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Prepared for the Xeni Gwet'in First Nation Government and their Chilko River Roundtable. Prepared by Richard Holmes R.P.Bio. Cariboo Envirotech Ltd. March 15, 2011

Disclaimer

Please Note: ***have met the test for aboriginal title in the lands***

ea. Nothing in this document shall abrogate or derogate from any aboriginal title or aboriginal

Acknowledgements

Cariboo Envirotech Ltd. would like to thank the Xeni Gwet'in First Nation Government and the Chilko River Roundtable for recognizing the importance of ecosystem based management planning and its positive relationship to salmon management. We would specifically like to thank Chief Marilyn Baptiste and coordinator Nancy Oppermann for providing us with guidance on the project.

Additionally, we would like to thank all of the members of the Chilko River Roundtable who find the time to attend the meetings and discuss watershed issues that help to maintain and enhance salmon stocks in the Xeni Gwet'in Caretaker Area.

We would like to thank ecologist, forester and educator Herb Hammond for the two day workshop on ecosystem based management planning and its potential benefits to salmon in the Xeni Gwet'in Caretaker Area.

We would like to express our gratitude to the Pacific Salmon Foundation and the Fraser Basin Council's Fraser Salmon and Watersheds Program that has provided the funding for the function of the Chilko River Roundtable and this supporting report.

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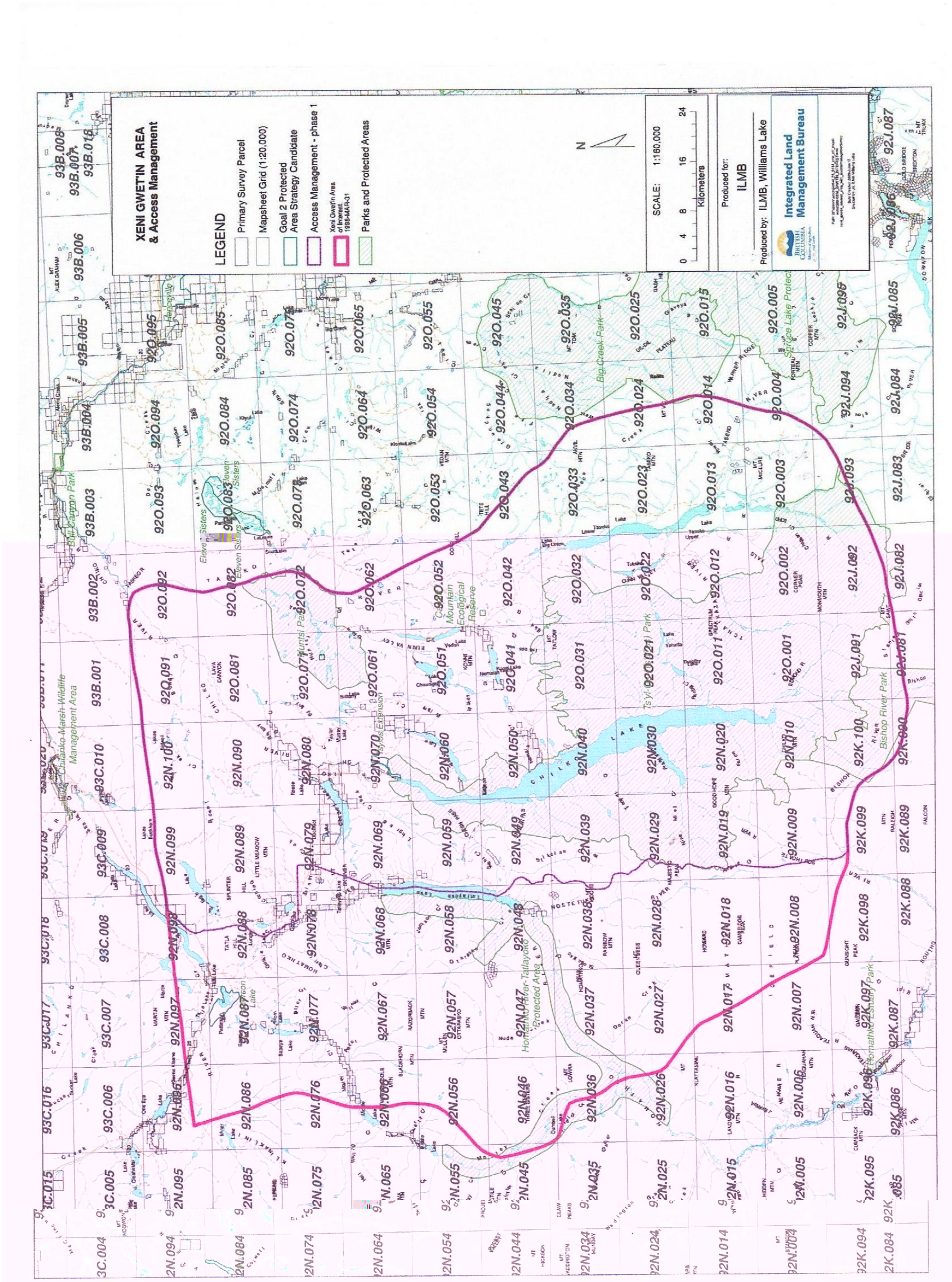

XENI GWET'IN AREA
& Access Management
LEGEND
Primary Survey Parcel
Mapsheet Grid (1:20,000)
Goal 2 Protected Area Strategy Candidate
Access Management - phase 1
Parks and Protected Areas
SCALE: 1:160,000
Kilometers
Produced for: ILMB
Produced by: ILMB, Williams Lake
Integrated Land Management Bureau
Chilko Lake
Big Creek Park
Bishop River Park
Ts'yl-os Park

1.0Introduction

1.1Scope of Work

The funding for this project has been provided by the Fraser Salmon and Watersheds Program (FSWP), a jointly managed initiative by the Fraser Basin Council and the Pacific Salmon Foundation. The three deliverables of the project proposal presented by the Xeni Gwet'in hosted Chilko River Roundtable and submitted for funding are as follows:

1. A management plan and structure will be developed to further enhance the Xeni Gwet'in Quality Waters Management Plan. This will include identifying the local issues and an action plan to address them.
2. Investigate ecosystem based plans that are effectively being used in other jurisdictions. Discuss these with the Roundtable and provide direction on how the Roundtable could implement this in their watershed.
3. The design of an overview framework of an ecosystem based plan (EBM) for the Chilko River watershed and the Xeni Gwet'in Caretaker Area.

This document will provide the Chilko River Roundtable and its members with information on ecosystem based management (EBM) plan frameworks and structures based on plans currently being implemented to address land management issues in other jurisdictions. EBM has long been identified as a desired management structure for salmon management. This has recently been supported by Mark Saunders of Fisheries and Oceans Canada in his presentation on Institutional Change and the Wild Salmon Policy at the Skeena Salmon Habitat Conference in Smithers in June of 2009 (Saunders).

1.2 Protect Their Land

The Xeni Gwet'in First Nation (Nemiah) community is one of six Tsilhqot'in communities that comprise the Tsilhqot'in National Government (TNG). They are located in the Chilcotin Region of British Columbia approximately 250 kilometres northwest of Williams Lake, and more specifically the main community can be found in the Nemiah Valley which lies in an east/west profile with Nemiah Creek draining into Chilko Lake. The location coordinates for the mouth of Nemiah Creek at Chilko Lake are 51°24'27.99" north by 124° 07'19.31"west and the elevation is approximately 3857 feet where the creek enters the lake.

The Xeni Gwet'in are fiercely independent and have been self sufficient in their territory since time immemorial. The area has an abundance of fish and wildlife and is well suited for First

Nation traditional lifestyles. They have long practiced what is now known as ecosystem based management (EBM) planning for their area.

1.2.1 The Chilcotin War

The Xeni Gwet'in people were actively engaged in the Chilcotin War of 1864. This was their first experience with outsiders (Europeans) attempting to influence their land base without their consent and approval, and this "outsider" land management interference continues on to this day. They defended their land and their people from surveyors who were constructing a road from Bute Inlet into their Chilcotin (Tsilhqot'in) territory. They were also aware of and feared smallpox that was killing many First Nation people throughout this British colony.

A shocking aftermath of the war was the hanging of five Chilcotin Chiefs at Quesnelmouth (Quesnel) including Chief Klatsassin depicted to the right (photo sourced from Canadian Mysteries) and another Tsilhqot'in, Ahan who was hanged in New Westminster. Of particular interest and importance is the following quote from Klatsassin ***W***

Figure 1: Klatsassin.

To this day the Tsilhqot'in Nation celebrates Klatsassin Memorial Day on the anniversary of his death, and they are still attempting to recover the remains of Ahan located in New Westminster in an unmarked grave.

In 1993 Judge Anthony Sarich was placed in charge of the Cariboo-Chilcotin Justice Inquiry that examined the relationship between First Nations and the government of British Columbia. Judge Sarich recommended that the Chilcotin chiefs be given a pardon. He is quoted as stating in his recommendations
Confederation, it is appropriate that Victoria grant a posthumous pardon to those chiefs, and I so recommend (Cariboo-Chilcotin Justice Inquiry)**.** In 1999 the Government of British Columbia apologized to the Tsilhqot'in people and a commemorative plaque was unveiled in Quesnel.

1.2.2 The Nemiah Declaration

The Tsilhqot'in people of Xeni Gwet'in continued to establish their right to manage their land base through the presentation of the Nemiah Declaration. On August 23rd 1989, the Xeni Gwet'in First Nation issued a map of the Nemiah Wilderness Preserve along with the following declaration:

Let it be known that within the Nemiah Aboriginal Wilderness Preserve:

1. There shall be no commercial logging. Only local cutting of trees for our own needs, i.e. firewood, housing, fencing, native uses, etc.

2. There shall be no mining or mining explorations.

3. There shall be no commercial road building.

4. All-terrain vehicles and skidoos shall only be permitted for trapping purposes.

5. There shall be no flooding or dam construction on Chilko, Taseko, and Tatlayoko Lakes.

6. This is the spiritual and economic homeland of our people. We will continue in perpetuity: a) to have and exercise our traditional rights of hunting, fishing, trapping, gathering, and natural resources; b) to carry on our traditional ranching way of life; c) to practice our traditional native medicine, religion, sacred, and spiritual ways.

7. That we are prepared to SHARE our Nemiah Aboriginal Wilderness Preserve with non-natives in the following ways; a) with our permission visitors may come and view and photograph our beautiful land; b) we will issue permits, subject to our conservation rules, for hunting and fishing within our Preserve; c) the respectful use of our Preserve by canoeists, hikers, light campers, and other visitors is encouraged, subject to our system of permits.

8. We are prepared to enforce and defend our Aboriginal rights in any way we are able.?

Figure 2: The Nemiah Declaration **.**

This declaration further strengthened the community's resolve to be caretakers of their traditional territory. Their relationship with the Preserve area includes the Chilko and Taseko River watersheds which are very productive salmon bearing rivers. Being excellent stewards of the sustainable resources and land base of their homeland has allowed this community, to not only survive in this rugged wilderness area, but to thrive and be productive in their traditional ways.

1.2.3

Henry's Crossing is located approximately 20 kilometres downstream of the outlet of Chilko Lake. A bridge crosses the Chilko River at the this location and it became a focal point for several months in 1992 while the Tsilhqot'in Nation and the Xeni Gwet'in community held a blockade to stop clear-cut logging in the Brittany Triangle (Figure 3) by Carrier Lumber Ltd.. This triangular area is bordered by the Chilko River to the west, the Taseko River to the east, and the Nemiah Valley to the south. A court injunction provided the community with three months to comment on Carrier Lumber's logging plans, and the roadblock at Henry's Crossing provided the avenue for this comment. This incident is one more example of the Xeni Gwet'in desire to simply manage the land base they are so reliant on.

After the blockade, the logging issue evolved into forest development plans through a 50/50 joint venture with Lignum Ltd. and first rights of refusal to log for the Xeni Gwet'in community. Of greatest concern to the community at this time was the desire of licensees and the Ministry of Forests to clear-cut log vast swathes of landscape within the Brittany Triangle. A series of votes undertaken in the community resulted in a no vote, and since that final statement by the community no logging has occurred in the Brittany Triangle. The area is still an intact ecosystem and home to a large herd of wild horses that is further discussed in Section 1.2.5.

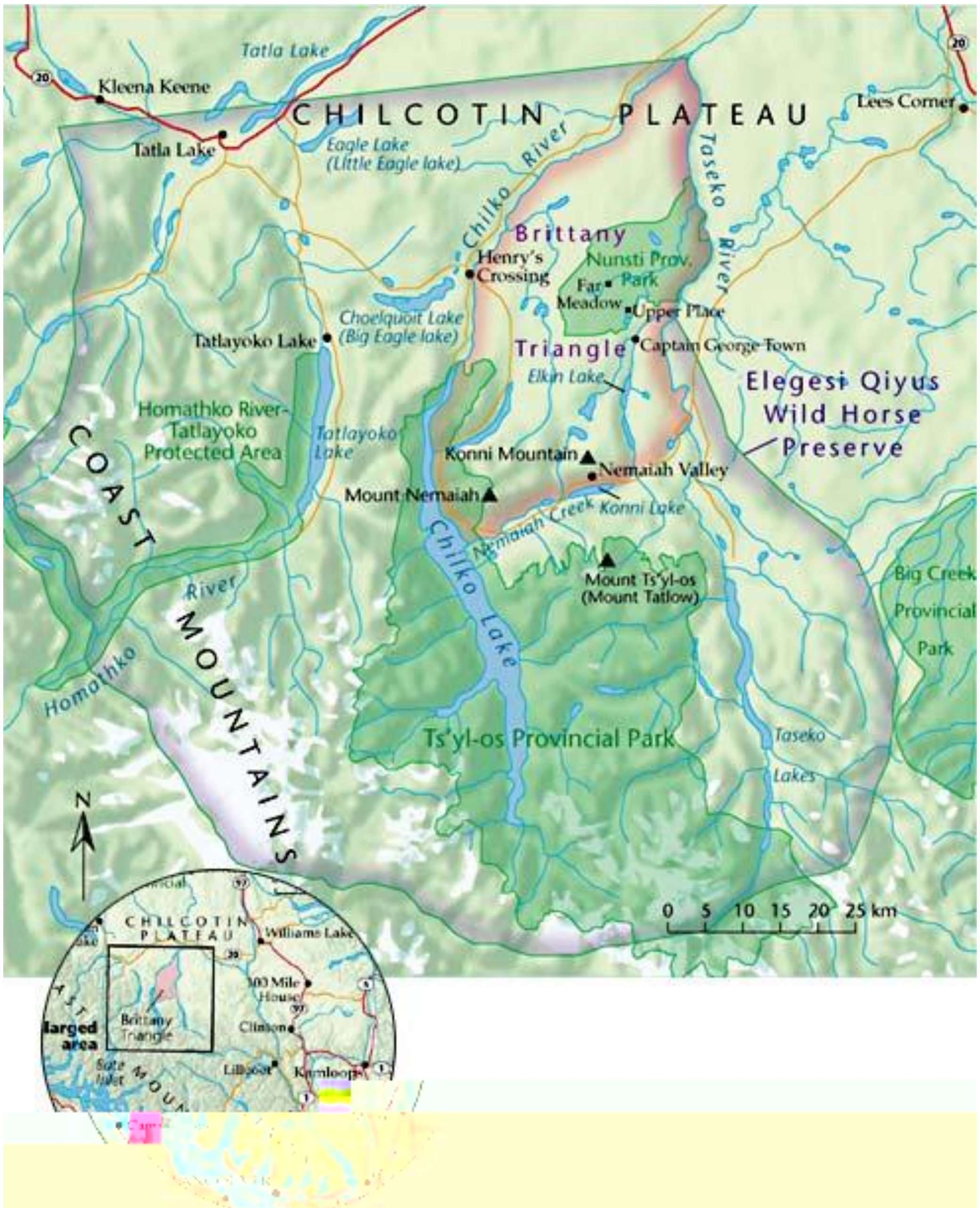


Figure 3: Map showing Henry

1.2.4 Ts -los Provincial Park

British Columbia's Ts'i-los Provincial Park was established in January of 1994. This diverse landscape of 233,000 hectares located at Chilko Lake and the surrounding area includes dry grasslands to the east and the coastal mountains to the west. The park is known for its rugged wilderness, pristine lakes, and stunning beauty. Once again, the Xeni Gwet'in desire to manage their local land base for its sustainable resources including Pacific salmon is proven in their co-management of this Provincial Park.

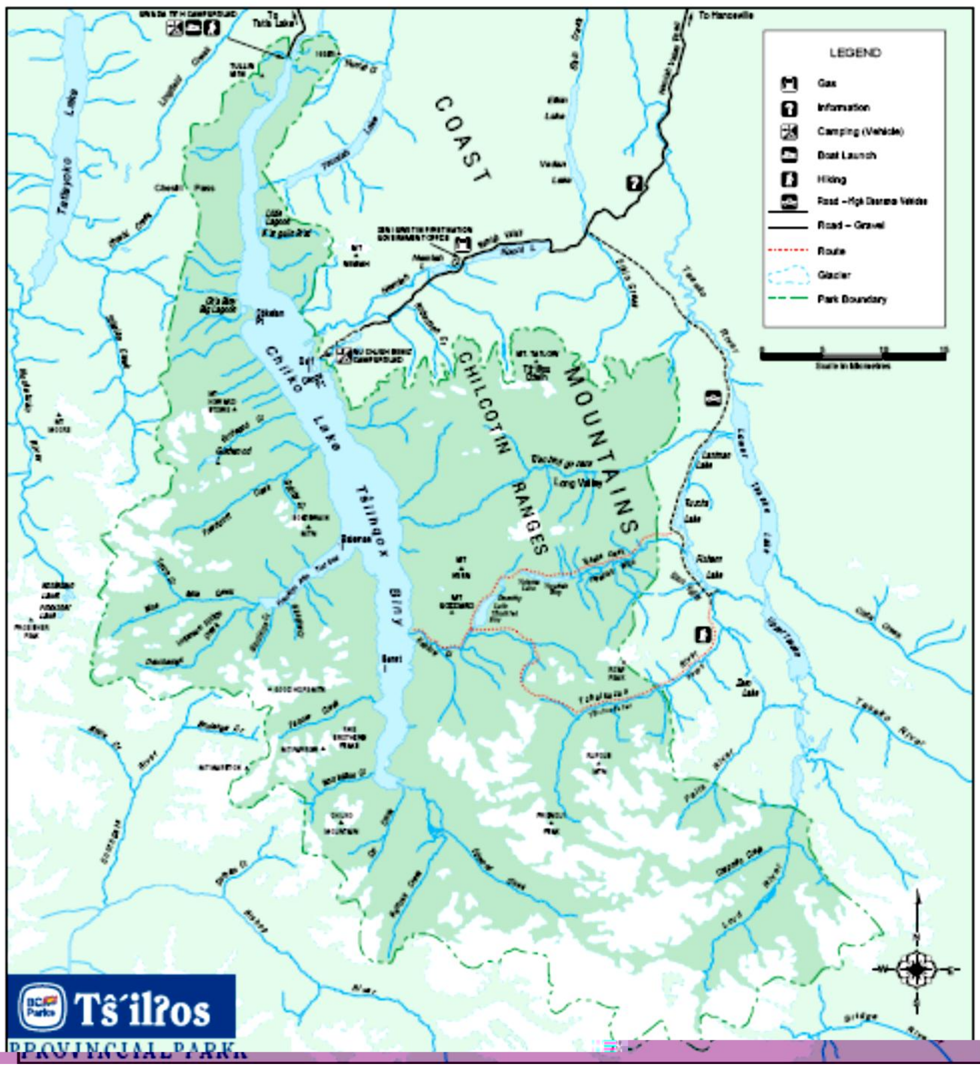


Figure 4: -los Provincial Park.

The Xeni Gwet'in First Nation represented by Chief Roger William at that time played a very important role in designing the Park's planning document (Ts'il?os Provincial Park Master Plan).

The Provincial government's role with the Xeni Gwet'in First Nation is described in the Master Plan document as follows:

A memorandum of understanding has been signed by the Government of British Columbia and the T
Gwet'in that their rights and interests are not prejudiced by the creation of the park and that they will be involved in the planning and management of the area. Ts'il?os Provincial Park encompasses part of the traditional territory of the Xeni Gwet'in and they have declared an area larger than what is currently a park as an aboriginal wilderness preserve in their 1989 declaration. The Xeni Gwet'in are concerned about the effect of the park and its visitors on their traditional lifestyle and uses. The relationship between the Xeni Gwet'in and BC Parks will be strengthened through the Gwa Nejegwaghaten, and the development of a joint vision

In further support of the Xeni Gwet'in's long term desire to manage their traditional land base, the following is a Plan Highlight excerpt from the Master Plan document. The plan highlights are similar in nature to outcomes that are brought forward in ecosystem based management (EBM) planning that will be presented in a section further in this document.

Plan Highlights

· Ts'il?os Provincial Park will be managed as a wilderness park that protects important wildlife and their habitat and outstanding wilderness recreation opportunities.
· Over 88 percent of the park is zoned as Wilderness Recreation in recognition of the outstanding wilderness values.
· The plan sets out the working relationship between BC Parks, the Xeni Gwet'in and the Local Advisory Group

Commitments for management of the natural values of the park include:
· Management focus is primarily on the protection of natural ecosystems and biodiversity both within the park and in the context of the surrounding landscape.
· Management plans will be prepared for vegetation, wildlife, and aquatic resources.

Commitments for management of the cultural values of the park include:
· The Xeni Gwet'in will be important players in the management of the park and their traditional home.
· Heritage overviews and archeological studies will be done to identify and protect important sites and features.

Commitments for management of the recreation values include:
· Visitors will be able to continue to pursue traditional recreational activities that are in keeping with the wilderness character of the park.
· A code of conduct will be developed by the commercial operators to ensure the wilderness experience is maintained over time.
· The park values and resources will be assessed, monitored and managed to ensure that recreation use does not degrade important park values.

Figure 5: Ts'il?os Provincial Park Plan Highlights.

1.2.5 The Wild Horse Preserve

Wild horses are found throughout North America and have been protected in the United States since 1971. Aside from wild horses on Sable Island and some wild Newfoundland ponies, no such protection exists for wild horses in Canada. The Chilcotin Region of British Columbia, home of the Xeni Gwet'in First Nation Government provides a vast and suitable landscape for approximately 400 wild horses in that area (Friends of the Nemaiah).

The Friends of the Nemaiah report titled "Preliminary Conservation Assessment of the Wild Horse Ecosystem, Brittany Triangle" written for them by Registered Professional Biologist Wayne McCrory in 2002 recommended the creation of a wild horse preserve in the Brittany Triangle. In 2002, the Xeni Gwet'in and the Friends of the Nemaiah entered into a formal protocol agreement and issued the following declaration:

?Elegesi Qiyus Wild Horse Preserve Declaration

Let it be known as of June 6th, 2002.

We the Tsilhqot'in people of Xeni, known as the Xeni Gwet'in First Nations Government, declare the following in accordance with the Nemiah Aboriginal Wilderness Preserve Declaration:

1.) The traditional relationship between the Xeni Gwet'in and wild horses shall continue, and the Xeni Gwet'in First Nations Government, while recognizing and affirming the rights and traditional practices of other members of the Tsilhqot'in Nation, shall be the authority and steward on all matters concerning wild horses within the lands delineated by the Nemiah Aboriginal Wilderness Preserve Declaration, which is hereby declared the ?Elegesi Qiyus Wild Horse Preserve.

2.) The ?Elegesi Qiyus Wild Horse Preserve shall, subject to the Nemiah Aboriginal Wilderness Preserve Declaration and the exercise of traditional Tsilhqot'in practices, be protected from human related disturbance.

3.) Wild horses are sensitive to disruption of the natural environment and their preservation and security requires protection of their habitat; therefore, disruption of the environment, including flora and fauna, in the ?Elegesi Qiyus Wild Horse Preserve, is prohibited unless authorized or consented to by the Xeni Gwet'in First Nations Government.

?Elegesi is the Tsilhqot'in name for Eagle Lake Henry, and Qiyus is Tsilhqot'in for cayuse. Eagle Lake Henry is the English language name for a well known Tsilhqot'in forebear of many Xeni Gwet'in. He ranched extensively in and around the Brittany Triangle and pre-empted the land upon which the FONV research cabin now sits. Cayuse is the word for horse, or mustang, derived from the name of a now vanished tribe of natives who inhabited the present day north west United States.

Figure 6: Wild Horse Preserve Declaration.

Once again, through this wild horse preserve initiative, the Xeni Gwet'in First Nations Government have proven their inherent concern for the landscape they live in, the importance of protecting this landscape, and the species that reside within. All of which are attributes considered within ecosystem based management (EBM) planning.

1.2.6 The Roger William Rights and Title Case

Perhaps one of the most important issues of concern facing the Xeni Gwet'in First Nations Government, and indeed all of the Tsilhqot'in Nation is the Roger William/Xeni Gwet'in/Tsilhqot'in Rights and Title case presently under appeal in the British Columbia Court of Appeal. The outcome of this court case holds the key determining factors that would allow the Xeni Gwet'in people to govern the land base that they have been reliant on since time immemorial.

This case had been in the courts of British Columbia for 17 years and was initiated by the Xeni Gwet'in who asserted that proposed logging activity would infringe on their aboriginal rights and title. While the "Nemiah Trapline Action" commenced on April 18, 1990 in the BC Supreme Court, the actual trial commenced in Victoria on November 18, 2002, was in session for 339 days and a ruling was handed down by Judge David Vickers on November 20, 2007 (Tsilhqot'in Nation v. British Columbia).

The executive summary included in the 485 page Reasons for Judgment by Judge Vickers provides the following as part of the reasoning:

provincial Forest Act does not apply to Aboriginal title land. The jurisdiction to legislate with respect to Aboriginal title land lies with the Federal government pursuant to s. 91(24) of the Constitution Act, 1967.

The Province has no jurisdiction to extinguish Aboriginal title and such title has not been extinguished by a conveyance of fee simple title.

Claim Area for the purposes of securing animals for work and transportation, food, clothing, shelter, mats, blankets and crafts, as well as for spiritual, ceremonial, and cultural uses. This right is inclusive of a right to capture and use horses for transportation and work.

trade in skins and pelts as a means of securing a moderate livelihood.

These rights have been continuous since pre-contact time which the Court determines was 1793.

inal

Of particular interest relating to the potential for ecosystem based management (EBM) planning

[8] ***A tailings impoundment area (TIA) is described as one of two things. It***

does not include a disposal area that is, or is part of, a natural water body that is frequented by
MMER.[9] Natural water
bodies frequented by fish can be designated as tailings impoundment areas by their addition to Schedule 2.

Prior to depositing effluent or waste rock into a TIA, project operators or owners are required to provide, for Ministerial approval, a compensation plan to offset for the loss of fish habitat
[10] The
operator is required to implement the approved plan and to evaluate its effectiveness. The MMER also requires that an owner or operator depositing effluent or waste rock into a TIA comply with a number of conditions related to monitoring of substances released and the effect on fish and the environment (Environmental Law Centre)**.**

A renewed interest in the mine application became evident shortly after the above changes to the MMER, and the soaring price of copper and gold provided Taseko Mines Ltd. with a sense of urgency in readdressing the mine application. The mine application was submitted to the regulatory bodies in a document titled Taseko Prosperity Gold-Copper Project Environmental Impact Statement/Application in March of 2009.

The BC Environmental Assessment Office approved the mine application and issued a mining certificate with 103 commitments on January 14, 2010. In the Provincial government's related press release of that day it states in part: ***The Alexandria Indian Band, Alexis Creek Indian Band, Anaham Indian Band, Canoe Creek Indian Band, Esketemc First Nation, High Bar***

Nation Government, Ulkatcho Indian Band, Williams Lake Indian Ba

to consult and accommodate First Nations interests have been discharged (BC Ministry of Environment)**.**

The Canadian Environmental Assessment required that a three member federal review panel assess the project through a series of hearings held March 22, 2010 to May 3, 2010 throughout the area. The Panel's assessment resulted in the following statement as part of their recommendations to the Canadian government: ***The Panel has assessed the environmental effects of the project and matters relating to Aboriginal rights or title and has concluded that the project would result in significant adverse environmental effects on:***

- ***Fish and fish habitat;***
- ***Navigation;***

- ***Current use of lands and resources for traditional purposes by First Nations and on cultural heritage; and***
- ***Certain potential or established Aboriginal rights or title.***

The Panel also concluded that the project, in combination with past, present and reasonably foreseeable future projects would result in a significant adverse cumulative effect on:

- ***Grizzly bears in the South Chilcotin region; and***
- ***Fish and fish habitat*** (CEAA)***.***

The announced decision by the federal Minister of the Environment Jim Prentice follows:

Government of Canada Announces Decisions on Mount Milligan and Prosperity Gold-Copper Mines

OTTAWA, Ont. -- November 2, 2010 -- The Government of Canada today announced decisions on two gold-copper mine project proposals in British Columbia. The proposal for the Mount Milligan mine, near Prince George, has been granted federal authorizations to proceed. However, the Prosperity mine project as proposed, near Williams Lake, cannot be granted federal authorizations to proceed due to concerns about the significant adverse environmental effects of the project.

"The Government has considered both projects carefully, particularly their environmental impacts," said Environment Minister, Jim Prentice. "We believe in balancing resource stewardship with economic development. The Mount Milligan project has been designed in a way that minimizes impacts to the environment, while the significant adverse environmental effects of the Prosperity project cannot be justified as it is currently proposed."

The Mount Milligan project underwent environmental assessments under provincial legislation and the Canadian Environmental Assessment Act (CEAA). The CEAA process involved the conduct of a comprehensive study. Both environmental assessments determined that, with the implementation of appropriate mitigation measures, the project is not likely to cause significant adverse environmental effects.

The Prosperity project has also undergone a thorough review process, including an environmental assessment by the province of British Columbia and a Federal Review Panel under the Canadian Environmental Assessment Act. In making its decision, the Government of Canada took into consideration the conclusions of the report of the Federal Review Panel, and agreed with the Panel's conclusions about the environmental impacts of the project.

The invasive nature of the mine application with little regard for Tsilhqot'in First Nation rights, is reminiscent of the reasoning behind the Chilcotin War. Both development groups wanted to utilize the local Xeni Gwet'in territory, one historically, for a road to the goldfields, and the latest, the actual development of a gold mine, both without approval of this Tsilhqot'in community and the Nation at large. Bearing in mind that these events happened nearly 150 years apart, it makes one wonder about progress on land management issues involving First Nations in British Columbia.

Of specific note in the decision by the Canadian government is the mention of fish and fish habitat, grizzly bears, current use of land and resources, and certain potential and established Aboriginal rights or title; all of which would be a primary focus in ecosystem based management planning.

In summary, all of the above issues show that the Tsilhqot'in people of the Xeni Gwet'in First Nations Government have been actively engaged in land management that is similar in nature to the principles of ecosystem based management (EBM) planning. They have long recognized the need for healthy ecosystems to sustain their way of life. Of particular importance to this community are healthy, productive and sustainable salmon fisheries within their traditional territory as they continue to rely on this as a primary food source for their people.

1.3 The Xeni Gwet'in Caretaker Area

Bordered by the Chilko River watershed to the west, and the Taseko River watershed to the east, the Xeni Gwet'in Caretaker Area (XGCA) encompasses both of these productive watersheds. The Caretaker Area may best be described by viewing the enclosed map on Page *v*. As with each Tsilhqot'in community, the Xeni Gwet'in First Nations Government has an obligation to the entire Nation to act as caretakers of their local landscape.

Through many of their own historic undertakings described earlier in this report, and through recent and ongoing initiatives such as eco-tourism development, an access management plan, an ecosystem based forest management model, and a Quality Waters Management Plan, the Xeni Gwet'in have firmly established an interest in sustainable resource management of the XGCA.

1.4 The Chilko River Watershed Roundtable

The following three paragraphs have been copied directly from the 2010 summary report on the Chilko River Roundtable proceedings and an overview of EBM (Cariboo Envirotech).

The Chilko River Watershed Roundtable was established by the Xeni Gwet'in First Nations Government and the Chilko Resorts and Community Association in 2008. They have been successful in acquiring funding for their initiatives from organizations such as the Fraser Salmon and Watersheds Program.

The draft Mission Statement for the Xeni Chilko River Watershed Roundtable is as follows:

-sustaining, wild environment and will remain a source of clean water, clean air and abundant fish and wildlife

The intent of the Roundtable is to bring First Nations, community, business, ranchers, resort owners, land owners, and government together in a forum to discuss watershed issues. There is recognition from the group that healthy watersheds can mean healthy economies and healthy social structures all of which are keys to sustainable development. The aforementioned comment is not a new concept to the Xeni Gwet'in community as they have lived since time immemorial with sustainable development as their very goal for existence.

The Roundtable is in its infancy and has met on 4 occasions in each of 2008 and 2009. Steady progress is being made on watershed concerns and options to remedy the problems that have been put forward at the meetings, however many concerns are still outstanding. The Xeni Gwet'in First Nation Government is determined to move forward on fishery initiatives and the ongoing work of the Roundtable. In 2009-2010 the group has moved from their initial Watershed Based Fish Sustainability Plan to establishing a more recent model focused on Ecosystem Based Management (EBM) planning.

The Roundtable has met on two more occasions in 2010; once in Chilko and once again in Williams Lake. A two day workshop is scheduled for January 18th and 19th, 2011 in Williams Lake and EBM will be the primary focus of this meeting for the Roundtable. Herb Hammond of the Silva Forest Foundation will be providing the guidance during this workshop (Silva Forest Foundation). Mr. Hammond has long been a proponent of ecosystem based management planning and assisted in the recent development of this land management style for the west coast's Great Bear Rainforest. Previous to that, Mr. Hammond has worked extensively with the Xeni Gwet'in First Nation Government on land management in their Caretaker Area. More information on Mr. Hammond and the Silva Forest Foundation can be found in this report in Section 1.6.2.

1.5Salmon Stock Status in the Chilko River Watershed

The Xeni Gwet'in Caretaker Area has long been a provider of salmon to First Nations, commercial and sport fishermen along the Fraser River and the Pacific Ocean. The primary pacific salmon species is sockeye in this system, however the Taseko and Chilko River watersheds are known to have Chinook and coho salmon inhabit their waters. While much is known about the sockeye salmon (*oncorhynchus nerka*) from these productive watersheds, less is known about the Chinook (*oncorhynchus tshawytscha*), and indeed very little is known about the coho (*oncorhynchus kisutch*) in this area.

The major tributary of the Chilko River is the Taseko which is known to provide spawning and rearing to all three species. However, visual assessments of adult salmon escapement by helicopter, boat and stream walks on this river are next to impossible due to water clarity as can be confirmed in Figure 7 below.

Figure 7: Outlet of Taseko Lake showing lack of water clarity due to glacial contribution.

Fisheries and Oceans Canada are tasked with the management of anadromous (migrate from salt water to freshwater to spawn) fish in the Province of British Columbia, and part of this responsibility is to enumerate spawner abundance during fall migration. This is undertaken for all three salmon species, and additionally, a very important sockeye fry enumeration program is managed by the Department each spring.

Noted as an indicator river, this intense data collection for sockeye salmon information on the Chilko River represents many other rivers in the mid and upper Fraser River for data as the undertaking of this on other sockeye rivers is cost prohibitive. As an added incentive to the

Department is the value of the sockeye salmon in the above noted fisheries. It is roughly estimated by this author that the annual value of this sockeye run to First Nation, commercial and sport fisheries is anywhere from $25 to $100 million dollars based on a harvest of approximately one million sockeye and the determination of the final marketed product.

1.5.1 Chilko River Sockeye

The following information on Pacific sockeye salmon that originate in the Chilko River system has been provided by Fisheries and Oceans Canada. It should be noted that the sockeye migrate into the Chilko River in 4 year cycles detailed in the table below as 0,1,2,3

Definitions:

Cyc = cycle Mrne ER = Marine Exploitation Rate

FRFN = Fraser River First Nations

Table 1: Chilko River Sockeye Data.

Year	Cyc	Marine Catch	Mrne ER	FRFN Catch	FRFN ER	Total Catch	Total ER	Spawn. Escape.	Enroute Loss	Total Run
	0	1,216,387	66%	125,748	7%	1,343,394	73%	479,058	17,963	1,847,583
	1	578,415	65%	44,139	5%	623,427	70%	248,038	13,531	884,996
	2	819,482	64%	98,285	8%	919,982	72%	313,195	41,860	1,275,048
	3	978,674	62%	118,533	7%	1,099,194	69%	471,402	12,615	1,583,211
	All	898,211	64%	96,272	7%	996,048	71%	377,428	112,277	1,396,626
1958	1969	752,855	70%	40,622	4%	793,477	74%	272,288	0	1,073,284
1970	1981	841,835	75%	58,240	5%	900,075	80%	219,901	0	1,121,433
1982	1993	1,720,923	74%	148,154	6%	1,869,078	80%	446,352	11,642	2,327,071
1994	Present	431,134	39%	129,445	12%	565,357	52%	473,747	57,650	1,096,754
.										
Year	**Cyc**	**Marine Catch**	**Mrne ER**	**FRFN Catch**	**FRFN ER**	**Total Catch**	**Total ER**	**Spawn. Escape.**	**Enroute Loss**	**Total Run**
1952	0	1,182,185	69%	51,058	3%	1,233,243	72%	485,585		1,718,828
1953	1	606,592	73%	18,850	2%	625,442	76%	200,691		826,133
1954	2	198,089	82%	8,901	4%	206,990	86%	34,296		241,286
1955	3	519,702	78%	25,620	4%	545,322	82%	121,167		666,489
1956	0	1,175,300	63%	36,601	2%	1,211,901	65%	646,906		1,858,807
1957	1	435,443	73%	19,082	3%	454,525	77%	138,464		592,989
1958	2	601,147	82%	11,981	2%	613,128	84%	120,104		733,391
1959	3	976,028	66%	32,962	2%	1,008,990	69%	463,060		1,472,050
1960	0	1,966,814	80%	60,248	2%	2,027,062	83%	426,546		2,453,608
1961	1	112,530	71%	7,567	5%	120,097	75%	39,101		159,198
1962	2	200,166	67%	21,168	7%	221,334	74%	77,713		299,047
1963	3	1,110,028	50%	116,432	5%	1,226,460	55%	998,231		2,224,691
1964	0	646,823	60%	95,835	9%	742,658	69%	238,272		1,070,990
1965	1	99,786	71%	5,533	4%	105,319	75%	35,335		140,654
1966	2	736,381	75%	30,684	3%	767,065	79%	209,619		976,684

Year	Cyc	Marine Catch	Mrne ER	FRFN Catch	FRFN ER	Total Catch	Total ER	Spawn. Escape.	Enroute Loss	Total Run
1967	3	928,701	82%	23,723	2%	952,424	84%	174,715		1,127,139
1968	0	1,379,905	74%	76,223	4%	1,456,128	78%	413,862		1,869,990
1969	1	275,949	78%	5,112	1%	281,061	80%	70,902		351,963
1970	2	576,986	76%	48,915	6%	625,901	82%	135,388		761,289
1971	3	1,850,984	90%	41,948	2%	1,892,932	92%	157,193		2,050,125
1972	0	1,744,349	73%	77,840	3%	1,822,189	76%	562,650		2,384,839
1973	1	378,922	85%	12,863	3%	391,785	88%	55,675		447,460
1974	2	502,776	76%	46,357	7%	549,133	83%	110,026		659,159
1975	3	454,693	58%	83,141	11%	537,834	69%	244,631		782,465
1976	0	1,468,401	74%							

Sockeye are the keystone species of this watershed. It sustains the local people and the flora fauna that directly rely on this bountiful provision each summer and fall (Figure 8). The Xeni Gwet'in community still relies on this resource for food as shown by a survey undertaken in 2006 by Cariboo Envirotech Ltd. that presented information showing fish is consumed by this community on two occasions per week on average with only 13% of the 68 respondents stating that they purchase fish at a store (Cariboo Envirotech [1]).

Figure 8: Sockeye and sockeye roe drying at Jim and Dinah Lulua's fish camp at Henry's Crossing.

1.5.2 Chilko River Chinook

Table 2: Chilcotin System Chinook Escapement.

Chilcotin System Chinook Escapement						
Population	**Chilko River**	**Elkin Creek**	**Taseko River**			
Year						
1975	11000	AP	No data			
1976	6500	AP	No data			
1977	7000	AP	No data			
1978	7500	AP	No data			
1979	3300	AP	No data			
1980	5000	AP	No data			
1981	3600	AP	No data			
1982	5300	No data	No data			
1983	6000	No data	No data			
1984	4200	AP	No data			
1985	4500	AP	No data			
1986	7500	AP	No data			
1987	9000	AP	No data			
1988	8037	AP	No data			
1989	3000	AP	No data			
1990	6305	AP	No data			
1991	7400	600	N/I			
1992	11168	540	N/I			
1993	6343	450	200			
1994	5665	508	N/I			
1995	10461	786	N/I			
1996	17000	1250	600			
1997	16272	806	500			
1998	14549	651	225			
1999	8920	417	AP			
2000	9171	394	AP			
2001	10891	458	AP			

Chilcotin System Chinook Escapement							
2002	10731	420	AP				
2003	21625	1038	AP				
2004	16287	N/I	N/I				
2005	7668	N/I	N/I				
2006	5201	N/I	N/I				
2007	4366	N/I	N/I				
2008	5186	N/I	AP				
2009	8694	N/I	N/I				
2010	6345	N/I	N/I				
AP - Adults present							
N/I - Not inspected							

(Note: 2010 estimates are PRELIMINARY. All are visual-based. This dataset has been provided to you for the sole purpose of meeting your request. Please do not pass this dataset on. If you intend to use this data for any other purpose than that stated in the original request, please check with the Fraser Stock Assessment Data Manager or the original supplier of the data.- Fisheries and Oceans Canada)

The Chilko River chinook could be presented as a salmon stock that is in fairly good shape population wise however, the trend downward in recent years since 2005 is worrisome. There are very few chinook populations in the Province of British Columbia, especially in the mid and upper Fraser River that can rival this population strength, and that is unfortunate.

The stock was enhanced in the mid to late 1980s to the early 1990s by Fisheries and Oceans Canada from their Quesnel River Hatchery in Likely, located east of Williams Lake. For several years, upwards of 500,000 chinook eggs were collected at the Chilko River from brood stock and reared at the government facility. They were then released back into the Chilko River as smolts to continue their lives to adulthood in a natural setting of ocean and river.

In 2010 a new chinook research project managed by Biologist Richard Bailey of Fisheries and Oceans Canada Kamloops was initiated. The multi-year project intends to study the complexities of this species in fresh and salt water and utilize the data for management purposes on other mid and upper Fraser River Chinook stocks. The Xeni Gwet'in First Nation Government has been supportive of this research initiative, and assisted on two separate occasions in 2010 (Figure 9 below).

Figure 9: Xeni Gwet'in fisheries crew assisting with chinook research in 2010.

1.5.3 Chilko River Coho

Coho are known to reside in the Chilko River watershed although very little information is available on this salmon species within the Xeni Gwet'in Caretaker Area. These coho belong to a sub species known as the Interior Fraser River coho and in 2002 the Committee on the Status of Wildlife in Canada assigned them "endangered" status (COSEWIC).

The federal Species at Risk Act (SARA) received Royal Assent on December 12, 2002, and came fully into force on June 1, 2004. It was put into place to serve as an important tool for conserving and protecting Canada's biological diversity. When presented with an opportunity to protect Interior Fraser River coho in 2006, the Canadian government declined this opportunity for economic reasons.

This decision was described by writer Terry Glavin in his commentary in the Georgia Straight newspaper on April 13, 2006 titled "Cowardly Act Kills Species". In part the commentary states

Interior Fraser coho, meanwhile, have been reduced to a few tens of thousands of spawners from what was once a robust population of millions. Enigmatic creatures, they're close cousins of the

Columbia River coho, having emerged as a distinct form when the headwaters of the Columbia and the Fraser rivers were a jumble of roaring torrents still unresolved about which valleys to take to find their way to the sea.

Why deny these fish SARA's protection? Because of "uncertainties associated with changes in the marine environment and potential future socio-economic impacts on users associated with the uncertainty", that's why. And because leaving them unprotected "provides future management flexibility related to uncertainty about marine survival and possible difficulties in recovery if marine survival worsens".

In other words, it's because the British Columbia government doesn't want some pansy federal law impinging upon its ability to continue destroying the rivers where these coho spawn. It's also because the B.C. Wildlife Federation didn't want an unfamiliar federal bureaucracy interfering with the sportsfishing industry's control over which species it will help render unto extinction and which species it may permit to survive.

In other words, if there is any money to be made, any profits at stake, even remotely, Canada's endangered-species law will not be invoked to protect an endangered species. As if to rub salt into the wound of that disgraceful fact, here's another decision that was hidden within the mumbo jumbo of the April 7 "regulatory impact analysis statement": not even North Atlantic cod qualify for SARA's protection. Not the cod off Newfoundland and Labrador, not the Laurentian North stock, not the Maritimes cod. Think about that for a moment (Georgia Straight)**.**

Fisheries and Oceans Canada's biologist Richard Bailey holds the position of Program Head, Chinook and Coho Assessment, Fraser River Salmon Section in Kamloops, British Columbia. When asked about the status of coho in the Chilko River watershed he provided the following by email:

On the Coho front, the ONLY data we have from up there is based on aerial counts of the Chilko. These will have huge variance so be aware. These data started with single Chilko flights in the late 90's and have continued on an opportunistic basis since. We certainly could use some partnering with others on that front as each flight is ~$3500, and we are only getting one flight most years and even that is in jeopardy due to fixed budgets (pers. comm.)**.**

Table 3: Chilcotin System Coho Escapement.

Chilcotin System Coho Escapement	
Population	**Chilko River**
Year	
1998	No data
1999	342

2000	152
2001	669
2002	186
2003	AP
2004	345
2005	366
2006	54
2007	1033
2008	645
2009	414
2010	348

(This dataset has been provided to you for the sole purpose of meeting your request. Please do not pass this dataset on. If you intend to use this data for any other purpose than that stated in the original request, please check with the Fraser Stock Assessment Data Manager or the original supplier of the data.- Fisheries and Oceans Canada)

Salmon originating in the Chilko River watershed play a very important economic role in the west coast fishery and this truly sustainable natural resource must be protected. Ecosystem based management planning, when implemented, recognizes the economic importance of plant and animal species and would control new development so as not to impact on existing economic drivers such as the salmon fishery.

1.6 Ecosystem Based Management Planning

1.6.1 History and Definition

Ecosystem based management planning as we know it today is by no means a new concept. As far back as 1933, V.E. Shelford with the Ecological Society of America recognized "that a comprehensive U.S. nature sanctuary system must protect ecosystems as well as particular species of concern, represent a wide range of ecosystem types, manage for ecological fluctuations ((i.e. natural disturbances) and employ a core reserve/buffer zone approach" (Grumbine).

In Grumbine's submission "What is Ecosystem Management" to the journal Conservation Biology he: 1) provides a brief outline of the historical development of the ecosystem management concept; 2) presents the key dominant themes of ecosystem management as derived from the literature; and 3) examines some of the more provocative short and long term policy implications of putting ecosystem management into practice (Grumbine).

In his 1994 paper that reviewed numerous documents on the subject, Grumbine provided the reader with 10 dominant themes of ecosystem management that emerged from his research and they are presented in Figure 10 below.

Figure 10: Grumbine's Ten Dominant Themes of Ecosystem Based Management.

1. Hierarchical Context A focus on any one level of the biodiversity hierarchy (genes, species, populations, ecosystems, landscapes) is not sufficient. When working on a problem at any one level or scale, managers must seek the connections between all levels. This is often described as a "systems" perspective.

2. **Ecological Boundaries.** Management requires working across administrative/political boundaries (i.e., national forests, national parks) and defining ecological boundaries at appropriate scales. An example would be Craighead's (1979) initial call for grizzly bear management based on the distribution and- habitat requirements of the Greater Yellowstone population, not just Yellowstone National Park.

3. Ecological Integrity. Norton (1992) defines managing for ecological integrity as protecting total native diversity (species, populations, ecosystems) and the ecological patterns and processes that maintain that diversity. Most authors discuss this as conservation of viable populations of native species, maintaining natural disturbance regimes, reintroduction of native, extir pated species, representation of ecosystems across natural ranges of variation, etc.

4. **Data Collection.** Ecosystem management requires more research and data collection (Le.. habitat inventory/classification, disturbance regime dynamics, baseline species and population assessment) as well as better management and use of existing data.

5. **Monitoring.** Managers must track the results of their actions so that success or failure may be evaluated quantitatively. Monitoring creates an ongoing feedback loop of useful information.

6. Adaptive Management. Adaptive management assumes that scientific knowledge is provisional and focuses on management as a learning process or continuous experiment where incorporating the results of previous actions allows managers to remain flexible and adapt to uncertainty (see Helling 1978; Walters 1986). Most of the authors cited in this review agree that setting clear goals is crucial to the success of ecosystem management. Within the overall goal of sustaining ecological integrity, five specific goals were frequently endorsed:

7. **Interagency Cooperation.** Using ecological boundaries requires cooperation between federal, state, and local management agencies as well as private parties. Managers must learn to work together and integrate conflicting legal mandates and management goals.

8. **Organizational Change.** Implementing ecosystem management requires changes in the structure of land management agencies and the way they operate. These may range from the simple (forming an interagency committee) to the complex (changing professional norms, altering power relationships).

9. **Humans Embedded in Nature.** People cannot be separated from nature. Humans are fundamental influences on ecological patterns and processes and are in turn affected by them.

10. Values. Regardless of the role of scientific knowledge, human values play a dominant role in' ecosystem management goals.

In 1998, former United States Environmental Protection Agency (EPA) Scientist, professor at Oregon State University and Fulbright scholar at the University of Northern British Columbia Dr. Robert Lackey presented his views on ecosystem based management in a paper titled "Seven Pillars of Ecosystem Management". In the document Dr. Lackey provided some commentary on defining ecosystem based management as follows:

1. *"A strategy or plan to manage ecosystems to provide for all associated organisms, as opposed to a strategy or plan for managing individual species" (FEMAT, 1993).*
2*. "The careful and skillful use of ecological, economic, social, and managerial principles in managing ecosystems to produce, restore, or sustain ecosystem integrity and desired conditions, uses, products, values, and services over the long term" (Overbay, 1992).*
3. *"To restore and maintain the health, sustainability, and biological diversity of ecosystems while supporting sustainable economies and communities" (EPA, 1994).*
(Lackey)

Dr. Lackey recognized the complexities of ecological and social problems related to landscape management and its potential impacts to natural resource management involving species such as salmon. To assist in enabling society to make decisions on values and priorities he presented seven pillars of ecosystem management as follows:

1. ***Values and Priorities**. Ecosystem management reflects a stage in the continuing evolution of social values and priorities; it is neither a beginning nor an end.*
2. ***Boundaries.** Ecosystem management is place-based and the boundaries of the place of concern must be clearly and formally defined.*
3. ***Health.** Ecosystem management should maintain ecosystems in the appropriate condition to achieve desired social benefits; the desired social benefits are defined by society, not scientists.*
4. ***Stability.** Ecosystem management can take advantage of the ability of ecosystems to respond to a variety of stressors, natural and man-made, but there is a limit in the ability of all ecosystems to accommodate stressors and maintain a desired state.*
5. ***Diversity.** Ecosystem management may or may not result in emphasis on biological diversity as a desired social benefit.*
6. ***Sustainability.** The term sustainability, if used at all in ecosystem management, should be clearly defined -- specifically, the time frame of concern, the benefits and costs of concern, and the relative priority of the benefits and costs.*
7. ***Scientific Information.** Scientific information is important for effective ecosystem management, but is only one element in a decision-making process that is fundamentally one of public or private choice (Lackey).*

In his presentation, Dr. Lackey clearly identified the concept of ecosystem based management, and recognized that applying it may be a very difficult process. Society is diverse in North America, including the Cariboo/Chilcotin Region of British Columbia. Differing environmental needs recently clashed with the proposed Prosperity Mine development discussed in Section1.2.7 of this report. Many citizens of the area were willing to drain a trout laden lake located next to a very productive salmon river in an effort to improve the local economy on a short term basis.

Dr. Lackey summarized the involvement of scientists in the EBM discussion with the following statement: **"*Scientists need to be involved throughout the process of ecosystem management, but in a clearly defined, interactive role where the values and priorities of the public are*** *(Lackey).*

He also provided his definition of ecosystem management as **"*The application of ecological and social information, options, and constraints to achieve desired social benefits within a defined*** *(Lackey).*

Additional information on EBM will be presented further in this section of the report, and in Section 2.0, The Great Bear Rainforest which has implemented EBM on a large scale in this area located on British Columbia's west coast.

1.6.2 The Silva Forest Foundation and EBM

The Silva Forest Foundation is located in Slocan Park, British Columbia and is led by Registered Professional Forester, ecologist and educator Herb Hammond. In 2003, the Canadian Geographic awarded Mr. Hammond the Gold Medal for Sustainable Living for his pioneering work on ecosystem based conservation planning. In describing Mr. Hammond's contributions to ecosystem based planning and sustainability, the following commentary is provided on the Canadian Geographic website:

Hammond believes that the people who live close to an ecosystem are the ones equipped to make the right choices about its care. As a result, community control is vital. "You don't build an economy from the top down," he explains. "You build it from the bottom up, incorporating diversity like an ecosystem itself. Healthy local economies breed large national and international economic success" (Canadian Geographic).

The Silva Forest Foundation works with rural and First Nation communities that recognize the value of biological diversity and ecological processes, while implementing ecologically responsible human use and developing conservation-based economies.

To provide the reader with a sense of what the Foundation is concerned with, their vision statement is offered below:

Our Vision:
The Silva Forest Foundation recognizes that diverse, intact natural ecosystems are the foundation for healthy, sustainable communities and their economies. We are working for profound social changes in that we work with communities to protect and/or restore the integrity of natural ecosystems and to maintain healthy communities, including diverse local economies. Those who join us in this work are investing in the long-term maintenance of natural ecosystems and the future of healthy rural and First Nations communities (Silva Forest Foundation)***.***

Herb Hammond and the Silva Forest Foundation have worked with the Xeni Gwet'in First Nation Government on land management issues for many years, and most recently facilitated an ecosystem based planning workshop with the Chilko River Roundtable in Williams Lake in January of 2011. The two day workshop included a review of the ecosystem based planning initiated by the Foundation in the Xeni Gwet'in Caretaker Area in 2006, and steps required to bring the plan to implementation. The workshop included discussion on the importance of healthy watershed landscapes and the resultant benefits to salmon who call the Taseko and Chilko Rivers their home.

It should be duly noted that Herb Hammond was a contributor to the Great Bear Rainforest initiative and was a member of the Ecosystem Based Management Framework team of the Coast

1.6.3 EBM and Fisheries and Oceans Canada

Ecosystem based management planning is recognized by Fisheries and Oceans Canada as a meaningful approach for managing resources in the ocean and in freshwater. The Queen Charlotte Basin located on the west coast is now being managed through this new integrated approach that will include ocean and coastal areas. Called the Pacific North Coast Integrated Management Area or PNCIMA by Fisheries and Oceans Canada (FOC), it was identified as a priority area in 2004 for integrated planning. This broader ecosystem approach to resource management is consistent with the Government of Canada's overall direction and with FOC's Wild Salmon Policy (FOC).

In the PNCIMA brochure a brief description of their view of an ecosystem approach is as follows:

"An ecosystem approach is an integrated or holistic approach to resource management that aims to maintain an entire ecosystem in a healthy, productive and resilient condition. Ecosystem-based management differs from past approaches that have focused on a single species, sector, activity or concern; it considers the cumulative impacts of different sectors.

Integrated management incorporates social, cultural, environmental and economic values into the development and implementation of plans to guide and coordinate human activities. The ultimate goal is to reach general agreement on the best mix of conservation, sustainable resource use and economic development for oceans and coastal areas. Thus, ecosystem-based management – integrated with human activities, interests and impacts – will provide the basis for sustainable ocean resources for Canadians" (FOC).

FOC's Wild Salmon Policy places conservation of salmon and their habitats as the first priority for resource management. Strategy # 3 of the Policy is the ***Inclusion of Ecosystem Values and Monitoring.*** Through their public consultation process much has been accomplished in providing information on the EBM process and its benefits to the salmon resource.

In a Wild Salmon Policy forum held on March 27th 2008, the following objectives were identified by the Department as part of the implementation process. They identify EBM as part of the implementation of this policy.

- ***Identify origins and intent of ecosystem based management (EBM) elements of Wild Salmon Policy (WSP).***
- ***Identify progress to date in developing a general process and outline the content of some specific examples of potential EBM values, objectives and indicators under WSP***
- ***Identify next steps for EBM development and implementation under WSP.*** (FOC[1])

This 2008 forum provided the following chart to describe the objectives and indicators of the Wild Salmon Policy as it relates to sustainable development:

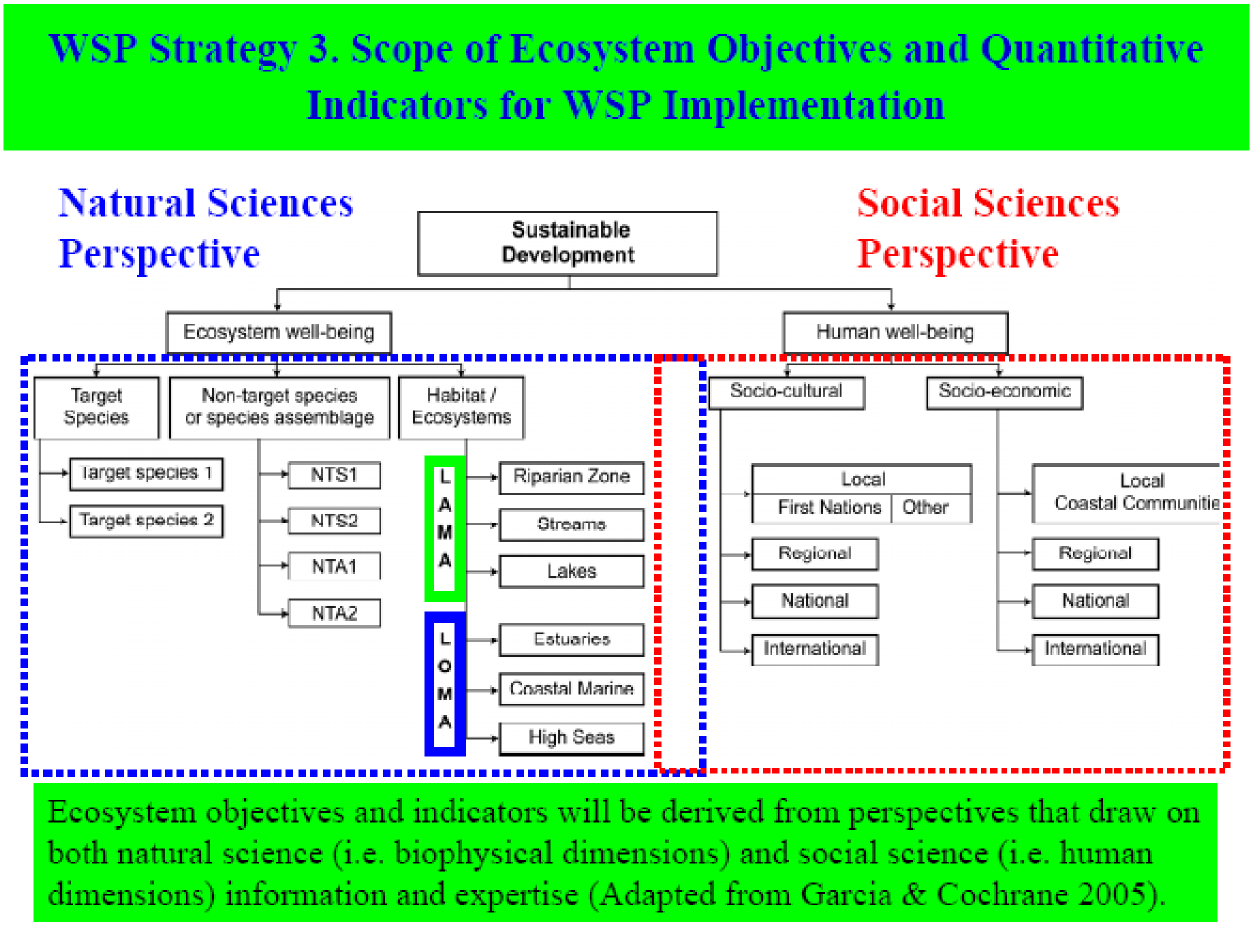


Figure 11: WSP Strategy 3. Scope of Ecosystem Objectives and Quantitative Indicators for WSP Implementation (FOC[1]).

The chart shows that sustainable development encompasses both ecosystem and human well-being and that the two overlap. Additionally the ecosystem well-being side of the chart offers both freshwater and oceanic habitat for consideration as one could expect.

Of particular importance to the Xeni Gwet'in First Nation Government is the recognition of local First Nations on the human well-being side of the chart under Socio-culture. However, the Socio-economic side of the flow chart should also incorporate Interior First Nations with Local Coastal Communities due to the Xeni Gwet'in's involvement in the FOC sponsored Pacific Integrated Commercial Fisheries Initiative (PICFI). A PICFI component is the transfer of some coastal/ocean fishing licenses to the Interior of British Columbia. The Xeni Gwet'in community was actively fishing commercially in 2010 under this program.

The Fisheries and Oceans Canada Wild Salmon Policy website offers the following chart for a brief update from their forums held in 2008.

Implementation Update for Strategy 3 - April 2009
Objective: To consider ecosystem values in salmon management

Action Steps	Progress Made to Date	Next Steps
3.1 Identify indicators to monitor status of freshwater ecosystems	Draft of ecosystem objectives and indicators	Develop discussion paper on ecosystem objectives, indicators and management options; PSARC review of discussion paper in late May 2009 Identification of benchmarks and metrics for ecosystem indicators in collaboration with First Nations, partners and stakeholders Work with partners to identify data sources for ecosystem indicators
3.2 Integrate climate & ocean information into annual salmon management processes	Input on salmon ecosystem information for the annual State of Ocean reports	Continue to provide ecosystem information in the annual State of Ocean reports

Figure 12: Implementation Update for Strategy 3 - April 2009 (FOC[2]).

Fisheries and Oceans Canada continues to show its commitment to their Wild Salmon Policy and the incorporation of EBM and provided an update on its progress most recently on October 29th, 2010 in a presentation to the North Pacific Marine Science Organization. Their presentation defined an ecosystem unit in the following figure that encapsulates the importance of this keystone species to an ecosystem:

Figure 13: Wild Salmon Policy definition of ecosystem (FOC[3]).

Within the presentation the authors provided a map of British Columbia detailing the *de facto* management zones and reference states and areas of sockeye conservation units (cu). It is interesting to note that the Xeni Gwet'in Caretaker Area is home to two conservation units (cu) of sockeye, the Taseko and the Chilko River stocks, identified in red, and the Ts'i-los Provincial Park is identified in blue.

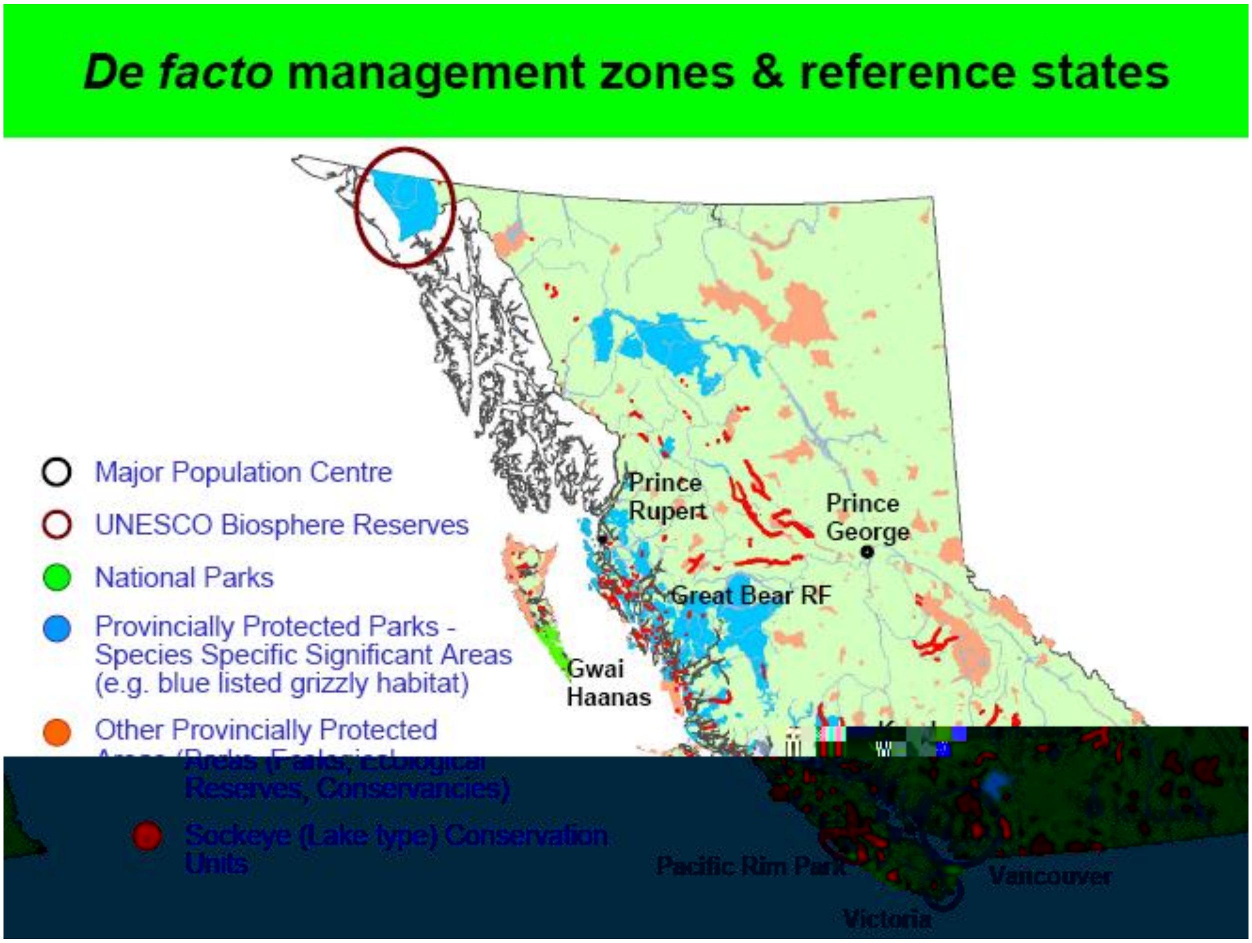


Figure 14: Wild Salmon Policy *de facto* management zones and reference states (FOC[3]).

Fisheries and Oceans Canada recognizes the benefits of ecosystem based management planning and its positive influence on salmon management. From the recent developments and progress of their Wild Salmon Policy, one could safely assume that EBM should be implemented in the Xeni Gwet'in Caretaker Area and that the Department would be supportive of such an initiative.

2.0The Great Bear Rainforest

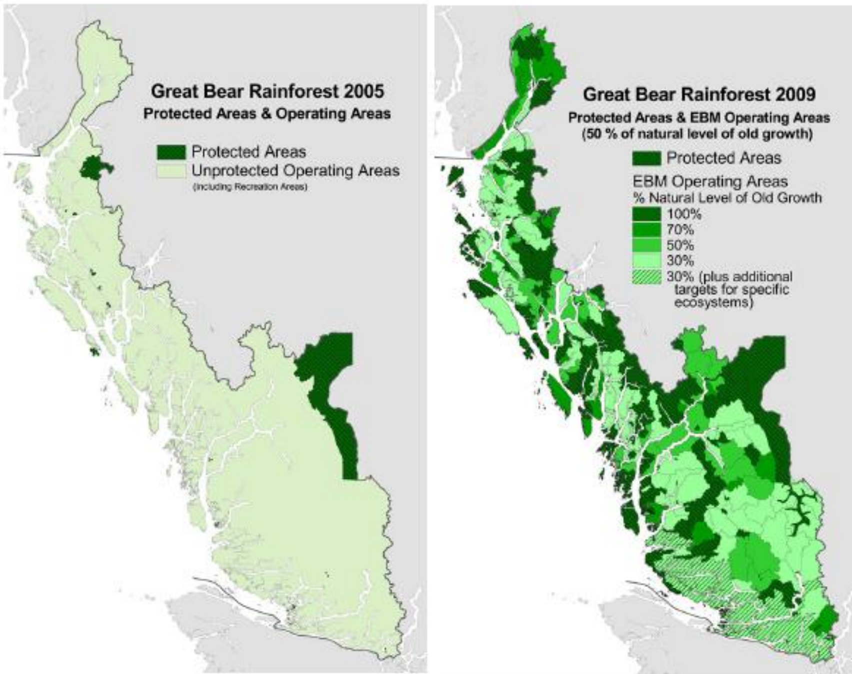
The British Columbia government through their Ministry of Natural Resource Management has been actively involved in EBM on the Province's north and central coast in an area called the Great Bear Rainforest. They define EBM as follows:

"*An adaptive approach to managing human activities that seeks to ensure the coexistence of healthy, fully functioning ecosystems and human communities. The intent is to maintain those spatial and temporal characteristics and processes of whole ecosystems such that component species and ecological processes can be sustained and human well-being can be improved* (MNRO).

In a landmark agreement signed in March of 2009, First Nations, the Provincial government, environmental groups and logging companies came together to initiate a land management plan that embraces EBM. This area encompasses approximately 6.4 million hectares and the new agreement established approximately 2.1 million hectares as protected areas through legislation. Approximately one third of the region is now protected from logging in conservancies, parks and biodiversity areas. They include the following:

- 111 conservancies with a total area of 1,360,000 hectares, legislated between 2006 and 2008
- 21 biodiversity areas with a total area of 300,000 hectares, made legal in January 2009
- 18 previously established Class A parks with a total area of 443,000 hectares (GBR).

A map of the area is presented below showing a snapshot in time with the left hand map dated 2005 and the right hand map showing the new management areas in 2009.



Great Bear Rainforest: snapshots in time

Figure 15: Great Bear Rainforest Map (GBR).

An integral part of the Great Bear Rainforest initiative is the intensive involvement of First Nations who reside within this area of the west coast of British Columbia. A conglomerate of communities calling themselves Coastal First Nations have been actively managing their land base since time immemorial, however in recent history they have watched in frustration as their traditional territory has been exploited for short term financial gain with little regard for their traditional ways.

The Coastal First Nations have embraced ecosystem based management planning and define it as follows:

Ecosystem-based management (EBM) is a land management approach that recognizes that people, communities and the land are inseparable. Our choices must consider the health of both the people and the land that sustains them. EBM has two goals: maintain ecosystem health and improve human well-being. (Coastal First Nations)

As part of their involvement in this land management initiative, they produced 8 fact sheets to assist in describing their Turning Point Initiative. They are presented below as a list and can be reviewed on their website in greater detail (Coastal First Nations).

EBM Fact Sheets – Turning Point Initiative Coastal First Nations

Fact Sheet 1 - Ecosystem-Based Management: A Commitment to Our Future

Fact Sheet 2 - Land Use Plans: Roadmaps that Guide Us in Managing Our Resources

Fact Sheet 3 - Land Use Objectives: New Rules Govern How Forestry Occurs on Our Territories Under EBM

Fact Sheet 4 - Keeping the Land: Conservation that Protects Our First Nations Values

Fact Sheet 5 - Keeping the Land and People: Ecosystem-Based Management and Human Well-Being

Fact Sheet 6 - Local Economic Development: A Conservation Economy where People, Communities and Land are Inseparable

Fact Sheet 7 - Monitoring EBM: Guardians and Watchmen of our Traditional Territories

Fact Sheet 8 - Adaptive Management: Learning from EBM Experiences

The Great Bear Rainforest and those involved have been very fortunate in that a fund has been established to finance this undertaking. Called the Coast Opportunity Funds, it *was created to make the vital connection between sustainable development projects that embrace conservation values; the social, cultural and economic wellbeing of the First Nations communities; and long term conservation of the region* (Coast Opportunity Funds).

Provided by the Government of Canada, the Province of British Columbia, and six private foundations and totaling $116 million, the Funds are called the Conservation Fund and the Economic Development Fund. The Conservation Fund is designed to support activities that maintain or improve the Great Bear Rainforest, while the Economic Development Fund is a shorter-term fund designed to create sustainable businesses and community-based employment opportunities over seven years (Coast Opportunity Funds).

Up to May 2010, a total of $9.9 million had been allocated from the funds to communities and groups working within this EBM land management framework. The funding allocation is broad in scope, includes funding for salmon and can be reviewed at:
http://www.coastfunds.ca/system/files/Awards%20Summary%20by%20applicant%20-%2019.05.20%20-%20public.pdf

The Great Bear Rainforest initiative does provide a template for others to follow, however it did not come easily, does not please all the people involved all the time, and was the result of hard work and determination by those who spent years working on this land management planning process. A presentation in Smithers, British Columbia in September of 2009 at the Skeena Salmon Habitat Conference by contributor Dr. Jody Holmes provides some knowledgeable advice and guidance based on her experience working within the process. She offered the following in her presentation in a PowerPoint slide:

Real Collaboration - hard work and time

• likelihood of successful EBM implementation

Better access and use of limited financial, technical and human resources

Increased ownership makes results more likely to be durable

• Recognizes that all final decisions in EBM implementation are made by First Nations & province consistent with G2G agreements

• Involves stakeholders at the ground floor (internal discussions, scoping, document development and analysis)

• Requires high degree of transparency

• Every reasonable effort is made to achieve consensus (Holmes)

3.0 Chilko River Watershed Issues

The following table summarizes the prominent watershed issues that have been discussed at the Chilko River Roundtable and the possible action items that may be utilized to remediate the situation. Watershed issues such as these ultimately lead to influences on salmon and their habitat.

Table 4: Watershed Issues and Possible Remediation.

Watershed Issue	Action Plan
1. Unmanaged public access in the Caretaker Area	**An access management plan must be recognized, provided to all landscape managers, adhered to, and enforced through area monitoring (e.g More Rangers)**
2. Minimum signage relating to access management	**Funding should be acquired to design and construct all access management signage needed for the Caretaker Area**
3. Inappropriate boating regulations including jet-boating	**A review of current boating regulations should be undertaken and upgraded as needed to reflect current issues and concerns. Enforcement to be undertaken by**

Watershed Issue	Action Plan
	newly established river/fisheries guardian program.
4. Inappropriate fishing regulations and inadequate monitoring	A review of current fishing regulations should be undertaken and upgraded as needed to reflect current issues and concerns. Enforcement to be undertaken by newly established river/fisheries guardian program.
5. Undefined/undesirable recreational use objectives	A new land access management plan needs to be established and enforced throughout the Caretaker Area. It must reflect current recreational objectives and be regulated by law.
6. Potential mining impacts	An established ecosystem based management plan for the Caretaker Area will reflect values established during the planning process that will address mining in the area.
7. Lack of a community voice on land management issues	An updated ecosystem based management plan established by the Xeni Gwet'in First Nations Government and local residents will provide a strong voice on land management issues.
8. Lack of serious and sincere consultation by government	Based on established First Nations rights and title decisions in place in other areas and the results of the William decision for the Xeni |Gwet'in people should be recognized sincerely by the federal and provincial governments. A new era of land management for the Caretaker Area based on ecosystem based management should be undertaken.
9. Lack of scientific data for decision making	A land management endowment fund similar to the Coast Opportunity Fund should be established for the ongoing collection of scientific information in the Xeni Gwet'in Caretaker Area.
10. Unregulated recreation occurring in the Caretaker Area	The establishment of an ecosystem based management plan will address recreation in the Caretaker Area. Enforcement should be undertaken through the increased presence Rangers on the land base.
11. Lack of land management funding for the watershed and ecosystem	A land management endowment fund similar to the Coast Opportunity Fund should be established for the ongoing

Watershed Issue	Action Plan
	management of watersheds and the ecosystem of Xeni Gwet'in Caretaker Area.
12. A need to educate the public on land usage in the Caretaker Area	**Monies from the established endowment fund should be provided for public land management education. This should include brochures, website, signage, etc.**
13. Unguided fishing and recreation on the Chilko River	**A stronger enforcement system that includes river/fisheries guardians should be established to enforce fishing and guiding regulations.**
14. Xeni Gwet'in need to be informed of activities including research	**All activities including research should be reviewed and subject to approval by the Xeni Gwet'in First Nations Government.**
15. Declining fish stocks	**Population assessments of all fish stocks of importance should be undertaken and ongoing. The current primary focus is on sockeye but this must expand to other species.**
16. Over harvesting of some fish species	**Enforcement of fishing regulations by guardians and the initiation of additional population assessments should help to alleviate this problem.**
17. Climate change	**Adaptation to climate change is key to reducing its impact within the Caretaker Area. Ongoing monitoring of its effects on the lakes, streams and land-base should be ongoing through endowment funding.**
18.The effects of the mountain pine beetle on the local area	**Monitoring the progress and impacts of the mountain pine beetle should be ongoing through endowment funding.**
19. Wild fires	**Recognizing that wild fires can play an important positive role in the Caretaker Area, controlled burning should be identified for certain areas.**
20. Unregulated development of quad trails	**Access management and controlled access through an ecosystem based management plan should alleviate this problem. Additionally having more Rangers on the ground would be helpful in monitoring and controlling this presently unregulated access.**

4.0A Framework for an Ecosystem Based Management Plan

Ecosystem based management planning has been established long enough for it to be in use in some jurisdictions. There are several models in place, and the schematics of two are presented below.

The first is provided by the Silva Forest Foundation led by ecologist Herb Hammond who has worked for the Xeni Gwet'in First Nation and helped design the EBM for the Great Bear Rainforest. The second is provided by the Turning Point Initiative Coastal First Nations who have developed eight fact sheets related to the Great Bear Rainforest initiative.

In addition to the conceptual models provided below, a great resource that can contribute to the design of an EBM plan in the Xeni Gwet'in Caretaker Area is a guidebook prepared for the Great Bear rainforest titled "Hydroriparian Planning Guide" co-authored by Herb Hammond (Coast Information Team).

Silva Forest Foundation

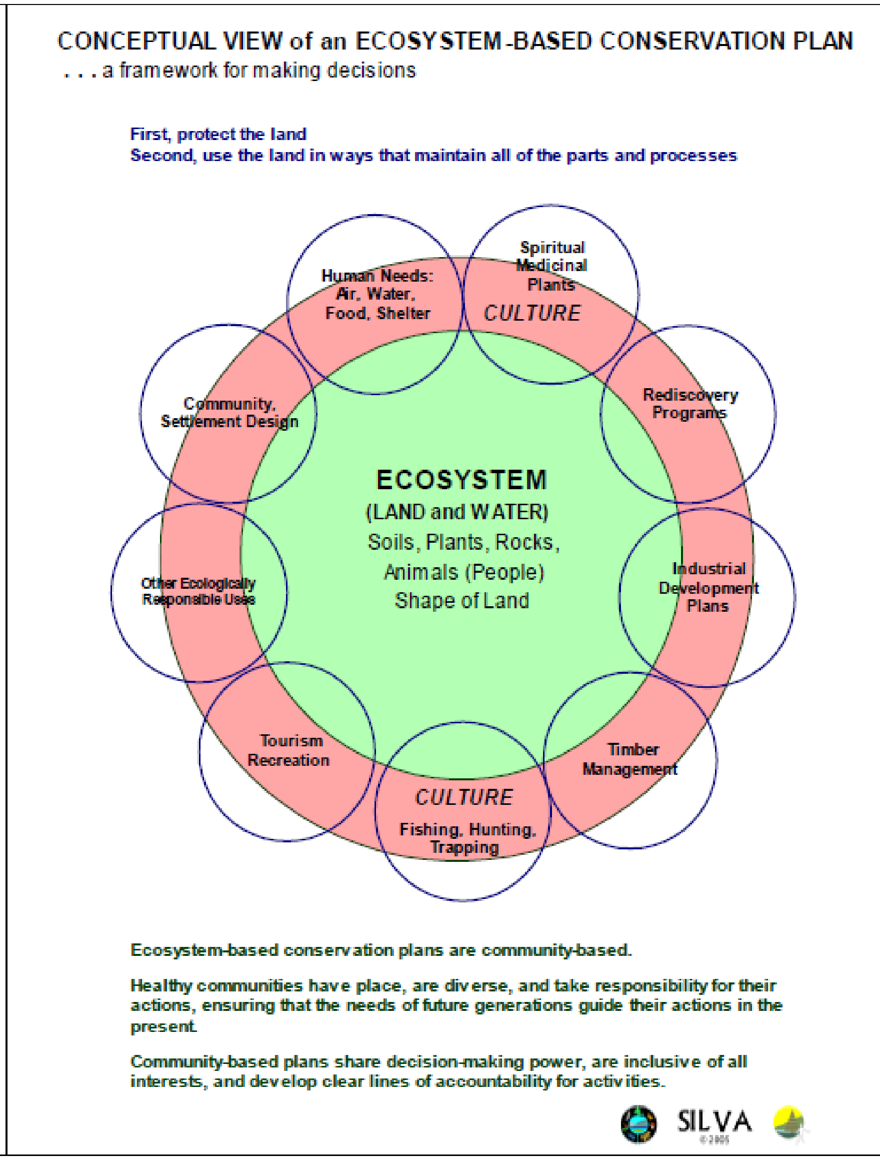


Figure 16: Silva Forest Foundation Conceptual View of an Ecosystem Based Conservation Plan.

Great Bear Rainforest Model

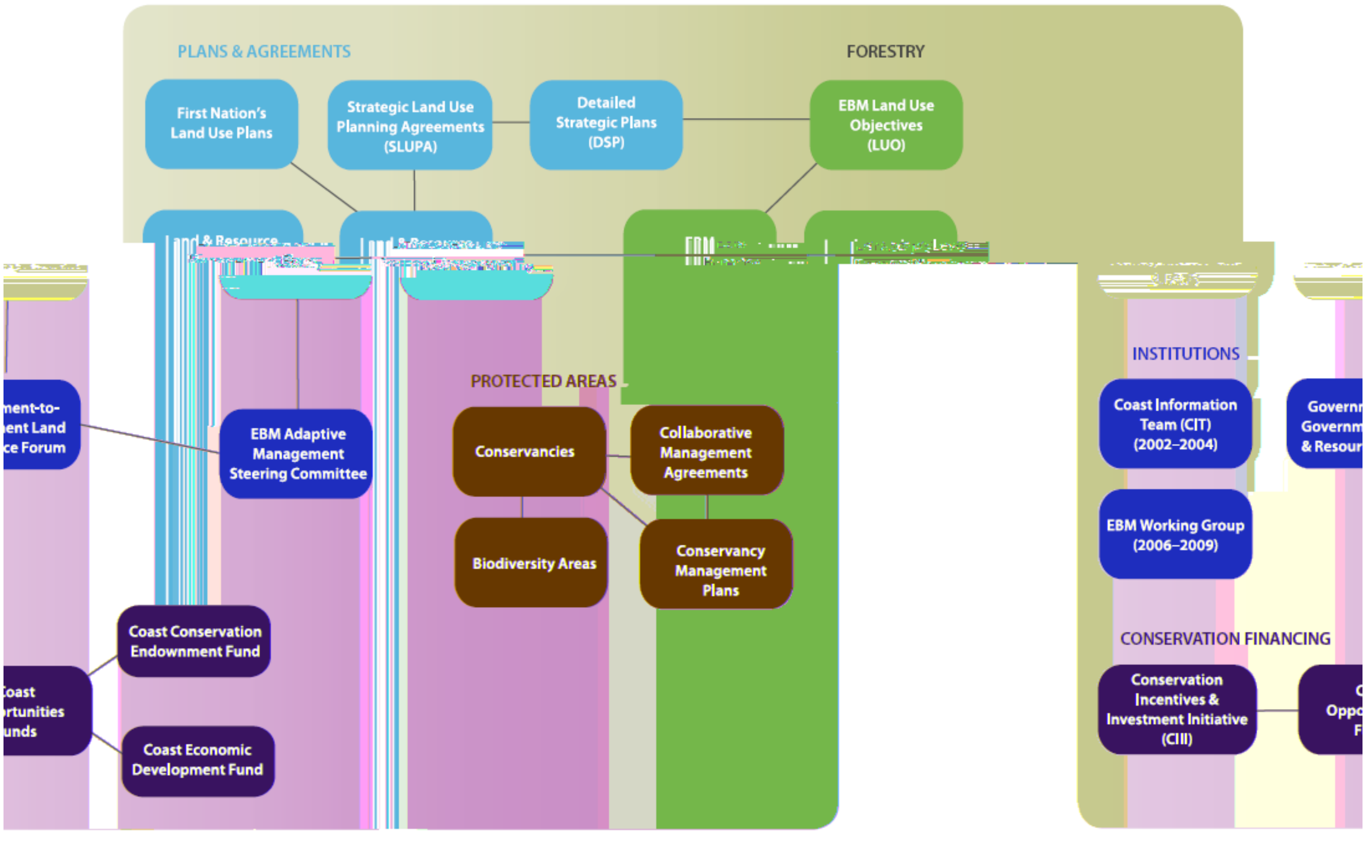


Figure 17: Great Bear Rainforest EBM Planning Flow Chart.

5.0 Summary and Comment

The Xeni Gwet'in First Nation Government and the community they represent have made it abundantly obvious that they are the stewards of the Xeni Gwet'in Caretaker Area. It is this author's belief that this responsibility includes stewardship of the salmon that call the Chilko River watershed their home. This connection to their land is firmly supported by Judge J. Vickers in his Supreme Court of British Columbia decision handed down on November 20th, 2007, however this decision is currently under appeal.

Judge Vickers stated the following in his landmark decision relating to the Roger William rights and title case:

. Xeni

(people of the Nemiah Valley) are charged with the sacred duty to protect the nen (land) of

para. 2. (Vickers).

Ecosystem based management planning is not a new concept to the Xeni Gwet'in First Nation as they have been practicing this type of land management since time immemorial. Respecting their land base and the waters within played a large role in their very existence

"***The March 2009 announcement of the establishment of ecosystem based management (EBM) across British Columbia's North and Central Coast regions represented the culmination of 14 years of intensive, complex, and ultimately consensus based land and resource management planning process involving the Province of BC, area First Nations, and representatives of forest licensees, the environmental conservation sector and local communities*** (BC Ministry of Natural Resource Operations)**.**

Salmon are the keystone species of the Taseko and Chilko River watersheds. Their value to the broader human marketplace is indisputable however their local value to the Xeni Gwet'in First Nation and the flora and fauna of the watershed that rely on this truly sustainable resource is immeasurable. Ecosystem based management planning is a new to the western world, yet widely recognized concept that focuses on what to leave, to maintain healthy ecosystems, not how much resource to remove for maximum economic gain.

Ecosystem based management planning and its positive impacts to the salmon resource are well known and documented. The land base must be protected in the Xeni Gwet'in Caretaker Area and the genesis of EBM is well underway in this productive salmon watershed. We should acknowledge the stewardship of the Xeni Gwet'in people and their direct reliance on the local landscape for this relationship has provided us all with a healthy salmon resource that benefits First Nations, commercial and sport fisherman from Chilko Lake to the rearing grounds in the North Pacific.

The question now requiring an answer is "If ecosystem based management planning is currently being utilized in the Central and North Coast regions of British Columbia and supported by First Nation, Canadian and British Columbia governments, why can't this land management system be initiated and implemented in the Xeni Gwet'in Caretaker Area"?

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