor.

One means of expanding the market sector can be achieved through providing options for visitors. Instead of requiring visitors to be self sufficient for long periods of time to enjoy and appreciate the natural environment of the river corridor, provide the alternative of variable lengths of time from a more comfortable and serviced base, i.e. a lodge and/or hostel facility. To encourage greater appreciation of the cultural significance of the river, some options might be to provide guiding services either as day or overnight trips from the community or as longer stays in a camp or lodge facility.

Another important possibility would be to coordinate opportunities with the major community event proposed with respect to the Fall Caribou Crossing National Historic Site on the Kazan River. The cultural community focus that was proposed for that event could have direct spin-offs to the Thelon as well since a significant segment of the Baker Lake people originated from the Thelon River area. Both cultural and natural history tours and trips could be organized in conjunction with the festival including trips to the Beverly Lake area to explore the traditional sites and ways of living on the land. A traditional camp could be used to accommodate visitors for a few days on the land. Extending activity into the Sanctuary for the purposes

of wildlife viewing and appreciation of the transition zone landscape would be very beneficial as well.

In developing facilities and programs aimed at what will be a relatively high end tourism market segment in a competitive marketplace, quality products and services are essential. There will be a need for well planned strategy for both training and development drawing on expertise in the field that will be able to assist the community with such developments and their operation. In each of the specific suggestions discussed below, the developments and services should be undertaken by private sector ventures and not by government agencies. However, there may be a very important and significant role for government as a stimulus in the initiation of such ventures. It would be highly desirable for government to assist in the capitalization or development of facilities. Cooperative planning of appropriate ventures is needed for successful long-term investment and benefits to the community.

The following suggestions might well be discussed in the community to determine the nature and level of interest and the potential for such initiatives.

- ✓ In keeping with the directions of the management plan for the Thelon Wildlife Sanctuary, no permanent facilities should be constructed within the Sanctuary.
- ✓ Develop a seasonal tent camp within the Sanctuary segment of the river corridor on a lake shore just off the river. It should be a location that ideally would be not visible from the river but at less than 2 km distance. The camp should provide accommodation for a maximum group size of about 15 people. Basic facilities for sleeping, cooking and sanitation would be necessary. The camp should be run commercially for groups intending either to spend time in the local area only or those that may spend a few nights based at the camp before carrying on down the river. If the camp was developed and operated as an outpost of a lodge development (see below), clients could travel guided or independently between the camp and the lodge as part of a package trip. There could be more than one such out camp of this nature along the length of the Thelon River corridor.



- ✓ Develop a lodge facility on the shoreline between Beverly Lake and Aberdeen Lake. The facility would have a central eating and lounge shelter but have separate sleeping units for two or four people. The maximum capacity of the operation should be in the order of 16 people. The facility would have staff on site as required or for the season and staff accommodation would also be required. Service facilities such as outhouses and lounge facilities would be simple but of high quality. Meals would be provided to guests and guiding services and boat transport would be available as needed. The emphasis would be on guests arriving specifically to the lodge site itself, although river groups that had reserved ahead would be welcomed for the period of their booking.
- ✓ Develop a guiding service along the lower Thelon River to Beverly Lake from Baker Lake. Visitors from town should be able to take a boat to accessible areas of the lower reaches of the river and camp out or day hike before returning to the community. Local guides would be able to control their activity and enrich their experience of the cultural landscape of the area.
- ✓ Develop additional campsites and associated facilities at key locations to encourage use in appropriate areas where impacts can be minimized and the visitor experience can be enhanced, especially along the lower reaches of the river.
- ✓ Develop opportunities for travel and camping along the Thelon River and into the Thelon Wildlife Sanctuary in conjunction with the community event proposed in conjunction with the Fall Caribou Crossing National Historic Site on the Kazan River. Visitors would be able to enjoy the community festival and also take trips out to the Thelon River area to experience the character and landscape of the Inuit homeland in the Beverly Lake area. They would be guided by local people and camp out on the land. It may be possible to construct permanent shelters in key locations that could be used from year to year especially on longer trips or as part of longer trips depending on the visitors' interests.
- ✓ Develop a small scale, high quality, seasonal tourist lodge adjacent to the community (or within the municipal boundary). This facility would be a support facility for tourist activity originating in the community. For visitors coming for the festival or to go on guided trips out along the Thelon River, a high quality accommodation facility, developed on a scale of about a 20 person capacity, would be an asset.

## Marketing

The product being developed and the marketing needed to make it work are inextricably linked. In the present tourism market, product quality must be high regardless of what level of service is being provided, otherwise no amount of marketing will sustain the operation. On the other hand, even the best facility will fail if the marketing effort is inadequate. The products discussed are targeting an international market. Typically there is simply not the capacity in local communities to develop an effective marketing strategy for a local business. The solution would be to seek joint ventures with private interests in the south that can provide advice and complementary services to the scope of the community business capacity. Business planning and management, marketing, and staff training are examples of typical areas of need. Marketing in particular demands such understanding of and access to international markets that it is usually the biggest stumbling block to small businesses requiring such a wide exposure. Plugging into regional and territorial marketing organizations such as Nunavut Tourism, is also recommended as a parallel effort but will not replace the need to link with key private sector companies internationally. The intention is to go beyond the individual business image and become part of a larger internationally recognized brand image that will sustain the business in the long-term in an increasingly competitive marketplace.

Beyond the joint venture concept aimed at the large international market, there are a whole series of other public awareness and educational initiatives that would contribute to raising the exposure of the Thelon River and add to its marketability. At the same time these kinds of initiatives would also provide interested members of the public and those who are planning a visit to the Thelon to learn more about the area - its natural features, its cultural history and its regional context. Books, brochures, magazine articles, web sites, films, and videos are all examples of what could be done to address the present gaps. While anything in this list would be useful, some deliberate consideration should be given as to what can be encouraged versus what should be undertaken directly, what should be done now,

versus what could be done more efficiently later, and what needs to be started now in order to complete it later.

As stated for the recommendations in the previous section, the following suggestions might well be discussed in the community to determine the nature and level of interest and the potential for such initiatives to be successfully undertaken. Of particular concern will be the links between these undertakings and the activity and facility interests discussed previously. Like the previous recommendations, those below relating to marketing and business development should be undertaken by private sector ventures and not by government agencies. However, there is potentially a much greater government agency role in the public awareness and education initiatives associated with the Thelon River CHRS corridor.

- ✓ Develop business concepts for new activity interests in the Thelon River corridor and then seek out joint venture partners to link up with and who then will assist in the business planning and development.
- ✓ Develop a public awareness and education strategy that will lay out the purpose, nature, scope, priorities, scheduling and resourcing of a host of communications techniques including the specific suggestions of books, brochures, magazine articles, web sites, films, and videos.
- ✓ Identify/assemble the necessary funds to begin the process and undertake the priority items as defined in the previously developed public awareness and education strategy.

## Previous Plan Elements

A number of plan elements have been implemented during the period since the original plan was developed. Those particularly related to specific facilities, have not been addressed here. However, those activities which are ongoing (especially related to management activities) have been discussed briefly as an acknowledgment of their contribution to the management context of the river corridor.





- ✓ Resource management through existing agencies - heritage, natural resources
  - Clearly, the intent for heritage rivers to managed under the program mandates of existing agencies and organizations is consistent with the nature of the CHRS. Management of wildlife, cultural resources, visitor activities, etc. is addressed within the normal structures of existing agencies and their relationship to the local community. It is not the intent of the plan for the river corridor to establish new mechanisms to deal with such issues.
  - Continued efforts are being made and should be expanded to raise public awareness of the importance of the integrity of cultural resources at sites all along the river corridor. Prevention against disturbance by visitors is critical to ensuring the integrity of these resources.
  - The development of the Thelon Wildlife Sanctuary Management Plan proposes some new relationships which reflect a stronger local community responsibility in the management of the protected area. These reflect the growing importance of local involvement and decision-making.
- ✓ Monitoring of resource conditions and visitor use in the corridor
  - Similarly, research and monitoring activities are carried out on a regular basis by key agencies. The implication of CHRS status is to ensure that the river corridor is recognized as a priority area for specific monitoring needs related to the facilities and issues recognized within the corridor
  - It is also relevant to ensure in the planning for such monitoring activities that consideration is given to the role of the local community in benefiting from the skill development and employment potential related to such activities
  - Mechanisms for supporting such monitoring need to be carefully planned and developed to be both practical and cost-efficient. Visitor registration and information addressed specifically in the original plan has not been adequately implemented in large measure because the proposed system was too ambiguous and possibly impractical. This needs to be specifically addressed if there is to be a significant base of visitor information upon which to base future plans for the corridor.



✓ Research

- Research programs should continue and be encouraged to address river concerns and to involve local people

✓ Other related park lands

- The original plan identified the potential for the creation of additional territorial park sites along the lower reaches of the river, specifically at Aleksektok Rapids. Basic facilities for river travelers and for outtrippers from the community was recommended. No action was taken on this aspect of the plan since the plan was developed.

✓ Visitor Centre in Baker Lake

- There needs to be greater cooperation and linkages formed between the Visitor Centre and the Baker Lake Heritage Centre. Visitors to the community will be interested in both facilities and it will be important to ensure that they are as complementary as possible in presenting an interesting and comprehensive view of the natural and cultural history of the Baker Lake area and its people.

### Length of the Thelon CHRS Corridor

The previous plan identified the potential for extending the corridor once the Nunavut boundary was confirmed. The upper reaches of the Thelon and indeed the Hanbury River were mentioned specifically as the possible additions. However, with the recognition of the potential for corridor expansion it seemed logical that the corridor was anticipated to be split between two jurisdictions. The new Nunavut boundary now clearly breaks the corridor into two distinct sections. The current status of the Treaty Entitlement process in the Dene territory of the NWT demands, however, that no further action on this issue be taken until the satisfactory conclusion of that process. It is therefore recommended that:

- ✓ The CHRS corridor expansion proposals be tabled until such time as the Dene of Lutsel K'e are prepared to consider them



## Appendix I: Contacts

Published data on which to base such an assessment was reviewed to the extent possible but was generally limited (see Appendix #2). This project relied heavily on a consultative approach to the review of conditions on the Thelon River currently compared with those at the time of the river's nomination to the CHRS.

Personal contacts were made in three ways:

1. Meetings were arranged with a variety of individuals in agencies and organizations with responsibility for various aspects of resource management within the region of the river corridor. Where meetings were impossible, follow-up was made by either telephone or e-mail.
2. A response form and covering letter was sent out to a mailing list of individuals, organizations and companies requesting information and opinion regarding the changes in circumstances and resource values along the river corridor
3. Facilitators were hired in the community of Baker Lake to set up, lead and record meetings with key community organizations and individuals that would be best able to contribute to the objectives of the review.

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## Appendix III: Water Data

### Water Flow

Water flow regimes for the Thelon River have been monitored throughout the past ten years and beyond. The data (see Tables) show the monthly record as taken on the first day of each month for survey stations on both the upper and lower reaches of the river. The upper Thelon station is located just above Beverly Lake while the lower station is located near the mouth of the river.

### Water Quality

Water quality data is available for the Thelon River at one site (near the mouth of the river). The site has been sampled opportunistically/quarterly for a few decades. Recent (i.e. post-1995) budget cuts have affected Nunavut water quality sites disproportionately, such that the site has not been recently sampled. There has been analysis for physical, nutrient, major ion, and trace metal water quality variables (see Table).

Some provisional water quality data has also collected during the 1991-1997 Arctic Environmental Strategy (Green Plan) from the Thelon River at both the mouth and above Beverly Lake. This data has not been completely validated and verified.

**Water Flow: Upper Thelon**

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
January	42.0	75.0	41.7	43.4	23.2	25.8	33.4	69.8	--	--	--
February	36.1	42.0	35.9	38.9	15.7	19.1	26.2	57.0	--	--	--
March	36.1	32.2	33.5	39.0	14.5	16.2	24.2	47.3	--	--	--
April	38.3	32.9	32.1	41.0	16.8	15.7	24.6	41.2	--	--	--
May	45.0	44.1	34.0	48.2	22.6	16.4	26.5	37.9	--	38.0	--
June	84.0	110.0	650.0	78.6	39.4	4160.0	49.0	3400.0	190.0	--	--
July	1100.0	1140.0	1220.0	1470.0	1330.0	530.0	856.0	617.0	844.0	490.0	--
August	499.0	656.0	502.0	471.0	1280.0	223.0	321.0	270.0	438.0	182.0	--
September	430.0	819.0	285.0	239.0	441.0	208.0	371.0	380.0	292.0	211.0	--
October	481.0	760.0	339.0	150.0	213.0	606.0	388.0	433.0	241.0	441.0	--
November	257.0	95.3	92.5	79.9	93.2	105.0	140.0	166.0	--	117.0	--
December	138.0	54.0	53.8	39.1	43.4	54.3	89.6	83.9	--	79.0	--

**Lower Thelon**

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
January	696.0	529.0	542.0	580.0	456.0	376.0	329.0	547.0	458.0	397.0	--
February	583.0	497.0	453.0	494.0	429.0	345.0	362.0	545.0	417.0	290.0	--
March	521.0	468.0	407.0	448.0	387.0	274.0	327.0	479.0	350.0	235.0	--
April	537.0	460.0	419.0	453.0	377.0	314.0	308.0	485.0	351.0	260.0	--
May	537.0	527.0	419.0	489.0	411.0	370.0	313.0	475.0	396.0	319.0	--
June	548.0	554.0	444.0	546.0	504.0	412.0	312.0	439.0	327.0	763.0	--
July	3520.0	3230.0	4930.0	3350.0	4530.0	2070.0	1960.0	2240.0	2940.0	2020.0	--
August	1740.0	2000.0	1990.0	1860.0	1990.0	1050.0	1260.0	1150.0	1420.0	1030.0	--
September	1100.0	1440.0	1180.0	1190.0	1610.0	685.0	830.0	876.0	895.0	681.0	--
October	1070.0	1400.0	1020.0	990.0	1110.0	995.0	805.0	1450.0	714.0	906.0	--
November	801.0	922.0	792.0	645.0	696.0	866.0	718.0	790.0	556.0	673.0	--
December	631.0	622.0	616.0	492.0	479.0	500.0	548.0	609.0	468.0	490.0	--

## Water Quality

Survey Date	Temp	pH	Cond	pH	SpCon	Turbid	Colour	SusSol	Res.tds	Phos
June, 1993	9	6.58	30.0	6.44	24.0	13.0	15	14	24	0.025
June, 1994	8	6.67	20.0	6.72	31.6	5.1	12	7	24	0.023
August, 1994	12	7.19	20.0	7.01	33.2	1.2	6	L3	20	0.004
June, 1995	15	7.06	20.0	6.91	27.7	2.2	10	L3	22	0.022
September, 1995	6	7.40	27.8	6.93	31.1	1.4	10	L3	20	0.012
June, 1996	10	--	24.9	7.07	26.7	2.9	10	7	NA	0.014
September, 1996	11	7.23	35.0	7.24	33.1	3.7	10	4	20	0.019

Survey Date (cont'd)	Pho-dis	Ca-dis	Mg-dis	Hard.	Alkal	Nitro	Fluor
June, 1993	0.008	2.30	1.28	11.013	7.8	0.162	0.01
June, 1994	0.013	2.67	1.49	12.801	9.5	0.229	0.03
August, 1994	0.002	2.64	1.35	12.150	8.8	0.142	0.03
June, 1995	0.008	2.20	1.35	11.051	9.9	0.183	0.03
September, 1995	0.007	2.60	1.43	12.380	9.7	0.193	0.03
June, 1996	0.007	2.33	1.25	10.964	8.0	0.518	0.04
September, 1996	0.008	3.00	1.61	14.119	10.8	0.008	0.04





## Appendix IV: Status of Heritage Values

### Natural Values

#### Theme 1: Hydrology

Water content	✓ Clear water: 0-50 mg/litre	▪ Water content category unchanged: no significant changes in adjacent land use activity
Seasonal variation	✓ Summer melt	▪ 'Permanent' landscape characteristic
Drainage basin	✓ Hudson Bay Basin: (4. Other major basins)	▪ 'Permanent' landscape characteristic
River size	✓ Major rivers (500 - 1,000 m <sup>3</sup> / sec)	<ul style="list-style-type: none"> <li>▪ Flow rates have shown a noticeable drop in recent years but it is unclear whether this is part of a long term cycle or the result of changing conditions within the drainage. Local knowledge attests to changes in both water levels and associated shoreline vegetation</li> <li>▪ Already a major river due to its length. Proposed added length occurs in the NWT in an area affected by Treaty Entitlement involving the Dene of Lutsel K'e</li> </ul>

#### Theme 2: Physiography

Hydrogeology	--	
Geological Events	✓ Glacial Rebound	▪ 'Permanent' landscape characteristic
Physiographic Region	✓ Canadian Shield - Kazan Region	▪ 'Permanent' landscape characteristic
Topography	✓ Moderate Gradient (1.3 - 2 m/km)	▪ 'Permanent' landscape characteristic

### Theme 3: River Morphology

Valley Types	✓	Braided Floors	▪ 'Permanent' landscape characteristic
Lakes and Ponds	✓	Large lake dominated in lower reaches	▪ 'Permanent' landscape characteristic
Waterfalls and Rapids	✓	Boulder rapids	▪ Aleksektok Rapids
Fluvial Landforms	--		

### Theme 4: Biotic Environments

Aquatic Ecosystems	✓	Lowland zone river system; oligotrophic lakes	▪ 'Permanent' landscape characteristic
Lakes and Ponds	✓	Southern Arctic; taiga shield	▪ 'Permanent' landscape characteristic

### Theme 5: River Vegetation

Significant Plant Communities	✓		▪ "Oasis" forest complex: the transition zone between the boreal forest and the tundra is well represented on the Thelon River; many aspects of vegetation change and associated habitats and influences on wildlife distribution are importantly represented in the corridor; indicators of larger scale climatic change and adaptability of species can be monitored here; some changes have been observed but little documentation exists to confirm long term trends
Rare Flora	--		

### Theme 6: River Fauna

Significant Animal Populations	✓	Muskox populations	▪ Muskox populations are significant in the Thelon Wildlife Sanctuary in the upper reaches of the CHRS corridor. This area was originally designated as a conservation area in response to concerns over muskox populations and this has been successful - populations continue to increase and expand from the Sanctuary
	✓	Caribou populations	▪ Caribou populations are large and healthy. These herds are very significant and monitored regularly. Research efforts are aimed at understanding movement and identifying key areas for sustaining populations; support continued local food harvest
Rare Fauna	✗	Wolverine	▪ Populations of wolverines not found to be significant. It is an edge species that are heavily hunted and only periodically seen. No population data only anecdotal reporting. No evidence of significant change since original nomination
	✗	Falcons	▪ Peregrine falcons have been removed from the endangered list since the time of the original nomination. Anecdotal reports suggest that populations have risen following the drop attributed to pesticide influences in the late 1970's and early 1980's.

## Cultural Values

### Theme 1: Resource Harvesting

Fishing	✓ Area of traditional homeland, Aboriginal Fishing Camps; domestic consumption	▪ Original value of the river for appreciating this cultural element has been unaffected by land use along the corridor; the value remains and Inuit use of the area for the same reasons continues
Hunting and Trapping	✓ Hunting of caribou at crossing places; hunting of waterfow	▪ Original value of the river for appreciating this cultural element has been unaffected by land use activities along the corridor; the value remains and Inuit use of the area for the same reasons continues although with modern mechanized means (power boats in the lower reaches of the river and by snow machine in the winter months throughout the length of the river corridor; some 'commercial' harvest of wildlife is also present in the hunting and trapping of fur bearing animals as well
Resource Gathering	✓ Collection of plants for food, medicines, etc	
Water Extraction	--	

### Theme 2: Water Transport

River Navigation	✓ Aboriginal transport (canoes/kayaks) associated with life cycle activities (hunting fishing) and movement of people	▪ Original value of the river for appreciating this cultural element has been unaffected by land use activities along the corridor; the value remains; Inuit use of the area for the same reasons continues but with modern means of transport and mostly in the lower reaches of the river; snow machine and boat access as far as Beverly Lake takes place occasionally; travel beyond that in any season is rare.
Onshore Services	--	
Surface Bulk Transportation	--	

### Theme 3: Riparian Settlement

Siting of Dwellings	✓ Shoreline seasonal camps associated with life cycle activities	▪ Original value of the river for appreciating this cultural element has been unaffected by land use activities along the corridor
Community Adaptation to Rivers	✓ Archaeological evidence of aboriginal communities especially associated with key caribou crossing points	▪ Original value of the river for appreciating this cultural element has been unaffected by land use activities along the corridor; the sites are still important both because of their family significance but also as areas of significant hunting activity
River Crossings	--	

#### Theme 4: Hydroelectric Power Generation

Direct-drive Water Power --

Innovative Hydro Electric Power --

#### Theme 5: Culture and Recreation

Spiritual and Symbolic Uses ✓ Sites of recurring spiritual activity; burial grounds

- Original value of the river for appreciating this cultural element has been unaffected by land use activities along the corridor; the sites are still important because of their family significance for people now living in Baker Lake

Artistic Expression ✓ Stories in oral tradition

- Original value of the river for appreciating this cultural element has been unaffected by land use activities along the corridor; ; the sites are still important both because of their family significance for people now living in Baker Lake

#### Theme 6: Jurisdictional Use

Exploration and Route Surveys ✓ Exploring Parties

- Original value of the river for appreciating this cultural element has been unaffected by land use activities along the corridor

Military Uses --

Boundary Delineation --

#### Theme 7: Environmental Regulation

Early flood control structures --

Pioneering improvements to water quality --

Pioneering improvements to aquatic ecosystems --

Pioneering access and use regulation ✓ Protected areas establishment and regulation

- The original nomination did not apply as much significance to the value as might have been attributed; the role of the Thelon River in the establishment of the Thelon Wildlife Sanctuary was immense and the impact of the Sanctuary has been immense both in conservation terms and in its impact on the cultural traditions and survival of the Inuit and Dene people of the region.
- This value has not been affected by any changes during the last ten years but also its full significance has yet to be realized and used in any form of public education.

## Recreation Values

### Theme I: Recreation Values

<p>Capability for outstanding recreation experiences</p>	<p>✓</p> <ul style="list-style-type: none"> <li>▪ Enjoyable canoeing and kayaking opportunities;</li> <li>▪ Remote location; strong sense of wilderness</li> <li>▪ Excellent fishing</li> <li>▪ Excellent wildlife viewing opportunities</li> <li>▪ Enjoyable and accessible off river hiking</li> <li>▪ Sufficient water flow for navigability</li> <li>▪ Great diversity of landscape and scenic vistas</li> <li>▪ Easy opportunity to appreciate historical use of the river corridor</li> </ul>	<ul style="list-style-type: none"> <li>▪ Original value of the river for providing outstanding recreational experiences has been unaffected during the last ten years. Other land use activity has not been significant and visitor numbers have remained relatively constant along the corridor</li> </ul>
<p>Capable of supporting recreational use without loss of heritage values</p>	<p>✓</p> <ul style="list-style-type: none"> <li>▪ Supports non-consumptive uses; wilderness users tend to value low-impact activities</li> <li>▪ Remoteness and access limits user numbers to relatively low levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ Original capability of the river for supporting recreational use without loss of heritage values has been unaffected during the last ten years.</li> </ul>

-- Not Recognized

✓ Recognized

✗ No Longer Recognized