

# ***CLEARWATER-CHRISTINA RIVERS***



***Canadian Heritage Rivers System***

*“ The valley ... is about three miles in breadth, and is confined by two lofty ridges of equal height, displaying a most delightful intermixture of wood and lawn, and stretching on till the blue mist obscures the prospect. Some part of the inclining heights are covered with stately forests, relieved by promontories of the finest verdure, where the elk and buffalo find pasture.*

*...It was in the month of September when I enjoyed a scene, of which I do not presume to give an adequate description; and as it was the rutting season of the elk, the whistling of that animal was heard in all the variety which the echoes could afford it.”*

The year was 1789. The words were those of Alexander Mackenzie as he stood on the banks of the Clearwater River near the Alberta-Saskatchewan border. Today elk and buffalo are gone ... but much of northeastern Alberta still retains the wilderness beauty described by MacKenzie almost 200 years ago.

An excerpt from “An Overview of Resource Values and Potential Threats”

## APPROVALS

The members of the Clearwater River Committee presented in this *Management Plan* have reached consensus on the content of the *Management Plan* for the Clearwater Heritage River, Alberta, including the lower section of the Christina River, consistent with provisions of the Canadian Heritage Rivers System. The members comprehensively represent authorities and various stakeholder interests in the Clearwater River System. Completion of the *Management Plan* comes after thorough study, discussion and assessment of the values, integrity and management implications of the Clearwater River System in the context of the Canadian Heritage Rivers System and approval of its nomination by the Canadian Heritage Rivers Board in 1996.

### Clearwater River Committee

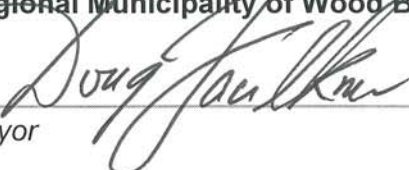
  
Spokesperson

Aug 26, 2002  
Date

  
Spokesperson

Aug 26, 2002.  
Date

### Regional Municipality of Wood Buffalo

  
Mayor

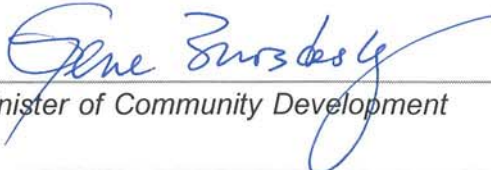
Aug. 21, 2002  
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### Fort McMurray No. 468 First Nation

  
Date

Aug 14 - 02  
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### Government of Alberta

  
Minister of Community Development

September 29/03  
Date



Canadian  
Heritage  
Rivers  
System



Le Réseau  
des rivières  
du patrimoine  
canadien

# CLEARWATER-CHRISTINA RIVERS MANAGEMENT PLAN

Regional Municipality of Wood Buffalo, Alberta

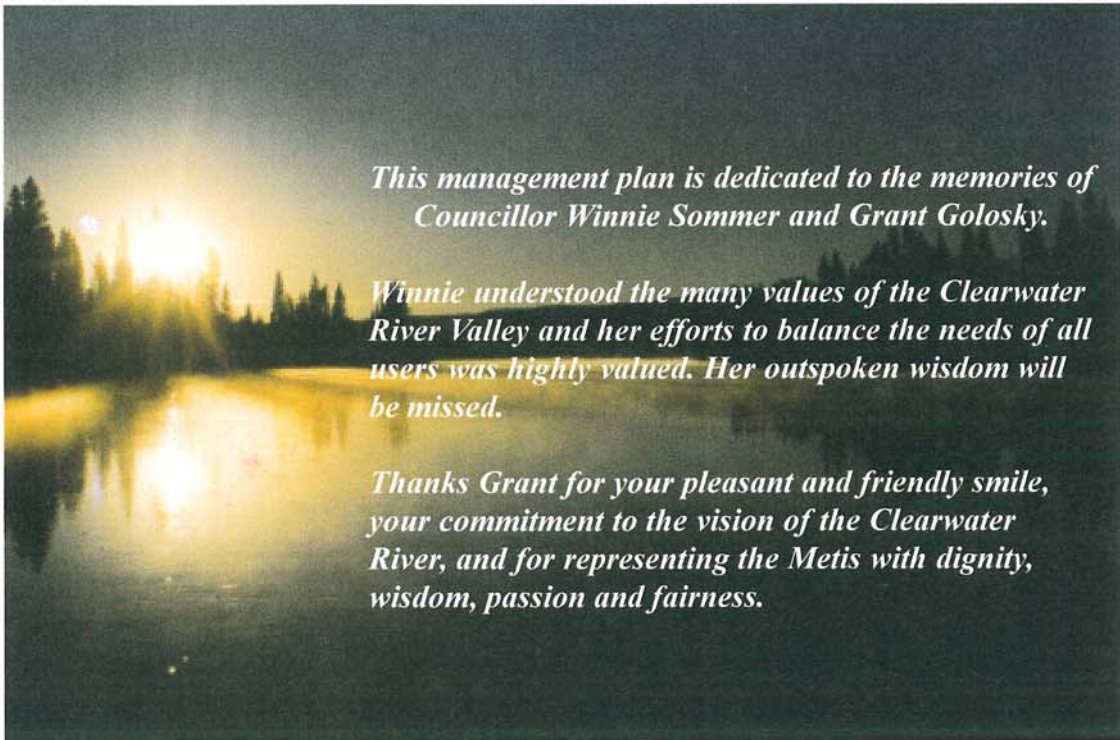
Prepared by the

**Clearwater River Committee**

(With assistance from Scace Environmental Consultants)

February, 2003  
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Pub No. T/493





*This management plan is dedicated to the memories of  
Councillor Winnie Sommer and Grant Golosky.*

*Winnie understood the many values of the Clearwater  
River Valley and her efforts to balance the needs of all  
users was highly valued. Her outspoken wisdom will  
be missed.*

*Thanks Grant for your pleasant and friendly smile,  
your commitment to the vision of the Clearwater  
River, and for representing the Metis with dignity,  
wisdom, passion and fairness.*

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## EXECUTIVE SUMMARY

### Clearwater-Christina Rivers Management Plan

#### **Canadian Heritage Rivers System**

The Canadian Heritage Rivers System (CHRS) is a national program involving all levels of government, that gives recognition to Canadian rivers that possess outstanding natural, cultural and recreational values. The program provides a way to recognize the interests of all those who live, work and recreate along the river by creating a common vision among authorities and stakeholders and generating a management plan that reflects that vision.

A river receives designation status after following a process that includes the collection of information on the river and local interests, nomination by local governments and finally the completion of a management plan. The document before you is the completed *Management Plan*, created by the consensus of the Clearwater River Committee (CRC).

#### **Clearwater River Corridor**

The Clearwater River Corridor described in this management plan includes the 108 km Alberta portion of the Clearwater River together with a 31 km stretch of its tributary the Christina River. The Clearwater River Corridor is located in the Boreal Forest Natural Region of Northeast Alberta. Unique to Alberta, the Clearwater River is a westward flowing river set in a landscape representing two major periods of geological development. The river flows freely from its wilderness headwaters in Broach Lake, Saskatchewan to its confluence with the Athabasca River at the Urban Service Area of Fort McMurray.

The course and shoreline of the Clearwater-Christina Rivers reveal numerous physical and biological features including waterfalls, foaming rapids, sand bars, mineral springs and saline dependent flora. Human associations with, and imprints upon the river, extend over many thousand years. Today's limited access and land management arrangements have secured for the Clearwater -Christina Rivers a relatively undisturbed landscape with outstanding wilderness recreational opportunities along most of the river.

#### **Designation Process**

The Clearwater-Christina Rivers is Alberta's first nomination (outside the National Parks) to the Canadian Heritage Rivers System program. The natural, cultural and recreational values of the Clearwater-Christina Rivers led to the nomination in September, 1996. Nomination followed the recommendation of the Clearwater River Committee and an extensive background study. The Regional Municipality of Wood Buffalo, Fort McMurray No. 468 First Nation and Alberta Environmental Protection formally approved the nomination and provided the authority to move forward toward designation.



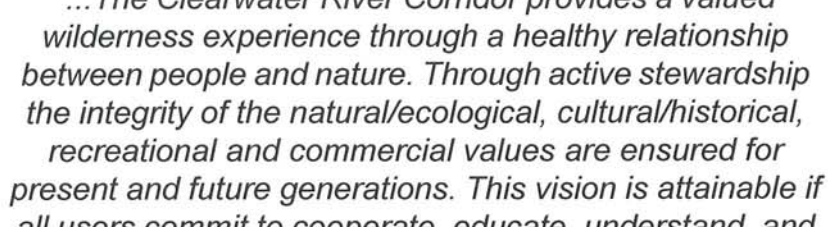


### **Designation Process** (continued...)

Formal designation of the Clearwater-Christina rivers requires that the *Management Plan* created by the Clearwater River Committee be approved by the Minister of Alberta Community Development, and that the rivers be accepted for designation by the Federal Minister of Canadian Heritage based on a recommendation from the Canadian Heritage Rivers Board. The designation of the Clearwater-Christina rivers would culminate a huge effort from the many stakeholders on the Committee as they crafted a management plan to meet the needs and interests of all users.

Once designated, the Alberta portion of the Clearwater River along with the Christina River segment, would gain the same Canadian Heritage River status as the Saskatchewan portion of the Clearwater River (designated in 1986). Each province now has its own unique but complementary management plan to reflect local interests along the Clearwater River.

### **Vision for the Clearwater River Corridor**



*"...The Clearwater River Corridor provides a valued wilderness experience through a healthy relationship between people and nature. Through active stewardship the integrity of the natural/ecological, cultural/historical, recreational and commercial values are ensured for present and future generations. This vision is attainable if all users commit to cooperate, educate, understand, and respect each other and the environment..."*

### **Management Plan Highlights**

The *Management Plan* provides a series of action statements to guide decision makers toward the common vision of stakeholders who live, work and recreate along the Clearwater River Corridor. The *Management Plan* is effective because it has been formed through a collaborative decision making process where the needs and interests of stakeholders defined the final product. Through this process each stakeholder retained something of value, and conflicts between user groups have been identified and resolved to the satisfaction of all members of the Committee. The process although time consuming, reduces potential future conflicts among groups and lends greater support for *Management Plan* implementation.

The *Management Plan* is neither legislative nor regulatory, but is intended to inform government and industry decision makers. The direction and specific actions set out in the *Management Plan* are compelling because of the broad base of support they received from all participants in the process.

There are eight central themes to the *Management Plan*, each with its own broad objective and specific action statements. Objectives for each theme are presented on the following page.



## Management Plan Themes and Objectives

### **Natural Integrity**

To protect representative, significant and unique examples of the natural features, landscapes and ecosystems characteristic of the Clearwater River corridor; and to provide for the recreational, scientific or educational use of ecological resources, yet ensure that the wilderness character is maintained.

### **Human Heritage**

To protect, for educational, interpretive and scientific purposes, historical resources from potential or actual resource development impact, and to conserve these historical resources for future generations.

### **Recreation and Tourism**

To ensure continued quality of the recreation and tourism experience recognizing the wilderness character as an essential value.

### **Commercial/Industrial Use**

To utilize the natural resources within the Clearwater River Corridor incorporating management concepts and systems that minimize environmental impact, maintain the natural and human history, integrate the needs of other users of the river valley and maintain biodiversity.

### **Settlement and Agriculture**

To support development which is compatible with maintaining the integrity of the natural/ecological, cultural/historical and recreational values for the Clearwater River Corridor.

### **Access**

To ensure that the wilderness character is maintained or improved by encouraging regulators, industry and recreational users to carefully manage access.

### **Planning and Inventories**

To ensure that the best possible information is available to take collective action on priority issues.

### **Communication, Education and Interpretation**

To encourage responsible stewardship of the Clearwater River Corridor and to minimize user conflict for the safety and enjoyment of all users by establishing a means for education, communication and dialogue among users.

Key user groups and regulators (government authorities) are represented on the Clearwater River Committee. They believe that this *Management Plan* represents the consensus view of all those who are interested in sharing leadership as stewards of the Clearwater River Corridor. The *Management Plan* is a vehicle for balancing the interests of all present and future users. This document provides the recommendations and action statements that support these objectives.





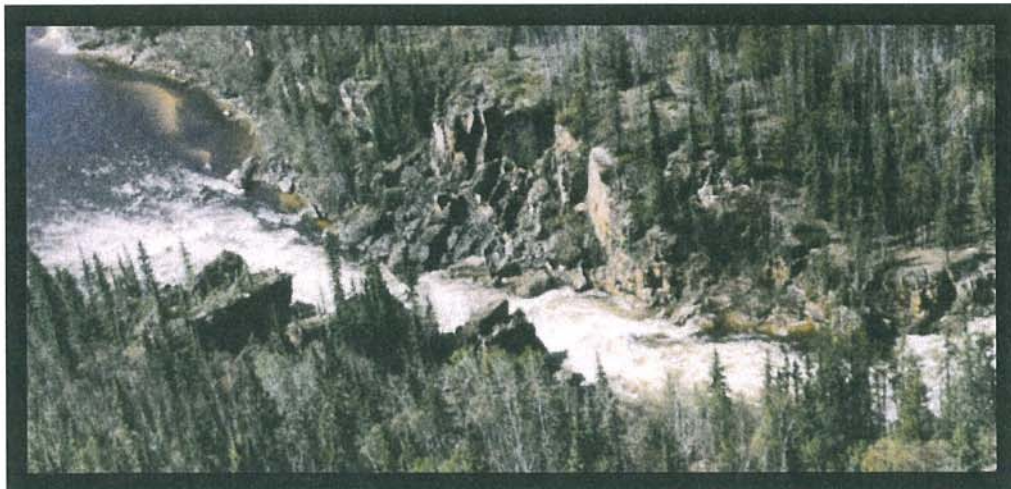
# 1. Canadian Heritage Rivers System



The Canadian Heritage River Systems (CHRS), established in 1984, is a cooperative program to give national recognition to the important rivers of Canada. The CHRS is administered by the Canadian Heritage Rivers Board on behalf of federal, provincial and territorial governments and in

conjunction with local communities, Aboriginal organizations and interest groups. Nomination and management of rivers remain the responsibility of the government in whose jurisdiction the river is located.

Alberta joined the CHRS program in February 1994. A request was made to the Province by the City of Fort McMurray, the former Improvement District 18, (now collectively known as the Regional Municipality of Wood Buffalo) and the Fort McMurray (No. 468) First Nation to consider the Clearwater River and its tributary the Christina, in northeastern Alberta, for nomination to the CHRS. Alberta Environmental Protection then facilitated a process to ensure the local community and major stakeholders supported nomination and designation of the Clearwater-Christina as a Canadian Heritage River. The Clearwater River Committee (CRC) was formed and in 1996 CRC members reached consensus to nominate the Clearwater River, together with the lower section of the Christina River, to the CHRS. The nomination was approved by Fort McMurray First Nation, Regional Municipality of Wood Buffalo and the Government of Alberta. Nomination was accepted on September 17, 1996 by the Canadian Heritage Rivers Board and officially announced by the Honourable Ty Lund, Minister of Alberta Environmental Protection on September 19, 1996.

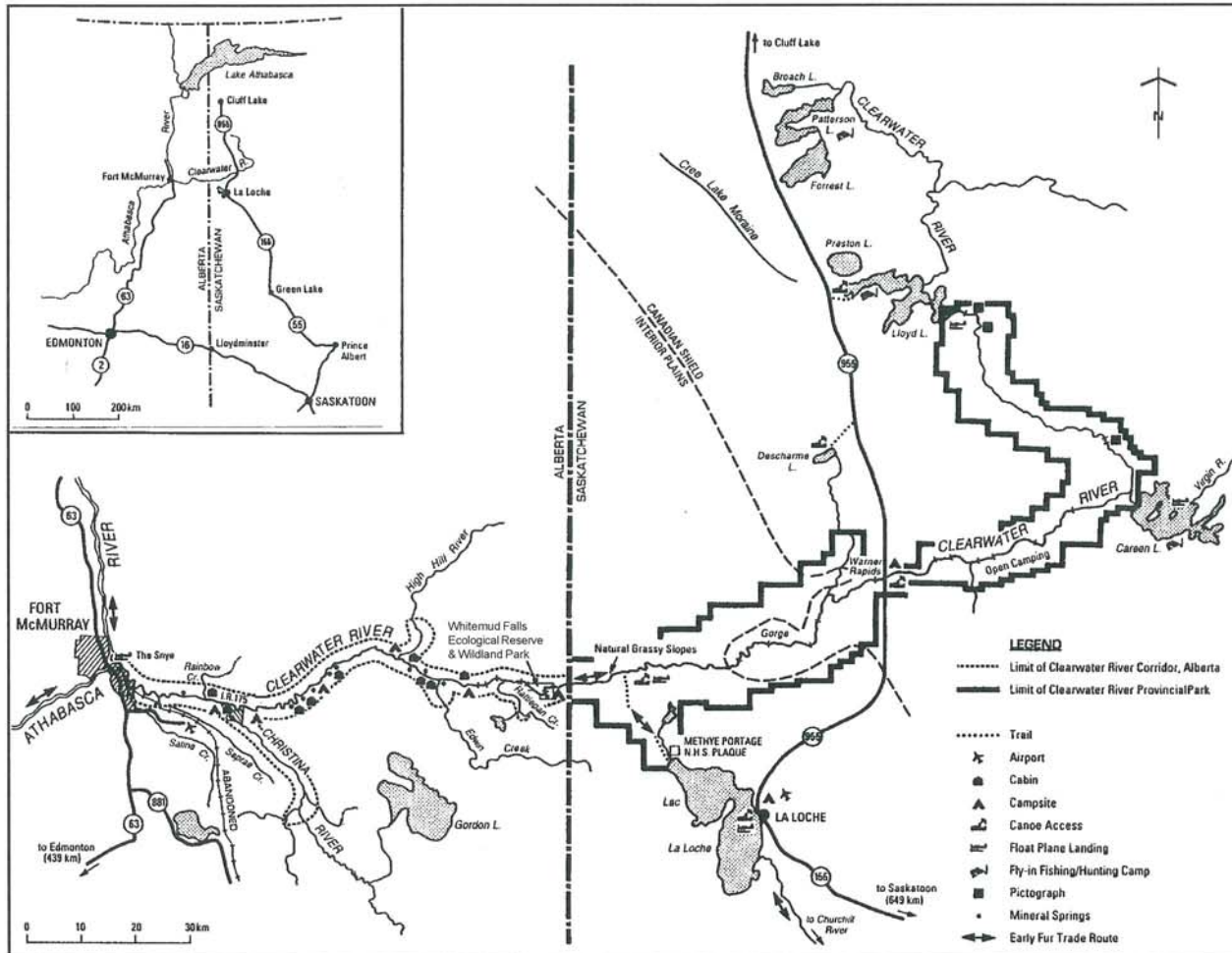


Clearwater River at Whitemud Falls Ecological Reserve



## Management Plan Area/Location Clearwater-Christina Rivers, Alberta

**Figure 1: Clearwater-Christina Rivers: Alberta and Saskatchewan**



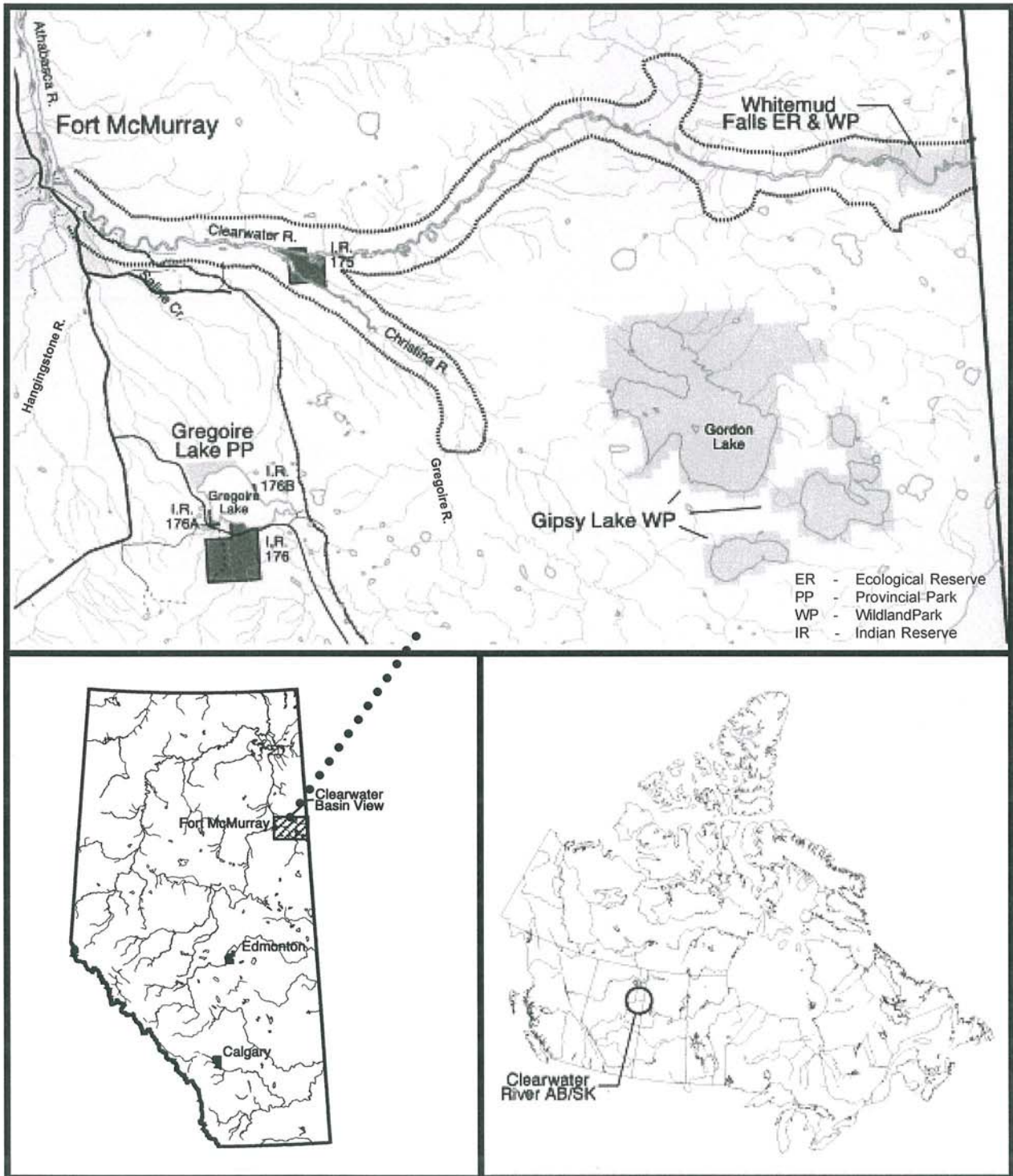
### Management Plan Area/Location:

The Clearwater-Christina Rivers are located in the Boreal Forest Natural Region of Northeast Alberta. The *Management Plan* applies to the entire 108 kilometre Alberta segment of the Clearwater River, together with 31 kilometres of the lower Christina River also located within Alberta. This area is referred to within the *Management Plan* as the “Clearwater River Corridor”. The Clearwater River enters Alberta from Saskatchewan (where the portion within the Clearwater River Provincial Park is a Canadian Heritage River) and flows west to its confluence with the Athabasca River at Fort McMurray. The lower section of the Christina River, flowing south from Gregoire River to the Clearwater River, just upstream of Fort McMurray.



## Management Plan Area/Location Clearwater-Christina Rivers, Alberta

**Figure 2: Clearwater-Christina Rivers: Alberta**



## ROLE OF THE CLEARWATER-CHRISTINA RIVERS IN THE CANADIAN HERITAGE RIVERS SYSTEM

### **Inclusion of the Clearwater and its tributary river, the Christina, in the Canadian Heritage Rivers System serves the system in a number of ways:**

- provides the Canadian Heritage Rivers System with the Alberta section of the Clearwater River, which with the Saskatchewan section (designated in 1986), will create a 295 km, interprovincial Canadian Heritage River extending from Lloyd Lake (Saskatchewan) to Fort McMurray (Alberta) and completes the Clearwater River section of the “nationally significant” Canoe Routes to the West
- provides the Canadian Heritage Rivers System with a river whose physical, biotic and human history forged indelible linkages between the river systems of the Western Interior of Canada and those of the Arctic watershed - an umbilical cord between the West and the North
- provides the Canadian Heritage Rivers System with a predominantly wilderness river, situated in a region with rapid urban growth and resource development, in which heritage river values and recreational opportunities and experiences may be sustained through integrated resource planning and boreal ecosystem management
- provides the Canadian Heritage Rivers System with a river whose natural heritage, human heritage and recreation values comprehensively meet the CHRS Values and Integrity Guidelines, thereby rendering the Clearwater-Christina River System an outstanding nominee to the CHRS, based on the numerous attributes and values it will bring to the CHRS in all three categories



## ROLE OF THE CLEARWATER-CHRISTINA RIVERS IN THE CANADIAN HERITAGE RIVERS SYSTEM

- provides the Canadian Heritage Rivers System with a river whose entire length within Alberta lies within one municipality (geographically the largest in North America)- yet, which along its length is predominantly provincial Crown land, and also includes a provincial ecological reserve/wildland park, Indian Reserve and urban centre each straddling the waterway in its upper, mid and lower sections, respectively - providing a fine example and model of intergovernmental and multi-cultural cooperation in successful and appropriate river management for provincial, national and international river managers and planners in the CHRS
- provides the Canadian Heritage Rivers System with one of the few Canoe Routes to the West rivers in the Western Interior (prairie provinces) of Canada that flows from east to west.
- provides the Canadian Heritage Rivers System with many outstanding examples of the themes and sub-themes set out in *A Framework for the Natural Values of Canadian Heritage Rivers* (1998).
- provides the Canadian Heritage Rivers System with many excellent examples of the themes and sub-themes set out in *A Cultural Framework for Canadian Heritage Rivers* (2000).





## PLANNING AND MANAGEMENT CONTEXT

### Canadian Heritage Rivers System

The Canadian Heritage Rivers Board requires that a management plan must be approved before a river can be officially designated as a Canadian Heritage River by the Minister responsible for Parks Canada (Minister of Canadian Heritage) and the Minister of the nominating agency (Minister of Alberta Community Development).

Information on the natural and cultural heritage, and recreation values of the Clearwater-Christina Rivers was organized in a *Background Study* (SENTAR Consultants Ltd. 1996a) and summarized in a *Nomination Document* (SENTAR Consultants Ltd. 1996b). The first document presented a list of planning issues and management considerations identified by the Clearwater River Committee. The information has been revisited, revised and incorporated into objectives and action statements presented in this *Management Plan*.

### The Clearwater River Committee (CRC)

The Clearwater River Committee (CRC) was formed in March 1995. Since then the CRC has met on a monthly basis, using a collaborative, consensus-based model, and a Process and Procedures Agreement. A broad range of community and regional interests is represented on the Committee. The CRC has endeavoured to keep the citizens of the Regional Municipality of Wood Buffalo informed through open houses, trade fairs, newsletters, the media, and meetings with individuals and other stakeholder groups.

**Table 1: Clearwater River Committee (CRC) Sector Membership**

<b>Historical/Cultural:</b>	Metis Post-Native Settlement
<b>Environment:</b>	Preservation/Protection Natural History Land Ownership/Leasing
<b>Recreation- Motorized:</b>	Snowmobiles/Small Watercraft Large Watercraft (Jetboaters, etc.)
<b>Non-Motorized:</b>	Mushers/Equestrian Cross Country Skiers/Hikers Canoeists/Kayakers Hunting/Fishing
<b>Commercial/Industrial:</b>	Forest Products - Forest Management Agreement Quota Holder Lodges, Guides, Outfitters Regional Tourism Trapping Agriculture-Market Gardeners
<b>First Nation:</b>	Fort McMurray No. 468 First Nation
<b>Local Government:</b>	Regional Municipality of Wood Buffalo
<b>Provincial Government:</b>	Heritage Rivers Program -Alberta Community Development Alberta Environment, Alberta Sustainable Resource Development

Representatives listed in Appendix I



## PLANNING AND MANAGEMENT CONTEXT

The participating parties on the CRC agree to recognize any formal planning documents and procedures that exist for part or all of the territory included in the Clearwater River management area (legislative documents\*, municipal plans, integrated resource plans, etc.). The parties also agree to recognize any rights and responsibilities possessed by Aboriginal (First Nations and Metis) peoples with respect to water, land, heritage and renewable resources management or that may accrue from land claims settlement. The nominated portion of the Clearwater-Christina Rivers in Alberta makes up only part of the entire Clearwater and Christina Rivers and their respective watersheds. Thus, while the *Management Plan* deals with one section of the river, it also reflects other existing river planning and regional land use and resource management documents for the two basins. Important in this regard, is designation in 1986 of the Clearwater River in Saskatchewan as a Canadian Heritage River.

### **The Management Plan**

The *Management Plan* provides a series of action statements to guide decision makers toward the common vision of the stakeholders who live, work and recreate along the Clearwater-Christina Rivers. The *Management Plan* is effective because it has been formed through a collaborative decision making process where the needs and interests of stakeholders defined the final product. Through this process, each stakeholder retained something of value, and conflicts between user groups have been identified and resolved to the satisfaction of all members of the Committee. The process, although time consuming, reduces potential future conflicts among groups and lends greater support for *Management Plan* implementation.

The *Management Plan* is neither legislative nor regulatory, but is intended to inform government and industry decision makers. The direction and specific actions set out in the *Management Plan* are compelling because of the broad base of support they received from all participants in the process.

For example, the Regional Municipality of Wood Buffalo intends to consider the recommendations put forward in this *Management Plan* when evaluating development proposals as a requirement of their Municipal Development Plan. The provincial government will consider this *Management Plan* when reviewing applications, and in their daily operations. The intent is that users of the Clearwater-Christina Rivers will use this *Management Plan* as a guideline for their activities.

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\* See Appendix II for a listing of legislative documents that are applicable to this *Management Plan*.



## 2. Management Area

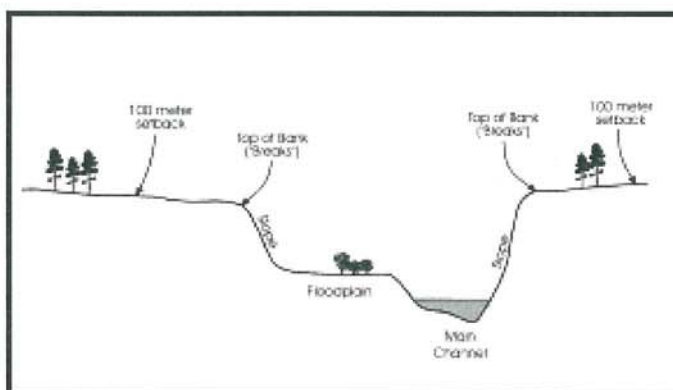


To assist nomination, designation and long-term management of the Clearwater-Christina Rivers under the Canadian Heritage Rivers program, the Clearwater River Committee selected an appropriate boundary for the “Clearwater River Corridor”. The main goals of a river corridor are to

encompass the resource values for which Heritage River status is sought and to aid planning, management and use of the river environment. River corridors are rarely legislated, but they do add to the status of a Heritage River and signal the presence of natural, cultural and recreational values to be sustained in the overall management and use of corridor resources.

**Figure 3: Cross-Section of “Clearwater River Corridor”**

The valley characteristics of the two rivers are such that the entire width of each valley is included within the “Clearwater River Corridor”. The Clearwater-Christina valleys are distinguished by abrupt transitions from valley slope to upland plain (commonly known as “the breaks”) that simplify the river corridor selection process.



The “Clearwater River Corridor” includes the main valley of the Clearwater River up to the breaks, with an additional setback of approximately 100 m from the valley breaks, excluding the urban service area. The choice of the 100 m setback is consistent with setbacks proposed by the Regional Municipality of Wood Buffalo and the linear development setback in the approved *Fort McMurray-Athabasca Oil Sands Subregional Integrated Resource Plan* (IRP) which includes the lower Clearwater Valley. The 100 m setback will limit potential visual intrusion on viewpoints from the river and provide a means of protecting other values.

The 100 m setback arrangement also will permit extending the river corridor along the incised valleys of the major tributaries (excluding the Hangingstone River). The “Clearwater River Corridor” limits along tributaries are largely determined by sight lines upstream on each tributary from its confluence with the Clearwater River.

With regard to the principal tributary the Christina River, the lower portion of the Christina River possesses biophysical, visual and other characteristics which reinforce this river’s association with the Clearwater River. The lower Christina generally can be considered to begin below its confluence with the Gregoire River and includes most of the incised portion of the river valley.



Existing land ownership does not change with Canadian Heritage River designation or boundary definition. Land claims will influence parts of the “Clearwater River Corridor”, and the status and management of the “Clearwater River Corridor” will be compatible with claims agreements. An ecological reserve, infrastructure corridor and urban floodplain also exist in the “Clearwater River Corridor”, and heritage river management planning will be compatible with these situations.

The “Clearwater River Corridor” provides a management area to ensure the whole river valley is managed according to the objectives of the plan. Within this management area, all land ownership, regulations and use will remain under existing authorities unless negotiated otherwise.

Types and levels of use of the “Clearwater River Corridor” can be organized into three zones. These zones may be useful to decision makers for planning and management purposes. The three zones are:

**Intensive Use Zone**

the Urban Service Area of Fort McMurray

**Transition Zone**

from the Urban Service Area to the confluence of Clearwater and Christina Rivers (mix of private, public and First Nation lands)

**Wilderness Zone**

from the Christina River confluence to the Saskatchewan border (principally public land).



Clearwater River at the Urban Service Area of Ft. McMurray



### 3. Background Summary



The Clearwater River with its tributary the Christina River, is an outstanding landscape of natural and human heritage and possesses numerous recreational opportunities.

High integrity values have been placed on the Clearwater River making it worthy of CHRS designation (Cultural Heritage and Natural Heritage Themes, Appendices III & IV). These values will be monitored annually (Annual Report Checklist, Appendix VI).

#### 3.1 NATURAL HERITAGE

An array of natural features - some unique, many outstanding - provide evidence of the earth's developmental history, the action of water, and adaptation by plant and animal species. Bedrock weathering since the Devonian Period has produced numerous karst-like features, such as cliffs, caves and gorges and stack ("flowerpot") islands. Former seas have left behind deposits of gypsum, salt and halite. Mineral springs, as well as saline patterned bogs and fens, reveal the presence of these subsurface evaporites. Marine and delta sands of the McMurray Formation, impregnated with heavy oil, formed today's oil sands.

The Clearwater occupies a region where glaciation left till deposits 30 m thick. Eskers, kames and moraines exemplify glacial features left behind. Dominating all features, however, is the glacial spillway that forms today's oversized valley. Almost 10,000 years ago, a catastrophic flood drained glacial Lake Agassiz, pouring from Saskatchewan through Alberta to the Arctic Sea. A temporary paleocorridor was created, explaining why fish species of Mississippi refuge origin are distributed across the Interior Plains and the Mackenzie Basin.

Riverbank vegetation is invariably dense, from coniferous forest atop rocks to willow shrub communities along main and secondary channels. The ecosystem supports many terrestrial and aquatic species. Some are at risk. Notable wildlife includes bald eagle, osprey, bear, moose and wolverine.



# NATURAL HERITAGE



Saline patterned bogs & fens



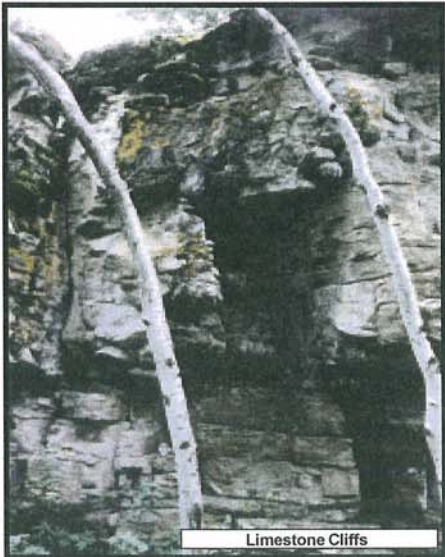
Flowerpot Island



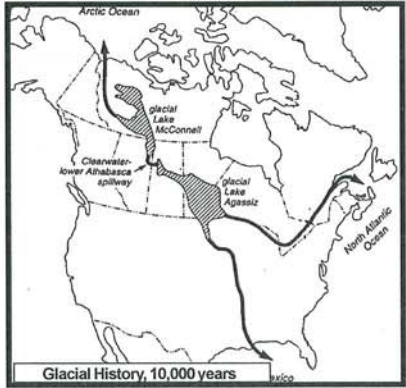
Whitemud Falls



Lower Christina River Valley



Limestone Cliffs



Glacial History, 10,000 years



## 3.2 HUMAN HERITAGE

The Clearwater River has served human communities from the precontact cultures of 6,000 years ago to 20<sup>th</sup> century participants in commerce and conservation. Prehistoric occupancy was typified by low populations and extensive spatial distributions characteristic of boreal forest adaptation. Pictographs attest to this presence, as may further archaeological discoveries at portage sites. Evidence suggests that this area was important as an interface between boreal forest and northern plains cultures.

Contact between First Nations and EuroCanadians first occurred in the 18<sup>th</sup> century, following Peter Pond's use of the 19 km Methye Portage (1778). The Clearwater's difficult Precambrian upper section was avoided and a practical route effected between Hudson Bay and Arctic drainage basins. The river became a vital link between the Churchill and



Peter Pond Memorial

Athabasca rivers and thus between Hudson Bay fur factories and the Athabasca District. Likewise, it became an artery for explorers, scientists and others (e.g., Mackenzie, Turnor, Fidler, Thompson, Franklin, Macoun). Competition among members of First Nations who were suppliers and guides to the fur trade caused massive shifts in aboriginal territories.



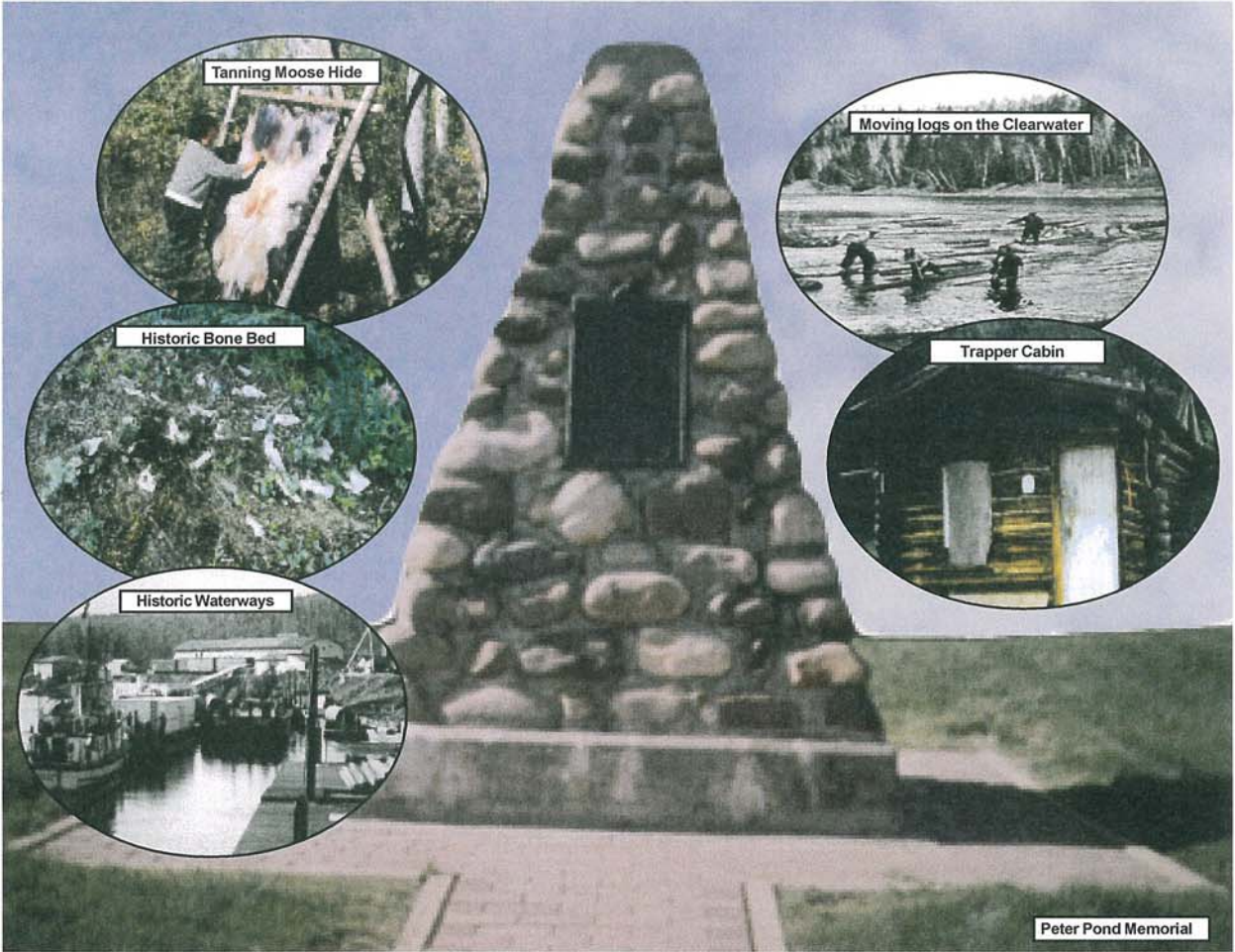
The Chipewyan first displaced the Beaver Indians who, in turn, were displaced by the Cree. The Metis likewise played an important role along the river, as tripmen, translators and in other ways.

The fur trade on the Clearwater River emerged in the final quarter of the 1700s. The North West Company built a post in the 1780s and the river served as an integral part of the Athabasca District fur trade transportation system for over a century. Fort

McMurray Post was built in 1870 to facilitate transportation across Methye Portage. This role expanded as settlement, resource extraction (logging, oil sands, commercial fishing) and the arrival of the Great Waterways Railway (1926) heightened the EuroCanadian presence. Fort McMurray and nearby Waterways emerged as vital transshipment points on the river and rail system, serving the entire Mackenzie watershed from 1925 to 1986. In that period, the Clearwater witnessed log drives, the passage of plains bison en route to Wood Buffalo National Park, transportation of construction supplies for the CANOL pipeline, and flights by pioneer float plane aviators, such as Wop May.



# HUMAN HERITAGE





### 3.3 RECREATIONAL USE

The Clearwater's greatest recreational value lies in the ambiance of a vast wilderness landscape highlighted by undisturbed views from the river, clean water, and the variety of recreational activities made possible by changes in the river's morphology.



Representing virtually every type of river condition, from challenging whitewater rapids and narrow channels to broad looping sections pitted with islands and sandbars, the river has obvious appeal for wilderness canoers and campers. This activity occurs throughout the length of the river.



Below Whitemud Falls and associated rapids up to Fort McMurray, the area provides a variety of uses such as power boats, kayaking, water-skiing, etc. The Snye waterbody is a focal point for much of this activity.

Associated land-based activities include camping at designated campsites; and trail use (notably in winter) for horse riding, hiking, snowmobiling, skiing and mushing. Restrictions on mechanized use exist in designated conservation areas. Fishing (walleye, goldeye, northern pike, arctic grayling), viewing for nature and cultural appreciation (including photography), and access to trap lines and hunting areas, are activities associated with river use.



# RECREATION



# LAND USE



Clearwater River at the Urban Service Area of Fort McMurray



Market Gardens, Fort McMurray



North Shore Acreages, Fort McMurray



Forestry, Clearwater River



McDonald Island Golf Course, Fort McMurray



## 4. Management Philosophy



### Vision and Mission Statements

The *Management Plan* encompasses the interests of the authorities and many participating groups (stakeholders) who value and use the “Clearwater River Corridor” in various ways. The Clearwater River Committee developed a management philosophy to guide formulation and implementation of the *Management Plan*. The management philosophy was drafted by the Clearwater River Committee and made available for public review and commentary.

The management philosophy consists of a vision statement for the “Clearwater River Corridor” and a mission statement for the Clearwater River Committee to assist in its stewardship role for the Clearwater as a Canadian Heritage River. These statements are supported by a series of values and beliefs developed by the Clearwater River Committee for the “Clearwater River Corridor,” the Clearwater River Committee process and the *Management Plan*.

Action Statements for eight management objectives set out in Section 6.0 are the applied expression of this management philosophy.

#### VISION STATEMENT

The “Clearwater River Corridor” provides a valued wilderness experience through a healthy relationship between people and nature.

Through active stewardship the integrity of the natural/ecological, cultural/historical, recreational and commercial values are ensured for present and future generations.

This vision is attainable if all users commit to cooperate, educate, understand and respect each other and the environment.

#### MISSION STATEMENT

The Clearwater River Committee provides a collaborative forum where all stakeholders are encouraged to share leadership in the stewardship of the natural, cultural, recreational and commercial values of the “Clearwater River Corridor”, thereby balancing the interests of all present and future users.



## Values and Beliefs

The following are the values and beliefs expressed by the Clearwater River Committee:

1. The value of the “Clearwater River Corridor” for its essential ecological role in the context of the watershed and the larger ecosystem.
2. The value of the “Clearwater River Corridor” to the national, regional and local economy.
3. The value of predictable, consistent, accountable and fair management of the “Clearwater River Corridor”.
4. The value of freedom to access the “Clearwater River Corridor” while maintaining the integrity of natural/ecological, cultural/historical, recreational and commercial values.
5. The value of the “Clearwater River Corridor” to all people as part of the Canadian Heritage Rivers System.
6. The value of nature to the human experience.
7. The value of understanding, awareness and respect to enhance the wise use of the “Clearwater River Corridor”.
8. The value of using consensus-based collaborative decision making as the forum for discussing and resolving issues.
9. The belief in establishing the priorities to balance the growing demands on limited land and water resources along the waterway while considering the greatest long-term public benefit.
10. The value of respect for others.
11. The value of locally determined management by the Committee and other local stakeholders.



## Values and Beliefs

12. Shared or collaborative decision making will mean that everyone at the Committee table is an equal and valued partner in the decision making process.
13. Those at the table must be empowered by their respective sectors so that they seek an outcome that accommodates rather than compromises the other interests on the Committee.
14. Sector representatives will act in good faith. Acting in good faith means remaining honest, open and upfront throughout the negotiation process and contributing to the development of the negotiation.
15. Sector representatives will fully explore all the matters at issue with a view towards seeking an outcome that accommodates rather than compromises the interests of all concerned. In that regard, sector representatives will seek to:
  - clearly articulate their interests and the interests of those they represent
  - understand the interest of other participants whether or not they are in agreement with them
  - respect the legitimacy of other sectors' interests, and
  - identify solutions that meet the interests of other parties as well as their own.



## 5. Aboriginal Peoples



### First Nation and Metis Peoples

Aboriginal support for the Clearwater-Christina Rivers to be designated under the Canadian Heritage Rivers System (CHRS) program was expressed from the outset. The Fort McMurray No. 468 First Nation and the City of Fort McMurray and former Improvement District 18 (now collectively known as the Regional Municipality of Wood Buffalo) joined in the original request to the Government of Alberta in 1994 for CHRS status for the Clearwater-Christina Rivers. The Fort McMurray First Nations and the Metis Association of Alberta participated and provided input to the Clearwater River Committee.

First Nations peoples have a fundamental interest in the Clearwater-Christina Rivers with respect to traditional use, treaty rights, land claims, socio-economic opportunities and related issues. The Canadian Heritage Rivers designation will not change existing agreements expressed in existing Aboriginal land claims agreements and will not limit future negotiations within the "Clearwater River Corridor".

The Clearwater Indian Reserve No. 175 straddles the Clearwater River at its confluence with the Christina River. Currently there is no development on the Reserve along the river, but there was earlier habitation and land clearing. The First Nations peoples may consider further development in the future.

The Reserve is accessible by both river and a seasonal access road that lies along the south side of the valley. Portions of the Reserve lands are periodically inundated by flood waters. Some individual members of Fort McMurray First Nations have cabins along the Clearwater River off the Reserve. These cabins are associated with Registered Fur Management Areas (traplins).

The interests summarized (following pages) were compiled from input at the regular meetings of the Committee, meetings with representatives of First Nations and Metis peoples, and open meetings within the Aboriginal communities.



## Aboriginal (First Nation and Metis) Peoples

### Concerns

It is critical to members of the First Nations and Metis peoples that other stakeholders in the "Clearwater River Corridor" recognize the concerns, needs and aspirations of First Nations and Metis peoples within the "Clearwater River Corridor". There has been acknowledgment on the part of the Clearwater River Committee of the importance of ongoing communication, consultation and information exchange in support of sustainable practices and land use in the "Clearwater River Corridor".

All stakeholders must recognize, understand, and respect treaty rights, traditional practices (including hunting, trapping and gathering) and future land claims. It is important for Aboriginal peoples to continue to use the "Clearwater River Corridor" for traditional uses such as travel, hunting and gathering.

Issues that have been expressed include:

- the use of existing access to and through Reserve lands as well as any access that may be developed in the future
- implications of land claim settlement on access between the upper and lower Clearwater Valley
- unauthorized/casual access onto Reserve lands and private property damage (eg. cabins)
- unauthorized activities on Reserve lands that include: cutting firewood, taking diamond willow, killing wildlife (moose), recreational activities
- values of users (boaters, snowmobilers, hunters and others) and safety factors involved in a remote setting; and
- abandonment of waste materials (garbage).





## Aboriginal (First Nation and Metis) Peoples

### Opportunities

- From a socio-economic perspective, opportunities for Aboriginal peoples to benefit from resource management and use in the “Clearwater River Corridor” through participation in the emerging tourism sector (ie. ecotourism) and the forest industry.
- To share the Elders’ unwritten knowledge with others, to ensure we do not lose valuable insights into the human history of the Clearwater River system as known by the First Nations and Metis peoples.
- Expanding understanding of human heritage of the “Clearwater River Corridor” through active participation in the identification and recording of natural and cultural heritage sites throughout the Clearwater Valley. Some of these activities should include the following:
  - Continuing dialogue and consultation among First Nations and Metis peoples and other Clearwater River stakeholders are very important to the success of planning, management and use strategies for the Clearwater Heritage River. The Clearwater River Committee will continue to foster these communications with a view to understanding and responding to concerns and opportunities expressed by all stakeholders.
  - Planning for the Clearwater Heritage River is to take into account that Reserve land exists in the “Clearwater River Corridor” and land claims negotiations are in progress among First Nations peoples and the Crown.
  - As a Canadian Heritage River, Alberta recognizes that formal agreements reached between First Nations people and the Crown are to be honored along the Clearwater-Christina Rivers.
  - Management and use of the Clearwater River is to respect Aboriginal lands and natural and cultural resources.



## 6. Management Actions



The purpose of the *Management Plan* is to create a common vision and the actions necessary to reach the vision. It is intended to inform decision makers. The *Management Plan* will only work because it contains

something of value to each group, reduces conflicts among groups, and therefore all agree to support its implementation. The *Management Plan* is not legislative or regulatory, but will be taken into account by government, industry and other decision makers at all levels. The direction and specific actions of the *Management Plan* are compelling because of the broad base of support they have received from all participants in the process.

Key user groups and regulators were represented on the Clearwater River Committee. They believe that this *Management Plan* represents the consensus view of all those who are interested in sharing the leadership in stewardship of the "Clearwater River Corridor". The *Management Plan* is a vehicle for balancing the interests of all present and future users.

Action Statements are organized into eight themes, each with its own objective. These objectives and their supporting management actions express how the management philosophy will be applied to the "Clearwater River Corridor". A summary of the management actions is in Appendix V. Progress towards accomplishing the management actions will be measured through the Annual Report Checklist (Appendix VI)

- 6.1 Natural Integrity
- 6.2 Human Heritage
- 6.3 Recreation and Tourism
- 6.4 Commercial/Industrial Use
- 6.5 Settlement and Agriculture
- 6.6 Access
- 6.7 Planning and Inventories
- 6.8 Communication, Education and Interpretation



## 6.1 Natural Integrity



### Objective

To protect representative, significant & unique examples of the natural features, landscapes and ecosystems characteristic of the Clearwater River Corridor; and to provide for the recreational, scientific or educational use of ecological resources, yet ensure that the wilderness character is maintained.

### Commentary

The “Clearwater River Corridor” is the site of provincially and nationally unique geological features and species. Preservation and maintenance of these attributes is a cornerstone to ensuring that the highly valued wilderness character is maintained. To date, the Clearwater serves as a working river, which continues to maintain its wilderness character. Access management is anticipated to have the single greatest impact on ensuring that the integrity of these features is maintained and that the wilderness character of the “Clearwater River Corridor” remains intact.

### 1(a) - Water Quality

Water quality is an important integrity value in the Canadian Heritage Rivers System program and is a benchmark by which to gauge impacts in the watershed. Water quality is important to sustain the heritage values of the river and to ensure the future use and enjoyment of all users.

Most Clearwater River water quality parameters are within Alberta Ambient Surface Water Quality Interim Guidelines (AASWIG). A growing regional population and increases in commercial, industrial and private land uses in the Clearwater River watershed require ongoing monitoring to ensure high water quality.

### Action Statements

- Maintain water monitoring stations and continue record keeping in regard to discharge and water quality.
- Existing or future land uses in the watershed should not have a negative impact on water quality standards. Existing urban developments are encouraged to upgrade their sewage treatment facilities to meet zero discharge standards.



## 6.1 Natural Integrity

### 1(b) - Protection of Natural Features

Many unique natural features have been identified in the immediate vicinity of the Clearwater River and along its tributary valleys. In some cases highly specialized ecological environments resulted from the physical characteristics of sites (e.g., mineral springs and adaptive plant/animal life). Some of these natural features are sensitive and vulnerable to impact, especially where visible and known.

#### Action Statements

- Where sensitive and vulnerable natural features are recorded, releasing the site location and notation to the general public should be carefully evaluated. Increasing awareness of their existence could negatively impact some of these microsites.
- Significant/outstanding natural features of the “Clearwater River Corridor” should be identified to facilitate resource management decisions. Disturbance of some sites could impact their contribution to the overall natural history of the “Clearwater River Corridor”
- A public education program highlighting the features within the “Clearwater River Corridor” is recommended in order to enhance the value of the Clearwater as a Heritage River to local residents and visitors.

### 1(c) - Preservation of Habitat

The “Clearwater River Corridor” contains habitat important to a broad range of species, some of this habitat is critical to select species on a seasonal basis. These habitats need to be better understood and researched.

#### Action Statements

- Critical habitats for key terrestrial and aquatic species are to be identified and managed so as to ensure the sustainability of the species. This is a provincial government responsibility with assistance from its partners.
- Land use activities in the “Clearwater River Corridor” are to be planned, designed and implemented so as to minimize impact on habitat.
- A comprehensive fisheries survey is needed to identify critical habitat, including spawning areas, that require appropriate management and/or protection to maintain viable fish populations. This is a provincial government responsibility with assistance from its partners.



## 6.1 Natural Integrity

### 1(d) - Protection of Plants and Animals

The “Clearwater River Corridor” has high biodiversity capabilities in a region generally limited in diversity and abundance by low habitat capabilities and reproductive rates. The continued presence of viable populations, of all plant and animal species native to the area, is important to the natural integrity of the Clearwater as a Heritage River. In addition, the plant and wildlife resources are important to Aboriginal peoples as an important part of their traditional heritage.

#### Action Statements

- The Government of Alberta should lead in developing an ongoing inventory of plant and animal species. This step is essential in planning for continuing viability of individual species populations. The inventory is necessary to facilitate resource management decisions regarding human access, land uses and levels of activity.
- Management techniques (eg. access restrictions, seasonal constraints, zoning) are to be considered in order to minimize and mitigate habitat loss, disruption of wildlife populations and lost recreational or commercial opportunities. There is a need to protect plant and wildlife species considered sensitive to disturbance or environmental change. Plant and wildlife habitat protection guidelines are to be applied to development proposals that are reviewed in accordance with the existing referral system.

### 1(e) - Preservation of Wilderness Character

Limited access within the Clearwater River valley directly contributes to its wilderness character. Access development, therefore, will have the single greatest impact upon this wilderness character.

Increased land uses all have a cumulative impact. Cumulative human activity has not had a significant impact at this time but increases in river and land uses hold potential for negative impacts on the wilderness resource. Proper planning, access management and immediate restoration will maintain the wilderness character of the “Clearwater River Corridor” for the benefit of all users.

#### Action Statements

- The Infrastructure Corridor (see 6.6 Access) will concentrate potential development impacts and minimize disturbance in other parts of the valley.



## 6.1 Natural Integrity

- Provincial and Municipal authorities, in consultation with local stakeholders, need to review land use activities to determine their impact and implications for the wilderness character of the Clearwater River, and to insure that impact is mitigated.
- The River Guardian position provided by Alberta Sustainable Resource Development should continue because it contributes to hands on management of the river. In addition, the (periodic) presence of regulatory agencies (eg, RCMP, Alberta Environment, Alberta Sustainable Resource Development) should be encouraged.
- Commercial and industrial activity or structures that are built within the visual sightlines of the Clearwater River will be developed in a manner that minimizes impact on the long-term wilderness character of the valley.

### 1(f) - Riparian Habitat and Riverbank Erosion

Erosion and deposition are natural processes along the Clearwater -Christina Rivers. High water levels, ice flows and human activities contribute to the changing shoreline. Maintenance of the shoreline and water habitat will protect water quality, fish spawning and fish rearing habitat, critical shoreline nesting habitat, aesthetics and land use base.

#### Action Statements

- Removal of shoreline vegetation should be permitted only in specific areas and where it will provide significant benefits to the public at large.
- Deliberate or indirect modification of riverbank materials should only occur in specific and unique circumstances (eg. permitted boat dock or water intake). Reclamation measures should restore landscape to pre-disturbance conditions.
- Operators of motorized recreational vehicles (eg. watercraft, quads) are encouraged to minimize shoreline disturbance and erosion, through responsible use of their craft.





### Objective

To protect, for educational, interpretive and scientific purposes, historical resources from potential or actual resource development impact, and to conserve these historical resources for future generations.

## 6.2 Human Heritage

### Commentary

A listing of cultural resources identified to date (about 150) for the Clearwater River has been compiled for the Clearwater River Committee (derived primarily from the Archaeological Survey of Alberta and the Canadian Heritage Inventory Network). Most available data is from field studies in the 1970s. Work since then has mainly focused on inventorying Aboriginal sites. The research remains incomplete. While known cultural resources rarely possess outstanding significance as individual sites, when considered in concentrations their significance is beyond doubt. The potential for discovering additional sites and resources is high.

### 2(a) - Cultural/Historic Record

Contributions from all cultures is desirable to pool knowledge about past use of, and values ascribed to the "Clearwater River Corridor". The human heritage of the "Clearwater River Corridor", expressed through the presence, activities and artifacts of First Nations, Metis and EuroCanadians, is a cornerstone of the Clearwater as a Heritage River. The integrity of this mutual heritage is to be reflected in planning, management and use of the "Clearwater River Corridor". The Historical Resources Act ensures the integrity and protection of historical resources by requiring a historical resources impact assessment be carried out prior to any land use activity.

### Action Statements

- Establish a comprehensive program to locate, inventory, record and attach significance to all as yet undiscovered historic sites, with emphasis (a) upon sites in proximity to the Clearwater River and (b) those within or adjacent to areas of existing, proposed or likely resource extraction activities.
- Any new historic sites should be entered in the Archaeological Survey database and the Canadian Heritage Inventory Network.



## 6.2 Human Heritage

- A local institution or organization in Fort McMurray should serve as a repository of this information.
- Priority should be given to searching for and inventorying historic properties and sites on private lands and lands to be leased, permitted or otherwise made available for intrusive or surface land use activities.
- The oral history of First Nations and Metis people should be recorded in order to ensure that this historical component of human occupancy and activity in the “Clearwater River Corridor” is not lost.
- Users of the “Clearwater River Corridor” will maintain and enhance the human heritage resources of the valley by:
  - each user group being responsible for informing, educating and self regulating, in part through its code of conduct
  - monitoring, maintaining and protecting important heritage sites
  - identifying and reporting potentially new historic sites for entry into the “Clearwater River Corridor” data base
  - participating in the Clearwater River Committee.

### 2(b) - Cultural/Historical Site Protection

#### Action Statements

- A Historical Resources Impact Assessment (HRIA) needs to be conducted prior to any land surface disturbance (as defined by Alberta’s Historical Resources Act) within the river corridor. This includes removal of top soil.
- To protect historical resources from disturbance, significant vulnerable sites and historic locations will be identified and inventoried in a confidential database where their anonymity and accessibility will be protected.
- Where circumstances may result in the loss of artifacts, they shall be inventoried and removed for safekeeping at recognized agencies, organizations and institutions.





## 6.2 Human Heritage

### 2(c) - Heritage Sites and Land Uses

#### Action Statements

- Land use strategies should be adaptive to new discoveries of historical resources.
- Careful site evaluation, planning, and development is required to mitigate commercial and recreational impacts on historical resources.

### 2(d) - Human Heritage and Traditional Lifestyles

The human heritage of the “Clearwater River Corridor” includes traditional lifestyle activities (eg. berry picking, preparation of moose hides). These lifestyle activities are supportive of the natural and human values and integrity ascribed to the Clearwater as a Heritage River.

#### Action Statement

- Management of the human heritage of the “Clearwater River Corridor” should recognize continued use of the river by Aboriginal peoples and others in continuing traditional lifestyles.





### Objective

To ensure continued quality of the recreation and tourism experience recognizing the wildland character as an essential value.

## 6.3 Recreation and Tourism

### Commentary

The Clearwater River valley hosts many recreational activities (see table below). The greatest range of recreational use occurs along the settled area in the lower reaches of the river.

Closer to the Saskatchewan border, the Whitemud Falls Ecological Reserve and Whitemud Falls Wildland Park are key areas of interest. Activities permitted within the Whitemud Falls Ecological Reserve are more restricted than activities that occur on the surrounding land base. Management plans for the Whitemud Falls Ecological Reserve and Wildland Park are not yet completed and must address a designated snowmobile route (traditional use) through the Ecological Reserve as well as float plane access.

**Table 2: Existing Recreational/Tourism Land Use, “Clearwater River Corridor”**

- |                            |  |
|----------------------------|--|
| • large powered watercraft | • snowmobiling                             |
| • small powered watercraft | • cross-country skiing                     |
| • personal watercraft      | • downhill skiing                          |
| • non-motorized watercraft | • dog mushing                              |
| • hiking                   | • equestrian                               |
| • camping (summer, winter) | • quads, trikes, 4-wheel drives            |
| • mountain bikes           | • snowshoeing                              |
| • float plane              | • swimming                                 |
| • picnicking               | • photography                              |
| • berry picking            | • natural & cultural heritage appreciation |
| • fishing                  | • hunting                                  |



## 6.3 Recreation and Tourism

Located downstream from the Whitemud Falls are six forest recreation areas that support recreation use. Access into the river corridor is predominantly for travel upstream/upvalley. Downstream travel is either very localized in the Fort McMurray area or arises through small numbers of recreationists entering Alberta from Saskatchewan. Some begin trips from the vicinity of Whitemud Falls after being taken there by floatplane or jet boat. The Whitemud Falls and the rapids downstream to the Cascade Rapids exert physical controls on the type and number of water-based recreational activities.

Commercial recreation is a promising component of the recreation picture. Outfitters and guides engage in seasonal activities (eg. hunting, canoeing, wilderness camping and nature appreciation). Currently, one commercial wilderness lodge operates along the Clearwater River.

### 3(a) - Camping

#### Action Statements

- Recreational travelers are encouraged to use established campsites provided by the Alberta Government.
- Established campsites should be developed and maintained to a level where the camper's impact on the site and surrounding area is minimized.

### 3(b) - Planning Linear Recreation

#### Action Statement

- The *Clearwater River: A Map Guide for River Travel* should be updated based on input from the user groups within the Clearwater River Committee and incorporate land-based trails, routes, access points, staging areas and seasonal uses associated with recreational trails.

### 3(c) - Whitemud Falls Ecological Reserve and Wildland Park

#### Action Statement

- To ensure that the ecological and other values of the Ecological Reserve and Wildland Park are not impaired, the provincial government should monitor recreation activities with assistance from its partners.



## 6.3 Recreation and Tourism

### 3(d) - Clearwater Indian Reserve and Private and Leased Lands

#### Action Statement

- Recreational management and use must recognize Clearwater Indian Reserve No. 175, and private and leased lands that exist within the "Clearwater River Corridor".

### 3(e) - Recreational Carrying Capacity

#### Action Statement

- The Clearwater River Committee recognizes that there is a recreational carrying capacity. How this carrying capacity will be determined is unknown. An indication that carrying capacity has been exceeded is when heritage values or user experience of the wilderness character are being degraded. If river values are being impaired there may be a need for intensive recreation management. Consultation with local stakeholders is mandatory.

### 3(f) - Hunting

#### Action Statement

- Hunting will be monitored and managed to maintain sustainable wildlife resources. This is a provincial government responsibility with assistance from its partners.

### 3(g) - Safety

#### Action Statement

- Increased recreational use of the Clearwater Heritage River will create safety management issues. Stakeholder groups are to be encouraged to prepare a code of conduct that will be adapted by their sector considering safety issues related to their use and their interaction with other users.

### 3(h) - Signage

#### Action Statement

- Signage and flagging ribbons (while performing an important service) should be minimized so that the wilderness character is not impacted, especially as it relates to the river traveler's experience.





### Objective

To utilize the natural resources within the Clearwater River Corridor incorporating management concepts and systems that minimize environmental impact, maintain the natural and human history, integrate the needs of other users of the river valley and maintain biodiversity.

## 6.4 Commercial / Industrial Use

### Commentary

In the “Clearwater River Corridor”, commercial and light industrial development is encouraged to locate in the Urban Service Area. The Regional Municipality of Wood Buffalo is preparing its’ Municipal Development Plan which outlines the future direction for development within the municipality. The Municipal Development Plan states that it will consider the recommendations and direction given in this *Management Plan* when evaluating development applications in the “Clearwater River Corridor”.

Beyond the Urban Service Area of Fort McMurray commercial/industrial activities include tourism, guiding, outfitting and wilderness lodge activities, trapping, oil and gas developments, agriculture, and timber harvesting.

The highest value of the Clearwater-Christina Rivers valley complex is the wilderness experience it affords, as stated in the Vision Statement (page 17) for the “Clearwater River Corridor”. This value will grow as development in the surrounding region continues. Development in the “Clearwater River Corridor” (taking guidance from the Fort McMurray-Athabasca Oil Sands Subregional Integrated Resource Plan) should be compatible with the Vision for the “Clearwater River Corridor”. For example, it is anticipated that large scale commercial/industrial and multiple unit housing would not be consistent with the Vision. The Clearwater River Committee recognizes that the greatest challenge to balancing the wilderness component of the Vision, and urban development, will occur in the transition zone.

### Action Statements encompassing all Commercial/ Industrial Uses

- Commercial and industrial activity is to be conducted with the integrity of the river valley in mind and impact should be minimized in the short and long-terms.
- Industrial development should be located away from the Clearwater River valley, on the upland plateau, and incorporating the 100m break of valley buffer identified as part of the “Clearwater River Corridor”.
- Development other than that associated with essential access and utility needs, should be minimized within the “Clearwater River Corridor.” Where possible, development should be required to use existing access routes to minimize impact on the “Clearwater River Corridor”.



## 6.4 Commercial / Industrial Use

### 4(a) - Guiding and Outfitting

Provincial Regulations govern guides and outfitters in respect to recreational commercial activities. There are a number of concerns associated with commercial guiding and outfitting. There is perceived crowding of outfitters along some areas of river. Future demands may increase this pressure. Safety concerns have been raised with regards to bear baiting practices.

#### Action Statements

- Carrying capacity should be used to determine the issuance of licenses and permits for all tourism related operations ranging from ecotourism to big game hunting. This will reduce site degradation due to overuse and conflicts with tourism providers.
- Bear baiting practices must consider personal safety, health concerns and aesthetics with respect to bear bait locations and other users. Current regulations must be adhered to and enforced rigidly. To provide for the safety of all users and to ensure that the aesthetic values are not compromised, bear baiting activities should not occur within a 150 metre setback from the river.
- To ensure the safety of all users, discharging firearms across the river is strongly discouraged.
- The provincial government should explore management options that will minimize the heavy hunting pressure within the river corridor.

### 4(b) - Trapping

All unoccupied public lands within the Clearwater River Corridor are currently allocated as Registered Fur Management Areas (traplines). Trapping is a historical use in the "Clearwater River Corridor". A number of trappers' cabins are located along the Clearwater River.

#### Action Statements

- The *Trappers' Cabin Policy* released in July 1994 by Alberta Environmental Protection in partnership with the Alberta Trappers Association must be followed within the Clearwater River valley. Where departures from policies are evident, corrective steps should be taken.



## 6.4 Commercial / Industrial Use

- The rights and practices of trappers are to be respected. With the increase of other land use activities, conflicts which could impact trapline operations may occur. Designated trails to direct other users through trapping areas will help to reduce the conflicts.
- Ongoing education of various users about the rights and activities of trappers will be critical to further reduce conflicts.
- Designation of the Clearwater as a Heritage River should not restrict the ability of trappers to utilize existing trails and cut new ones when required.

### 4(c) - Timber Harvesting

The Clearwater River valley has experienced a century of forest harvesting activity that to date has had no significant impact on the long-term wilderness character of the valley. Current commitments include the Alberta-Pacific Forest Industries (APac) Forest Management Agreement (FMA) and Millar Western Forest Products Ltd timber quota.

### Action Statements

- The planning and sequencing of coniferous harvesting in the “Clearwater River Corridor” will allow for the Annual Allowable Cut (AAC), as approved by the Department of Sustainable Resource Development, to be maintained.
- An Alberta Vegetation Inventory (AVI) will be completed for the “Clearwater River Corridor” to allow for the use of the most current planning tools (eg. GIS).
- Known stakeholders will be contacted at the preliminary harvest planning stage to discuss and mitigate their concerns.
- The company responsible will make harvest plans available to the public prior to harvesting.
- Limited access development, various harvesting techniques and prompt reforestation will be utilized to minimize the short term impact of forest company operations on the wilderness character of the “Clearwater River Corridor”.



## 6.4 Commercial / Industrial Use

### 4(d) - Mineral and Surface Resources

Subsurface Mineral and Oilsands leases have been issued due to the existence of oilsands, natural gas and metallic mineral resources. Oil sands deposits underlie the "Clearwater River Corridor". There is also interest in diamonds, gold and other minerals. Exposures along the Clearwater Valley are attractive to the mining community because they facilitate outcrop assessment. Access is required for sampling/production sites, transportation and the existing infrastructure corridor.

#### Action Statements

- To ensure the integrity of the natural heritage, human heritage and recreation values identified in the "Clearwater River Corridor", surface materials extraction should not occur in the "Clearwater River Corridor".
- In situ development in the Clearwater River valley is not encouraged.
- Mineral exploration and development will occur in a manner that minimizes impacts on the environment and other resource values.
- Oil sands development using surface mining techniques is not consistent with the intent of the "Clearwater River Corridor".
- Instream gravel production is not consistent with the intent for the "Clearwater River Corridor".
- Resource development facilities and structures that have to be located in the "Clearwater River Corridor" (eg. pumping stations, pipelines) should be visually screened from the river, using natural features and architecturally designed and landscaped to complement the natural surroundings.

### 4(e) - Infrastructure

#### Action Statement

- An infrastructure corridor across the Clearwater River east of Fort McMurray is in use (Sec. 29-31, Twp. 88, Rge. 7, W4M). All surface disturbances resulting from utility construction (ie. pipelines) within the infrastructure corridor should be mitigated to minimize erosion and negative visual effects. This may involve directional drilling when subsurface infrastructure has to be set in place.







## Objective

To support development which is compatible with maintaining the integrity of the natural/ecological, cultural/historical and recreational values for the Clearwater River Corridor.

## 6.5 Settlement and Agriculture

### Commentary

The highest value of the Clearwater-Christina Rivers valley complex is the wilderness experience it affords, as stated in the Vision Statement for the "Clearwater River Corridor". This value will only grow as development in the surrounding region continues. Development in the "Clearwater River Corridor" should be compatible with this vision. For example, it is anticipated that large scale commercial/ industrial and multiple unit housing would not be consistent with the Vision. The Clearwater River Committee recognizes that the greatest challenge, to balancing the wilderness component of the Vision and urban development, will occur in the transition zone.

## 5(a) - Population and Settlement

### Action Statements

- Local citizens place a high value on the "Clearwater River Corridor" for its recreation potential and wilderness character. To ensure this is maintained, future growth in the Regional Municipality of Wood Buffalo should be encouraged towards those areas that have existing infrastructure.
- Development must be compatible with the integrity and sensitivity of the river, river valley and adjoining areas. The *Municipal Development Plan* and other documents and policies pertaining to the river valley should define and direct how impact is minimized in the long and short term. In particular, policies for any development should be designed to protect special areas such as those subject to flooding, wildlife corridors, and habitats of rare species.
- Development should be restricted in use and intensity to harmonize human activity and surrounding ecosystems. No urban development should occur east of the mouth of the Christina River.



## 6.5 Settlement and Agriculture

- Should a conflict exist in regard to human activity and wilderness, it is the Committee's vision that the high value wilderness areas will be valued over development. Development may not be supported in such an area.

### 5(b) - Agriculture

#### Action Statements

- Agricultural development in the "Clearwater River Corridor" should be limited to areas where existing agriculture practices have or are occurring and on existing privately-held land.
- Application of fertilizers, pesticides and herbicides will follow application and protection measure guidelines as specified by Alberta Environment and Alberta Sustainable Resource Development (Public Lands Division).



## 6.6 Access



### Objective

To ensure that the wildland character is maintained or improved by encouraging regulators, industry and recreational users to carefully manage access.

### Commentary

Access management is critical with respect to the “Clearwater River Corridor” and has been identified as the single most important issue in maintaining the integrity of Clearwater-Christina Rivers values. The Clearwater River is a primary mode of all-season access. Increased access and associated use could have significant impact on the landscape, wildlife habitat, aesthetics and on other users. Access is significant because of the increasing user population, the importance of the “Clearwater River Corridor” for recreational use, and its location directly adjacent to Fort McMurray and region.

### 6 (a) - Access Development

#### Action Statements

- All riverbank disturbances should be mitigated through proper planning, construction, reclamation procedures and landscaping techniques to minimize erosion, ecological impacts and negative visual effects.
- Detailed planning, minimal development, care in construction, and immediate restoration upon completion of use should follow with all new access in order to mitigate short and long term impacts. A number of sensitive environmental / archaeological / historic sites within the “Clearwater River Corridor” could be damaged unless appropriate management techniques are applied.
- It is recognized that new primary access routes may be developed and will be used intermittently over the long term. This access may also be utilized by other users and must be planned to consider its long term impacts. During periods of non-use (by the primary user), restoration should occur to minimize erosion, siltation, and impacts to other users.



## 6.6 Access

- Identified access routes, trails or corridors that are user specific will help to reduce potential conflicts with other users.
- Given the nature of Clearwater River valley, road development should be minimized.

### 6 (b) - Water Access

#### Action Statements

- Continued and equitable access by water-based recreational users is critical. An equal and equitable sharing between commercial operators and recreational users is required.
- It is desirable to have additional recreational water access developed upstream of the Snye waterbody and to have existing access sites improved.
- Portions of the "Clearwater River Corridor" are identified as key ungulate habitat range. Provincial Guidelines for access management must be strictly adhered to in these areas.

### 6 (c) - Noise Pollution

#### Action Statements

- Noise levels along the Clearwater River valley are a concern and change with seasons of use of the river. Measures are to be considered to avoid or minimize noise pollution throughout all seasons of the year.
- Mechanized vehicles and equipment must be in compliance with applicable public regulations and manufacturers standards.





## Objective

To ensure that the best possible information is available to take collective action on priority issues.

## 6.7 Planning and Inventories

### Commentary

It is important that natural resources and habitat are maintained at current levels and potentially enhanced. Ongoing inventories are required to expand the knowledge base to better manage the natural resources in the "Clearwater River Corridor".

### 7(a) - Inventories

#### Action Statements

- There is need for an inventory baseline, carrying capacity studies, and monitoring of natural resources to ensure that resources are not deteriorating.
- Relevant Alberta government agencies should conduct an interagency review(s) of nationally, provincially and regionally significant natural features identified in the "Clearwater River Corridor", to establish priorities and site specific management strategies consistent with the

intent of this *Management Plan*. The review should be extended to other aspects of natural and cultural heritage as appropriate.

### 7(b) - Wildlife and Fisheries

#### Action Statements

- In maintaining critical wintering habitat for moose in the Clearwater and Christina River valleys, special constraints (ie. access control, timing, site selection) will be applied to development proposals.
- Wildlife and fisheries habitat protection guidelines should be applied to development proposals that are reviewed in accordance with the existing referral system (eg. pipelines and crossings).
- The Clearwater River and its tributaries support populations of fish species such as goldeye, walleye, northern pike, lake whitefish, arctic grayling and mountain whitefish. These fisheries are important because of the recreational opportunities provided. Walleye, northern pike and arctic grayling are especially susceptible to overfishing and are subject to stricter provincial fishing restrictions (eg. season and size limitations). Additional protection measures will also be provided to other fish species should their populations become jeopardized.



## 6.8 Communication, Education and Interpretation



### Objective

To encourage responsible stewardship of the Clearwater River Corridor and to minimize user conflict for the safety and enjoyment of all users by establishing a means for education, communication and dialogue among users.

### Commentary

There is an ongoing need for communication among user groups, public education, and an understanding of the need to maintain the values of the “Clearwater River Corridor”. This responsibility cannot be placed on any one sector, but is a responsibility for all.

Major user groups are represented on the Clearwater River Committee. The Committee provides an opportunity for communication among stakeholders and outwards to the community. The stakeholders are encouraged to extend this communication to education programs within and among the groups, to instill self-regulation among recreation users of the “Clearwater River Corridor” and to encourage participation in Heritage River Management (eg., trail signing, garbage removal, reclamation activities, inventory work)

### 8(a) - Clearwater River Committee

#### Action Statements

- Activities - The Clearwater River Committee should be actively involved in the implementation of the Clearwater -Christina Rivers Management Plan. The Committee will ensure that the heritage values and integrity for which the Clearwater was nominated as a Heritage River are recognized and sustained during implementation of the *Management Plan*.

The Committee will provide a collaborative advisory, monitoring and communications role within the community and meet twice a year and as needed. Seasonal activities, status of the resources and issues will be discussed at the post summer and post winter meetings of the Committee. Authorities and user groups will work together to resolve issues by consensus. Regulatory agencies and user groups should be represented and therefore able to implement the decisions. If consensus is not reached, decision makers should consider all perspectives in their decision.



## 6.8 Communication, Education and Interpretation

- Stakeholders/Representatives – All user groups, authorities, and concerned individuals have a stake in the “Clearwater River Corridor”. Each will have a voice at the Committee through a representative who shares their perspective.
- Management Plan Amendments – *Management Plan* amendments will be determined by consensus of Clearwater River Committee representatives. Notice of proposed amendments is to be given to all stakeholders at least 30 days before the Committee meeting to discuss the changes.
- Consultation - Consultation with the Clearwater River Committee, and particularly those stakeholders directly affected by proposed action statements, is an essential part of the interagency collaborative process. Proposed changes to statements must include consultation with the Committee.
- Code of Ethics - The Committee will prepare a Code of Ethics/Conduct for all users and/or each user group based on input from all user groups.
- The Clearwater River Committee will establish itself as a Society to ensure continuity.

### 8(b) - Education and Interpretation

#### Action Statements

- An education component that supports and provides a rationale for the code of ethics will be prepared by the Clearwater River Committee.
- The Clearwater River Committee will be responsible for, and work in partnership with community groups, to develop education programs that promote safety, understanding, appreciation and support for the Clearwater-Christina Rivers.
- Consideration is to be given to the establishment in Fort McMurray of a location(s) for the collection, maintenance, cataloging and distribution of information and artifacts concerning the rivers’ natural and cultural history, planning and land use.
- An ongoing program of information respecting the natural and cultural heritage of the Clearwater-Christina Rivers is encouraged.



## IMPLEMENTATION SUMMARY

The Alberta process for the Heritage Rivers program emphasizes the involvement and commitment of the river stakeholders in both the development and the implementation of a management plan for a river. The development of the Clearwater-Christina Rivers Management Plan, utilizing a consensus approach, clearly demonstrates the dedication and persistence of the Clearwater River Committee.

This *Management Plan* is not government driven, but instead its implementation will be locally led by the Clearwater River Committee through cooperation and partnership with public, industry and government departments. The Clearwater River Committee has been formalized as the Clearwater River Society. The Clearwater River Society will be charged with implementing the *Management Plan* once approved.

The *Management Plan* is not a legislated document and does not bind the Alberta Government to ensure its implementation. Therefore the management actions must be accomplished by the Clearwater Society through consultation and negotiation with affected stakeholders, industry and government departments to achieve what is feasible in a timely manner. The Clearwater River Society will operate autonomously but work in cooperation with Alberta Community Development and other government departments to develop and carry out their action plan for implementing the management actions described in this *Management Plan*. The action plan will identify measurable benchmarks for the management actions, set priorities for accomplishing the management actions, and assign responsibilities to relevant agencies and stakeholders.

A summary table of the management actions is included in Appendix V. The Annual Report Checklist (Appendix VI) includes a section to monitor the Society's progress towards accomplishing the management actions.





## GLOSSARY/CONTEXT

**ANNUAL ALLOWABLE CUT (AAC):** The annual volume of timber that may be harvested from a given forest management unit.

**BASELINE:** A set of critical observations or data to be used for comparison or control.

**BEAR BAITING:** The use of bait to lure bears into a site for hunting.

**BEDROCK:** The solid rock underlying unconsolidated surface materials such as soil and loose rocks.

**BENCHMARK:** A reference point or standard against which changes can be measured.

**BIODIVERSITY:** The variety and variability among living organisms, including the diversity within and between species and ecosystems.

**BOG:** A nutrient-poor, organic wetland with water derived from precipitation and not influenced by mineral groundwater and developing an acidic peat. The surface is generally level, raised or sloping with raised hummocks and wet hollows. Usually covered by a moss carpet dominated by sphagnum and supporting a layer of shrubs, with or without trees (black spruce dominant).

**BOREAL FOREST NATURAL REGION:** The largest of Alberta's six Natural Regions, the Boreal Forest consists of broad lowland plains and discontinuous hill systems with aspen, mixedwood or coniferous forests and extensive wetlands (bogs, fens, swamps and marshes).

**CARRYING CAPACITY:** The activities and/or populations that an area can support without deterioration.

**CENTRAL MIXEDWOOD SUBREGION:** This Boreal Forest subregion is the largest in Alberta and has low relief of level to undulating surface with pure aspen stands or combinations of aspen, balsam poplar, white birch, white spruce and balsam fir as well as swamps ponds, streams and lakes supporting the most diverse wildlife in the Boreal Forest.

**CONSENSUS:** A general agreement between all participants on the package of provisions that addresses the entire range of issues and interests. The participants may not agree with all aspects of the agreement but they do not disagree enough to warrant their opposition to the overall package.

**CONFLUENCE:** The place where two or more rivers, streams, etc come together.

**CONIFEROUS:** Trees (eg. spruce, larch) and shrubs bearing cones and needle-shaped or scale-like leaves.



## GLOSSARY/CONTEXT

**CORRIDOR:** A continuous strip of land or water that permits the movement of wildlife, people, energy, information or material between two locations. May contain infrastructure such as railways, highways, roads, pipelines or communication and transmission facilities.

**DEPOSITION:** Matter deposited by a natural process.

**DEVONIAN PERIOD:** A period in geological time (and the corresponding system of rocks) of the Paleozoic era starting about 408 million years ago when vascular plants (eg. ferns and mosses) and amphibians first appeared.

**DIRECTIONAL DRILLING:** Subsurface drilling at an angle to access subsurface oil, petroleum or natural gas or route a pipeline (eg. under a river) from a surface drilling site that is not located directly above.

**ECOSYSTEM:** The interaction of living organisms (plants, animals, micro-organisms) and their non-living environment as an ecological unit.

**EROSION:** The action or process of being worn away by the action of water, wind or glacial ice.

**ESKER:** A serpentine ridge of roughly stratified gravel and sand that was deposited by a stream flowing in or beneath the ice of a stagnant or retreating glacier and left behind when the ice melted.

**FAUNA:** The animal species characteristic of an area.

**FEN:** A nutrient-rich, organic wetland influenced by mineral groundwater and developing a slightly alkaline, poor to moderately decomposed peat. The surface is generally level and uniform with occasional subparallel ridges or slightly elevated islands, linear drainage features and dispersed small pools. Usually covered predominately by brown mosses, sedges, grasses and often scattered willow and birch shrubs or trees (usually black spruce, larch).

**FLORA:** The plant species characteristic of an area.

**FOREST MANAGEMENT AGREEMENT:** A legislated, renewable agreement for a forestry company to establish, grow and harvest timber on a sustained yield basis within a specified area.

**GEOLOGICAL:** Pertaining to the history of the earth and its life as recorded in the rocks.

**GLACIAL SPILLWAY:** A deep wide valley formed by the release of a large volume of glacial meltwater.

**GORGE:** A stream-cut, deep, narrow valley with nearly vertical walls.



## GLOSSARY/CONTEXT

**GYPSUM:** A mineral consisting of hydrated calcium sulphate.

**HALITE:** Native rock salt.

**INCISED:** Cut into or carved.

**INTEGRITY:** The quality or state of being complete, sound, unimpaired.

**KAME:** A short, steep-sided, irregular ridge, hill or mound of mainly stratified drift deposited by meltwater in contact with glacier ice.

**KARST:** A natural, hollow chamber or series of chambers and galleries developed within limestone, dolomite or gypsum beneath the earth's surface or in the side of a mountain or hill such as by erosion.

**INVENTORY:** A list or survey of natural resources.

**LANDSCAPE:** An aggregate of the landforms in a region.

**LEGISLATIVE:** Ordered by law

**MINERAL SPRINGS:** Springs with a high mineral content due to the composition of the bedrock and surficial material the springs flow through.

**MITIGATE:** To reduce the impact.

**MORAINE:** A mound or ridge of unstratified glacial drift or till deposited by the direct action of glacial ice.

**MORPHOLOGY:** Relating to the form or structure.

**MUSHERS:** People who command a sled pulled by a team of dogs across snow.

**PRECAMBRIAN:** Referring to the Canadian Shield area in much of Northern Canada. Streams tend to be shallow with numerous rapids making navigation difficult.

**REFERRAL SYSTEM:** A formal mechanism established by the Alberta government for the internal review of land use applications by the appropriate agencies.

**REGULATORY:** To govern or direct under the control of law or constituted authority.



## GLOSSARY/CONTEXT

**REPOSITORY:** A place where something is stored.

**RIPARIAN:** Related to the lands adjacent to a natural body of water or watercourse (eg. river) and therefore strongly influenced by the presence of water.

**SALINE:** Consisting of or containing salt.

**SALT:** A naturally-occurring crystalline compound generally consisting of sodium and chloride.

**SAND BAR:** A ridge of sand built up by currents such as in a river.

**STACK (FLOWERPOT) ISLAND:** An isolated, pillar-like rocky island, separated from the shore by water erosion.

**STAKEHOLDER:** People who represent a particular interest which is affected by an issue or project.

**STEWARDSHIP:** The careful and responsible management of something entrusted to someone's care.

**TIMBER QUOTA:** Entitles a quota holder to a percentage of the annual allowable cut within a specified forest management unit.

**TRIBUTARY:** A stream feeding into a larger stream.

**VALUES:** The relative worth or importance of the characteristics of a good (eg. river).

**WATERSHED:** An area of land that collects and discharges water into a particular watercourse or body of water via a series of smaller tributaries.



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APPENDICES I-VI





**APPENDIX I**  
**Clearwater River Committee Composition**

1995- 2002

SECTORS	REPRESENTATIVES	SECTORS	REPRESENTATIVES
<b>HISTORICAL/CULTURAL:</b>		<b>COMMERCIAL/INDUSTRIAL:</b>	
Metis	Grant Golosky Christine Golosky	Forest Products -FMA	Don Pope Tom Daniels
Post-Native Settlement	Mary Weber-Blatz	Quota Holder	Bob Mason Jack Demler
<b>ENVIRONMENT:</b>		Lodges, Guides, Outfitters	Blair Jean
Preservation/Protection	Ann Dort-Maclean Fred Korbut	Regional Tourism	Chuck Graves John Semple
Natural History	Ruth Kleinbub	Trapping	Phil Jean Jim Lewis
Land Ownership/Leasing	Tom Weber	Agriculture-Market Gardeners	Robert Grey
<b>RECREATION - MOTORIZED:</b>		<b>FIRST NATION:</b>	
Snowmobiles (& small watercraft)	Richard Tolen Darrell Scheers	Fort McMurray No. 468	Chief Bernice Cree Chief Michael Cheecham
Large Watercraft (Jetboaters, etc.)	Bob Taylor Cecile Eliuk Harry Saunders	<b>GOVERNMENT:</b>	
<b>RECREATION - NON-MOTORIZED:</b>		<b>Local:</b>	Winnie Sommer Maggie Lent Lloyd (Sonny) Flett Tom Weber
Mushers/Equestrian	Virginia Medley-Lane Jack Lane	<b>Provincial (Support/Facilitators):</b>	Heritage Rivers Program-Alberta Community Development & Other Departments
Cross Country Skiers/Hikers	Knut Finstad		Bruce Milne Ted Dykstra Sue Arrison Joe Prusak Doug Bowes Laura Graham
Canoeists/Kayakers	Bill Hunter Harold Roth	Alberta Sustainable Resource Development	Rick Arthur Dennis Spackman
Hunting/Fishing	Various Members		



**APPENDIX II**  
**Legislative Context for the**  
**Clearwater-Christina Rivers Management Plan**

**Provincial Legislation**

Environmental Protection and Enhancement Act  
Forests Act  
Fisheries (Alberta) Act  
Historical Resources Act  
Municipal Government Act  
Petty Trespass Act  
Provincial Parks Act  
Public Lands Act  
Recreation Development Act  
Surface Rights Act  
Water Act  
Wilderness Areas, Ecological Reserves and Natural Areas Act  
Wildlife Act

**Federal Legislation**

Canada Environmental Protection Act  
Canada Water Act  
Canada Wildlife Act  
Environmental Assessment Act  
Fisheries Act  
Historic Sites and Monuments Act  
Migratory Birds Convention Act  
Navigable Waters Protection Act



**APPENDIX III**  
**Clearwater-Christina Rivers Relationship**  
**to CHRS Cultural Framework Themes**

Re: "A Cultural Framework for Canadian Heritage Rivers", Canadian Heritage Rivers Board. 2000

**Representations of Cultural Heritage Theme 1: Resource Harvesting**

Theme/Sub-Theme/Element	Represented in Clearwater River
-------------------------	---------------------------------

**1.0 RESOURCE HARVESTING**

**Sub-Theme 1.1: Fishing**

- |  |   |
|--|---|
| 1.1.1 Aboriginal prehistoric fishing           | x |
| 1.1.2 Historic domestic fishing and processing | x |
| 1.1.3 Commercial fishing equipment             |   |
| 1.1.4 Collection of shellfish                  |   |

**Sub-Theme 1.2: Shoreline Resource Harvesting**

- |   |   |
|---|---|
| 1.2.1 Trapping of fur-bearing animals             | x |
| 1.2.2 Collection of aquatic plants                |   |
| 1.2.3 Hunting of birds and land animals           | x |
| 1.2.4 Mines and quarries in bed or banks of river |   |

**Sub-Theme 1.3: Extraction of Water**

- |                                     |   |
|-------------------------------------|---|
| 1.3.1 Direct drive power generation |   |
| 1.3.2 Human consumption             |   |
| 1.3.3 Agricultural extraction       | x |
| 1.3.4 Industrial extraction         |   |

**Representations of Cultural Heritage Theme 2: Water Transport**

Theme/Sub-Theme/Element	Represented in Clearwater River
-------------------------	---------------------------------

**2.0 WATER TRANSPORT**

**Sub-Theme 2.1: Commercial Transportation**

- |                                      |   |
|--------------------------------------|---|
| 2.1.1 Prehistoric trade              |   |
| 2.1.2 Historic human-powered freight | x |
| 2.1.3 Powered commercial freight     |   |
| 2.1.4 Surface bulk transportation    | x |

**Sub-Theme 2.2: Transportation**

- |  |   |
|--|---|
| 2.2.1 Fur trade posts                                | x |
| 2.2.2 Navigational improvements                      |   |
| 2.2.3 Shipyards                                      | x |
| 2.2.4 Facilities for loading/provisioning passengers |   |

**Sub-Theme 2.3: Exploration and Surveying**

- |                                |   |
|--------------------------------|---|
| 2.3.1 French exploration       |   |
| 2.3.2 British exploration      | x |
| 2.3.3 Migration and settlement |   |
| 2.3.4 Surveying expeditions    | x |



**APPENDIX III (continued)**  
**Clearwater-Christina Rivers Relationship**  
**to CHRS Cultural Framework Themes**

**Representations of Cultural Heritage Theme 3: Riparian Settlement**

Theme/Sub-Theme/Element	Represented in Clearwater River
-------------------------	---------------------------------

**3.0 RIPARIAN SETTLEMENT**

**Sub-Theme 3.1: Siting of Dwellings**

- |  |   |
|--|---|
| 3.1.1 Shoreline seasonal dwellings                               | x |
| 3.1.2 Riverside homesteads and farms                             | x |
| 3.1.3 Permanent riverside dwellings sited with respect to rivers | x |
| 3.1.4 Dispersed dwellings in settlement patterns                 |   |

**Sub-Theme 3.2: River-based Communities**

- |  |   |
|--|---|
| 3.2.1 Permanent shoreline Aboriginal settlements |   |
| 3.2.2 Fortification-based communities            |   |
| 3.2.3 River industry-based communities           | x |
| 3.3.3 River crossing-based communities           |   |

**Sub-Theme 3.3: River-influenced Transportation**

- |   |   |
|---|---|
| 3.3.1 Ferries and fords                   |   |
| 3.3.2 Road bridges                        |   |
| 3.3.3 Rail bridges                        |   |
| 3.3.4 River-influenced roads and railways | x |

**Representations of Cultural Heritage Theme 4: Culture & Recreation**

Theme/Sub-Theme/Element	Represented in Clearwater River
-------------------------	---------------------------------

**4.0 CULTURE AND RECREATION**

**Sub-Theme 4.1: Spiritual and Symbolic uses**

- |                                       |  |
|---------------------------------------|--|
| 4.1.1 Sacred or spiritual sites       |  |
| 4.1.2 Ritual or ceremonial structures |  |
| 4.1.3 Aboriginal burial places        |  |
| 4.1.4 European places                 |  |

**Sub-Theme 4.2: Cultural Expression**

- |   |   |
|---|---|
| 4.2.1 Riverside museums, art galleries          | x |
| 4.2.2 Culturally associated sites               |   |
| 4.2.3 River-based cultural landscapes           | x |
| 4.2.4 Architectural response to river locations |   |

**Sub-Theme 4.3: Early Recreation**

- |                                  |   |
|----------------------------------|---|
| 4.3.1 Recreational boating       | x |
| 4.3.2 Angling                    | x |
| 4.3.3 Land-based touring         |   |
| 4.3.4 Organized river recreation |   |



**APPENDIX III (continued)**  
**Clearwater-Christina Rivers Relationship**  
**to CHRS Cultural Framework Themes**

**Representations of Cultural Heritage Theme 5: Jurisdictional Uses**

<b>Theme/Sub-Theme/Element</b>	<b>Represented in Clearwater River</b>
--------------------------------	--

**5.0 JURISDICTIONAL USES**

**Sub-Theme 5.1: Conflict and Military Associations**

- |                                       |   |
|---------------------------------------|---|
| 5.1.1 Aboriginal internecine conflict | x |
| 5.1.2 Aboriginal/European conflict    |   |
| 5.1.3 European internecine conflict   |   |
| 5.1.4 Military expeditions            |   |

**Sub-Theme 5.2: Boundaries**

- |  |   |
|--|---|
| 5.2.1 International borders                            |   |
| 5.2.2 Interprovincial and inter-territorial boundaries |   |
| 5.2.3 Land use boundaries                              |   |
| 5.2.4 Transboundary rivers                             | x |

**Sub-Theme 5.3: Environmental Regulation**

- |  |   |
|--|---|
| 5.3.1 Flood control                                |   |
| 5.3.2 Improvements in water management             | x |
| 5.3.3 Improvements in aquatic ecosystem management |   |



**APPENDIX IV**  
**Clearwater-Christina Rivers Relationship**  
**to CHRS Natural Framework Themes**

Re: "A Framework for the Natural Values of Canadian Heritage Rivers", Canadian Heritage Rivers Board. 1998. The 2000 ( 2nd edition) of the framework will used be for the next management plan update.

Note: Only the relevent elements are listed under each sub-theme hence the incomplete numbering.

**Representations of Natural Heritage Theme 1: Hydrology**

Theme/Sub-Theme/Element	Represented in Clearwater River
<b>1.0 HYDROLOGY</b>	
<b>Sub-Theme 1.1: Water Content</b>	
1.1.9 Minor sedimentation (>10 units and > 150 mg/L)	x
<b>Sub-Theme 1.2: Seasonal Variation</b>	
1.2.3 Late Spring Peak (Peak: July, Low Flow:December-January)	x
<b>Sub-Theme 1.3: Drainage Basins</b>	
Arctic Ocean Basins	
1.3.9 Mackenzie River	x
<b>Sub-Theme 1.4: River Size</b>	
1.4.7 Small River, (Stream Order >2)	x

**Representations of Natural Heritage Theme 2: Physiography**

Theme/Sub-Theme/Element	Represented in Clearwater River
<b>2.0 PHYSIOGRAPHY</b>	
<b>Sub-Theme 2.1: Hydrogeology</b>	
Bedrock Types	
2.1.1 Porous - Sandstone	x
2.1.2 Soluble - Limestone, Dolomites	x
2.1.3 Pervious - Shale	x
Unconsolidated Materials	
2.1.8 Alluvial Silt - Fine Grains Deposited by Existing/Ancient Rivers	x
<b>Sub-Theme 2.2: Geological Events</b>	
Tectonic and Orogenic activities	
2.2.1 Sedimentary Layering - Includes Fossil Beds	x
2.2.10 Glacial Melting - Oversized Channels, Reversals, Eskers, Kames	x
<b>Sub-Theme 2.3: Physiographic Regions</b>	
2.3.6 Prairies	x
<b>Sub-Theme 2.3: Topography</b>	
2.4.6 Shallow Gradient, Middle or Lower Sections	x



**APPENDIX IV (continued)**  
**Clearwater-Christina Rivers Relationship**  
**to CHRS Natural Framework Themes**

**Representations of Natural Heritage Theme 3: River Morphology**

Theme/Sub-Theme/Element	Represented in Clearwater River
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**3.0 RIVER MORPHOLOGY**

**Sub-Theme 3.1: Valley Types**

3.1.3 V-Shaped, Unvegetated Slopes, Rounded Interfluves	x
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**Sub-Theme 3.2: Lakes and Ponds**

3.2.2 Pond-Influenced Rivers - Several Small Lakes &/or Ponds Along Length of River	x
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3.2.4 Lake-Balanced Rivers - Small & Medium-Sized Lakes in Headwaters	x
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**Sub-Theme 3.3: Waterfalls and Rapids**

3.3.1 Riffles - Class 1, Little Foam, Some Boulders Showing	x
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3.3.2 Boulder Rapids - Classes 1-2, Continuous Gradient, Boulders Submerged or Visible	x
---	---

3.3.3 Cascading Rapids - Long Class 2, or Short Class 3, Small Chutes and Ledges	x
---	---

3.3.4 Ledges - Classes 4-5, Often Small Geological Fault Origin	x
---	---

3.3.5 Chutes - Confined Channel Walls	x
---------------------------------------	---

3.3.6 Small Falls - Multi or Single Channel, Water Falls Freely in Parts	x
--	---

**Sub-Theme 3.4: Fluvial Landforms**

Depositional Landforms

3.4.1 Floodplains/Levees - Lowland Areas, Deposition of Sediment	x
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3.4.3 Braided Channel Bars/Islands - Not Confined to Lowlands. Heavy Sediment Loads, Major Flooding	x
--	---

3.4.4 Meanders/Oxbows - Located Within Floodplain Environments	x
--	---

3.4.5 Springs - Mineral and Hot Springs - Unique Features Associated; Sometimes Tributary Locations	x
--	---

Erosional Landforms

3.4.6 Incised Channels - Soft Rocks; Caused by Any Change in Base Level	x
---	---

3.4.8 Slumps, Landslides - Sometime Associated with Permafrost	x
--	---

3.4.10 Caves and Sinkholes - Found in Areas of Pervious, Calcareous Rocks	x
---	---

3.4.11 Potholes - Abrasive Provenance. May Comprise Small Holes in River Bed to Extensive Scouring	x
---	---

3.4.12 Gorges - Rapid Downward Erosion by Stream	x
--	---



**APPENDIX IV (continued)**  
**Clearwater-Christina Rivers Relationship**  
**to CHRS Natural Framework Themes**

**Representations of Natural Heritage Theme 4: Biotic Environments**

Theme/Sub-Theme/Element	Represented in Clearwater River
<b>4.0 BIOTIC ENVIRONMENTS</b>	
<b>Sub-Theme 4.1: Aquatic Ecosystems</b>	
Riverine Systems	
4.1.2 Middle Zone	x
4.1.3 Lowland Zone	x
Wetland Systems	
4.1.10 Bogs and Fens	x
<b>Sub-Theme 4.2: Terrestrial Ecosystems</b>	
4.2.8 Boreal Plains	x

**Representations of Natural Heritage Theme 5: Vegetation**

Theme/Sub-Theme/Element	Represented in Clearwater River
<b>5.0 VEGETATION</b>	
<b>Sub-Theme 5.1 Significant Plant Communities</b>	
5.1.2 Number of Species Representations	x
5.1.7 Location of Community	x
5.1.8 Concentration of Unusual Species	x

**Representations of Natural Heritage Theme 6: Fauna**

Theme/Sub-Theme/Element	Represented in Clearwater River
<b>6.0 FAUNA</b>	
<b>Sub-Theme 6.1 Significant Animal Populations</b>	
Exceptional Population Size	
6.1.2 Mammals	x
Species Location	
6.1.6 Mammals	x
6.1.7 Birds	x





## APPENDIX V SUMMARY OF MANAGEMENT ACTIONS

(Note: The *Management Plan* is not a legislated document and does not bind the Alberta government to implementing these management actions. The Clearwater River Society must accomplish the management actions outlined in the *Management Plan* through consultation and negotiations with affected stakeholders and government departments. For detailed descriptions of the management actions see pg 23-45)

### 6.1 NATURAL INTEGRITY

#### 1(a) Water Quality

- Maintain water monitoring stations and records.
- Encourage urban developments to upgrade sewage treatment facilities.

#### 1(b) Protection of Natural Features

- Evaluate impact before releasing site locations of sensitive natural features.
- Identify significant natural features.
- Develop public education program for local residents/visitors.

#### 1(c) Preservation of Habitat

- Identify and manage critical habitats.
- Plan and implement land use activities to minimize impact on habitat.
- Conduct fisheries survey to identify critical habitat/spawning areas.

#### 1(d) Protection of Plants and Animals

- Develop inventory of plant and animal species.
- Identify management techniques that minimize impacts on habitat, wildlife, and recreational/commercial opportunities. Apply plant/ wildlife habitat protection guidelines to review of development proposals.

#### 1(e) Preservation of Wilderness Character

- Concentrate potential development impacts within infrastructure corridor.
- Review and mitigate land use impacts on wilderness character.
- Continue River Guardian position. Encourage periodic presence of regulatory agencies.
- Minimize impacts of commercial/industrial structures and activities within river sightlines.

#### 1(f) Riparian Habitat and Riverbank Erosion

- Permit shoreline vegetation removal only in specific areas if a significant public benefit.
- Permit modification of riverbank materials only in specific and unique circumstances. Restore to pre-disturbance conditions.
- Encourage motorized recreation vehicle users to minimize shoreline disturbance and erosion.

### 6.2 HUMAN HERITAGE

#### 2(a) Cultural/ Historic Record

- Establish program to locate and inventory historic sites.
- Enter new sites in Archeological Survey database and Canadian Heritage Inventory Network.
- Establish a repository for historic information in Ft McMurray with a local institution/organization.
- Seek and inventory historic properties/sites on land prior to being available for surface activities and disturbance.
- Record oral history of First Nations and Metis people.
- Encourage river users to maintain and enhance the river's human heritage



## APPENDIX V (continued) SUMMARY OF MANAGEMENT ACTIONS

- |   |  |
|---|--|
| <b>2(b) Cultural/<br/>Historical<br/>Site Protection</b>      | <ul style="list-style-type: none"><li>• Conduct Historical Resources Impact Assessment prior to surface disturbance.</li><li>• Identify/inventory significant and vulnerable sites in confidential database.</li><li>• Inventory and remove artifacts if circumstances may cause their damage.</li></ul> |
| <b>2(c) Heritage Sites<br/>and Land Uses</b>                  | <ul style="list-style-type: none"><li>• Adapt land use strategies if new discoveries of historical resources</li><li>• Mitigate commercial/recreational impacts on historical resources.</li></ul>   |
| <b>2(d) Human Heritage<br/>and Traditional<br/>Lifestyles</b> | <ul style="list-style-type: none"><li>• Recognize river use by Aboriginal peoples and others for traditional lifestyles.</li></ul>   |

### 6.3 RECREATION AND TOURISM

- |  |  |
|--|--|
| <b>3(a) Camping</b>  | <ul style="list-style-type: none"><li>• Encourage use of established campsites.</li><li>• Develop and maintain established campsites to minimize impact.</li></ul> |
| <b>3(b) Planning Linear<br/>Recreation</b>                               | <ul style="list-style-type: none"><li>• Update "Clearwater River: A Map Guide for River Travel".</li></ul>   |
| <b>3(c) Whitemud Falls<br/>Ecological Reserve<br/>and Wildland Park</b>  | <ul style="list-style-type: none"><li>• Monitor recreation activities.</li></ul>   |
| <b>3(d) Clearwater Indian<br/>Reserve, Private,<br/>and Leased Lands</b> | <ul style="list-style-type: none"><li>• Recognize Clearwater Indian Reserve, private and leased lands when managing recreational use.</li></ul>                    |
| <b>3(e) Recreational<br/>Carrying Capacity</b>                           | <ul style="list-style-type: none"><li>• Manage recreation to suit carrying capacity.</li></ul>   |
| <b>3(f) Hunting</b>  | <ul style="list-style-type: none"><li>• Monitor and manage hunting to maintain sustainable wildlife resources.</li></ul>   |
| <b>3(g) Safety</b>   | <ul style="list-style-type: none"><li>• Encourage stakeholder groups to prepare codes of conduct.</li></ul>  |
| <b>3(h) Signage</b>  | <ul style="list-style-type: none"><li>• Minimize signage and flagging ribbons</li></ul>  |



**APPENDIX V (continued)**  
**SUMMARY OF MANAGEMENT ACTIONS**

**6.4 COMMERCIAL/INDUSTRIAL USE**

**All Commercial/  
Industrial Use**

- Minimize short and long term impacts of commercial/industrial activity on river integrity.
- Locate industrial development away from Clearwater River valley and 100m setback.
- Minimize development except for essential access/utility needs. Use existing access.

**4(a) Guiding/  
Outfitting**

- Determine issuance of licences/permits for tourism operations according to carrying capacity.
- Consider public safety, health, and aesthetics for bear baiting practices. Enforce current regulations. Maintain 150m setback from river.
- Discourage discharge of firearms across river.
- Explore management options to reduce hunting pressure.

**4(b) Trapping**

- Follow "Trappers' Cabin Policy" and rectify situations that deviate.
- Respect trappers' rights and practices. Designate trails to direct travel of others in trapping areas.
- Educate users about trappers' rights/activities.
- Allow trappers to utilize existing trails and cut new trails when required.

**4(c) Timber  
Harvesting**

- Allow planning and sequencing of coniferous harvesting to maintain AAC.
- Complete an Alberta Vegetation Inventory.
- Contact stakeholders at preliminary harvest planning stage to discuss/mitigate concerns.
- Make harvest plans available prior to harvest.
- Minimize short term impact through limited access development, various harvesting techniques and prompt reforestation.

**4(d) Mineral and  
Surface  
Resources**

- Restrict surface materials extraction.
- Discourage in situ development in valley.
- Minimize mineral exploration and development impacts.
- Restrict surface mining of oil sands.
- Restrict instream gravel production.
- Locate/design facilities or structures to minimize visual impact from river.

**4(e) Infrastructure**

- Mitigate surface disturbances within infrastructure corridor to minimize erosion and visual impact.



**APPENDIX V (continued)**  
**SUMMARY OF MANAGEMENT ACTIONS**

**6.5 SETTLEMENT & AGRICULTURE**

**5(a) Population  
and Settlement**

- Encourage future growth in Regional Municipality towards areas with existing infrastructure.
- Define and direct development to minimize impact through Municipal Development Plan and other documents or policies. Design of policies should protect special areas.
- Restrict use and intensity of development to harmonize with ecosystems. Restrict urban development east of mouth of Christina River.
- Value wilderness over development in conflicts.

**5(b) Agriculture**

- Limit agricultural development to existing areas or private land.
- Follow application and protection measure guidelines for fertilizers, pesticides and herbicides.

**6.6 ACCESS**

**6(a) Access  
Development**

- Mitigate riverbank disturbances.
- Mitigate new access to minimize short and long term impacts, as well as protect archaeological/historic sites.
- Manage use of new primary access routes, and restore route during non-use by primary user.
- Identify user-specific access routes to reduce user conflicts.
- Minimize road development.

**6(b) Water  
Access**

- Manage water access by recreational users and commercial operators.
- Develop water access upstream of Snye waterbody and improve existing access sites.
- Adhere to Provincial guidelines for access management in key ungulate habitat range.

**6(c) Noise  
Pollution**

- Implement measures to minimize noise pollution.
- Ensure that mechanized vehicles/equipment comply with public regulations and manufacturers standards.



## APPENDIX V (continued) SUMMARY OF MANAGEMENT ACTIONS

### 6.7 PLANNING AND INVENTORIES

#### 7(a) Inventories

- Conduct inventory baseline, carrying capacity studies and natural resource monitoring.
- Conduct an interagency review of significant natural features, and establish priorities and site-specific management strategies. Review aspects of natural and cultural heritage as appropriate.

#### 7(b) Wildlife and Fisheries

- Apply special constraints to development proposals to maintain critical moose wintering habitat.
- Apply wildlife and fisheries habitat protection guidelines to development proposal review under existing referral system.
- Protect fisheries, and implement stricter fishing restrictions for species in jeopardy.

### 6.8 COMMUNICATION, EDUCATION & INTERPRETATION

#### 8(a) Clearwater River Committee

- **Activities:** Lead implementation of *Management Plan*. Ensure that heritage values and integrity of river are sustained. Provide a collaborative advisory, monitoring and communications role within community with meetings twice or more per year. Resolve issues by consensus. Include regulatory agencies and user groups.
- **Stakeholders/Representatives:** Ensure that stakeholder interests are represented on the committee.
- **Management Plan Amendments:** Determine amendments by stakeholder discussion and consensus.
- **Consultation:** Consult stakeholders affected by action statements to enable an interagency collaborative process. Consult committee to propose change to action statements.
- **Code of Ethics:** Prepare a Code of Ethics/Conduct with user input.
- Establish the committee as a Society.

#### 8(b) Education and Interpretation

- Prepare an education strategy.
- Work with community groups to develop education programs to promote safety, understanding and appreciation for the rivers.
- Establish an archive for artifacts and information about the rivers' natural and cultural history.
- Encourage an ongoing information program to respect the rivers' natural and cultural heritage.



**APPENDIX VI**  
**Clearwater-Christina Rivers Annual Report Checklist**

**April 1, 200\_ - March 31, 200\_**

The values for which a river has been nominated to the Canadian Heritage Rivers System must be monitored on an annual basis. Listed below are values for which the Clearwater-Christina Rivers was nominated, along with activities which might in the future affect these values. Please report to the Clearwater River Society values contained within the "Clearwater River Corridor" that have experienced significant changes (natural or human-induced) over the past year and potentially important activities which have occurred in the past year. For each value checked, please complete an Activity Description Form (page 72) to describe the change in the value or activity and its impact.

**1.0 OUTSTANDING RIVER VALUES IN THE "CLEARWATER RIVER CORRIDOR"**

**1.1 Natural Heritage Values**

**Earth Science:**

Outstanding geological features created/influenced by geological processes: \_\_\_\_\_

- Canadian Shield Precambrian Metamorphic Rocks
- Cretaceous Shale and Sandstone; Paleozoic Limestone
- Methy Formation (Middle Devonian); Waterways Formation (shale and limestone); Cretaceous McMurray Formation (oil (tar) sands); Elk Point Sea
- Whitemud Falls and Sets of Rapids
- Karst Development (collapse features, curves, bedrock stacks, flowerpots)
- Gypsum, Salt, Halite-Mineral Springs
- Glaciation, Till Deposits, Proglacial Lakes; Slope Stability, Depositional Activity
- Flooding, Ice Jams
- River Morphology-Islands, Meanders, Ox-Bow Lakes, Churned Siltation
- Soil Characteristics

**Life Sciences:**

Land and aquatic features/flora/fauna and ecosystems, as well as the past or present events and activities shaping these living features: \_\_\_\_\_

- Hydrologic Linkage Between Glacial Lake Agassiz and Athabasca/Mackenzie Rivers via Clearwater River
- Wetlands, Fens, Peat; Plant Colonization
- Micro-Habitats, Specialization
- Central Boreal Mixed Wood Ecosystem
- Riparian Vegetation (Willows, River Cedar)
- Aspen, White Birch, White Spruce; Mixed Wood Stands; Old Growth Forest
- Fire History; Timber Harvesting (Forest Management Area, Quota Holder)
- Rare and Endangered Plants and Animals (bald eagle, river otter, osprey, caribou)
- Winter Habitat; Moose Population
- Habitat for Carnivores, Ungulates, Birds (songbirds, raptors), Herptiles
- Fishery Resources; Species, Distribution, Abundance (arctic grayling, walleye)
- Natural Ecosystems and Biodiversity



**APPENDIX VI (continued)**  
**Clearwater-Christina Rivers Annual Report Checklist**

**1.2 Human Heritage Values**

**First Nations Cultural Values:** \_\_\_\_\_

Evidence or sites related to the history, activities, and influence of the First Nations communities:

- Pre-Contact Occupancy Sites; Campsites, Pictographs
- Contact Activity and Shifts in Aboriginal Territories (Beaver, Chipewyan, Cree)
- Effects on Populations, Societies, Ecosystems

**Metis Cultural Values:** \_\_\_\_\_

Evidence or sites related to the history, activities and influence of the Metis communities:

- Metis as Fur Trade Facilitators
- Activities, Sites, Artifacts

**Fur Trade Historic Values:** \_\_\_\_\_

Evidence or sites related to the history, activities and influence of the fur trade:

- History of Fur Trade (North West Company, Hudson Bay Company)

**Settlement, Resource Development and Transportation Historic Values:** \_\_\_\_\_

Evidence or sites related to the history, activities, and influence shaped by the patterns of settlement, resource development and transportation:

- Transition of Settlement Patterns from Seasonal (Pre-Contact) to Predominantly Year-Round Settlements With Contact
- Resource Development Activity in Clearwater River Corridor (timber harvesting, oil sands, agriculture, trapping, hunting, quarrying, etc.)
- Role of Clearwater Linking Western Interior and Mackenzie Basin
- Clearwater as Trans-Shipments Point from South to North (trails, railways, river modes)

**1.3 Recreational Heritage Values**

**Recreational Activities:** \_\_\_\_\_

The wide scope of recreational activities and associated values of the rivers that impact and are impacted by the river integrity:

- Range, Distribution and Scale of Water-Based Activities
- Range, Distribution and Scale of Water-Related Activities
- Range, Distribution, Scale and Trends of Individual Modes of River Recreational Use by Powered and Non-Powered Boat Types - Power, Flatwater and Whitewater Boating
- Aircraft Use of/over Clearwater (Snye float base, river travellers, jet plane overflights)
- Sportfishing and Hunting: Location, Frequency, Species Sought, Seasons of Activity
- Trails: Distribution, Status, User Fringes
- Camping - Designated and Non-Designated Camping
- Wilderness Characteristics



**APPENDIX VI (continued)**  
**Clearwater-Christina Rivers Annual Report Checklist**

**2.0 RIVER INTEGRITY VALUES OF THE “CLEARWATER RIVER CORRIDOR”**

**2.1 Natural Integrity** \_\_\_\_\_

Maintenance of the river’s natural integrity:

- Stable River Morphology and Size
- Presence of All Key Ecosystem Elements
- Status of All Outstanding Natural Features

**2.2 Historical Integrity** \_\_\_\_\_

Elements that represent the river’s historical integrity:

- Representation from Selected Historical Eras
- Artifacts and Structures Not Affected by New Land Uses
- Water Suitable for Non-Contact Recreation

**2.3 Recreational Integrity** \_\_\_\_\_

Ability to sustain recreation without impacting other values:

- No Negative Impact on Other Heritage Values
- Capability of Natural Features to Support Recreation
- Water Quality Suitable for Contact Recreation

**2.4 Water Quality Indicators** \_\_\_\_\_

Maintenance of water quality:

- Quality Based on Benthic Invertebrate Indices
- Quality Based on Chemical Parameters (see CCREM Guidelines)
- Quality Based on Bacterial Parameters
- Quality Based on Physical Characteristics (ie. odour, aquatic vegetation growth)

**3.0 ACTIVITIES POTENTIALLY AFFECTING RIVER VALUES & INTEGRITY** \_\_\_\_\_

The following activities could potentially affect any of the river’s natural heritage, human heritage, or recreational values and integrity:

- Change in Provincial and/or Federal Regulations or Policy
- Significant Change in Institutional Arrangements
- Significant Environmental and Social Research Recommendations
- Change in Status of Environmental Monitoring Programs
- Change in Environmental and Cultural Education Curriculum
- Significant Change in Land Use Zoning / Area Plans / Riparian Land Ownership
- Watershed Plan Amendments
- Operational Plans and Development (eg. forestry, oil & gas)
- Facility Development (eg. recreational, commercial, industry) / Access Changes
- Stream Flow Alterations / Threats
- Activities of Local Residents, Agencies and River Users, etc.
- Management Plan Changes or Boundary Modifications





**APPENDIX VI (continued)**  
**Clearwater-Christina Rivers Annual Report Checklist**

**4.0 PROGRESS TOWARDS ACHIEVING ACTION STATEMENTS**

Descriptions of the management actions are on pages 23-45 and a summary is in Appendix VI. Indicate whether each action statement was: A (Achieved) / P (Partially Achieved) / N (Not Achieved). On the Activity Description Form (pg. 72) describe evidence of Achievement/Partial Achievement (eg. policy change, change in actions, study), or reasons for Non-Achievement.

	Degree Achieved (A/P/N)
<b>1. NATURAL INTEGRITY</b>	
1(a) Water Quality	_____
1(b) Protection of Natural Features	_____
1(c) Preservation of Habitat	_____
1(d) Protection of Plants and Animals	_____
1(e) Preservation of Wilderness Character	_____
1(f) Riparian Habitat and Riverbank Erosion	_____
<b>2. HUMAN HERITAGE</b>	
2(a) Cultural / Historic Record	_____
2(b) Cultural / Historical Site Protection	_____
2(c) Heritage Sites and Land Uses	_____
2(d) Human Heritage and Traditional Lifestyles	_____
<b>3. RECREATION AND TOURISM</b>	
3(a) Camping	_____
3(b) Planning Linear Recreation	_____
3(c) Whitemud Falls Ecological Reserve and Wildland Park	_____
3(d) Clearwater Indian Reserve, Private, and Leased Lands	_____
3(e) Recreational Carrying Capacity	_____
3(f) Hunting	_____
3(g) Safety	_____
3(h) Signage	_____
<b>4. COMMERCIAL / INDUSTRIAL USE</b>	
All Commercial / Industrial Use	_____
4(a) Guiding / Outfitting	_____
4(b) Trapping	_____
4(c) Timber Harvesting	_____
4(d) Mineral and Surface Resources	_____
4(e) Infrastructure	_____



**APPENDIX VI (continued)**  
**Clearwater-Christina Rivers Annual Report Checklist**

Note: A-Achieved; P-Partially Achieved; N-Not Achieved

Degree Achieved (A/P/N)

**5. SETTLEMENT & AGRICULTURE**

- 5(a) Population and Settlement
- 5(b) Agriculture

\_\_\_\_\_  
\_\_\_\_\_

**6. ACCESS**

- 6(a) Access Development
- 6(b) Water Access
- 6(c) Noise Pollution

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**7. PLANNING AND INVENTORIES**

- 7(a) Inventories
- 7(b) Wildlife and Fisheries

\_\_\_\_\_  
\_\_\_\_\_

**8. COMMUNICATION, EDUCATION & INTERPRETATION**

- 8(a) Clearwater River Committee
- 8(b) Education and Interpretation

\_\_\_\_\_  
\_\_\_\_\_



**APPENDIX VI (continued)**  
**Clearwater-Christina Rivers Annual Report Checklist**

April 1, 200\_ - March 31, 200\_

**ACTIVITY DESCRIPTION FORM**

**VALUE/ACTIVITY:**

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**DESCRIPTION OF CHANGE:**

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**IMPACT ON HERITAGE RESOURCES AND VALUES:**

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**Contact Information(reports, phone no.,etc.):**

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