

**SECTION 14.0 – TRADITIONAL LAND USE AND
 TRADITIONAL ENVIRONMENTAL KNOWLEDGE
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14.0 TRADITIONAL LAND USE AND TRADITIONAL ENVIRONMENTAL KNOWLEDGE

14.1 Introduction

This section describes historic and present traditional land use (TLU) in the study areas to assess the potential Telephone Lake Project (Project) effects on that land use, and to identify potential mitigations. Potential impacts on the preservation and exchange of traditional environmental knowledge (TEK) are also discussed. TEK has also been integrated into the assessments presented in other sections. This section was completed in compliance with the Project's Final Terms of Reference dated 19 December 2007.

TLU encompasses those activities that Aboriginal communities and their individual members may rely on to meet their needs, such as trapping, hunting, fishing and plant gathering (Robinson *et al.* 1994). Aboriginal communities have constitutionally protected treaty and Aboriginal rights.

TEK is defined as knowledge derived from the experiences and traditions of Aboriginal peoples about past and current use of the environment for subsistence, cultural or commercial purposes. This knowledge is based on observations of specific events or phenomena, generalized experiences over a period of time, generalized observations based on personal experience, and experiences documented in stories or oral histories shared by Aboriginal peoples (Usher 2000).

Riedlinger (2001) suggests that TEK can enhance scientific knowledge of environmental change by providing:

- local context or regional ground-truthing of scientific finds that are most often at a coarser geographic and temporal scale;
- a diachronic (cumulative, relational) perspective that shows deviations from normal environmental variations;
- hypotheses from an Aboriginal perspective that expand the scope of inquiry beyond a non-Aboriginal perspective and "*bridge the gap between community concerns and research efforts*"; and
- indirect environmental monitoring due to use of the region through traditional activities.

14.1.1 Application of Constraints Mapping to Traditional Land Use and Traditional Environmental Knowledge

Two resources were included as constraints for Project planning purposes:

- plants of traditional importance, identified through the use of areas of ranked TLU vegetation classes as the resource indicator; and
- sites of traditional or cultural (including sacred) importance.

The rationale for choosing traditional plants as a constraint was that the loss of areas with the potential to support traditionally used plants could negatively affect TLU in the terrestrial local study area (TLSA). The rationale for choosing sites of traditional importance as a constraint was the importance of protecting the integrity of TLU sites and sites of cultural importance.

The concept of ranked traditional use vegetation classes was developed for use in the constraints mapping approach (Volume 2, Section 3.0). Classes of TLU plants identify areas that have the lowest and greatest capability to support traditionally used plant species. Furthermore, ecosite phases that contain traditionally used plants that occur in five or fewer ecosites are considered sensitive or unique from a TLU perspective (Volume 2, Section 11.0).

Research has shown that plant harvesting occurs in trap lines, in river valleys and near to or along access routes to traditionally used sites (e.g., trapper cabins, hunting areas) (Shell 2002). TLU sites were identified through the consultation and study process conducted to acquire and appreciate TEK. Cenovus TL ULC (Cenovus) recognizes that where practical, avoidance of areas having the greatest capability of supporting traditionally used plant species and sites of cultural importance is a primary objective.

14.1.2 Aboriginal Engagement

Cenovus understands that each First Nation and some of the Métis communities have a process in place to engage their Elders and other holders of TEK and TLU information to provide them with an opportunity to hear and consider details of the proposed work planned in the area. Cenovus has been working with applicable First Nation and Métis communities to gather TLU and TEK information that is relevant to the Project through Cenovus's previous winter work applications.

Cenovus currently have signed a TEK Sharing Agreement with Fort McKay Sustainability Department (Fort McKay First Nation and Métis Local 63 (Fort McKay)). The impact assessment presented in this section is based on TLU and TEK information gathered from consultation conducted by Cenovus, and discusses potential impacts of the Project on the traditional activities of Fort McKay. Cenovus will continue to review the need to collect additional TLU information from the community of Fort McKay in order to assess potential Project impacts on the traditional activities of Fort McKay. During the spring of 2011, when Cenovus was engaged in the reintensification of consultation activities, Fort McKay was given the opportunity to comment on existing TLU and TEK information.

Cenovus has also initiated a TLU study with Fort McMurray #468 First Nation (FMFN) but discussions about TEK and TLU for this community have not progressed to the point where an assessment of potential Project impacts can be made.

Cenovus is also currently in discussions with both the Mikisew Cree First Nation (MCFN) and the Athabasca Chipewyan First Nation (ACFN) but discussions with these two communities have not progressed to the point where an assessment of potential Project impacts can be made. In addition, given Fort McKay's proximity to the Project and the fact that trapline holders

in the area belong to this community, potential impacts to Fort McKay and its members are prominent in this assessment. Cenovus will continue to work with First Nation and Métis communities in an attempt to collect additional TLU and TEK for the proposed Project when necessary. Once the TEK information has been collected and validated, where applicable and reasonable, it will be incorporated into the environmental impact assessment (EIA) and will provide a more accurate picture of the potential impacts to Aboriginal rights and traditional uses.

14.2 Study Area

14.2.1 Spatial Boundaries

For the purposes of this TLU report, two study areas were used: a traditional use regional study area (TURSA) and the TLSA. The boundaries and rationale for each area are described below.

The Fort McKay First Nation defines its traditional territory by the areas used historically and currently by the community of Fort McKay to sustain their traditional livelihood. These areas were initially mapped in *From Where We Stand* (Fort McKay Tribal Association 1983) and have been redefined by Tanner *et al.* (2001) and elaborated upon by McKillop (2001). These traditionally used areas overlap with traditional territory asserted by the ACFN, the MCFN, and the FMFN, and include Chipewyan and Cree Treaty Indians, in addition to the Métis and non-status Indians who live in the communities in the area. Given the shared language and history of intermarriage, many of the First Nations in the area are closely linked.

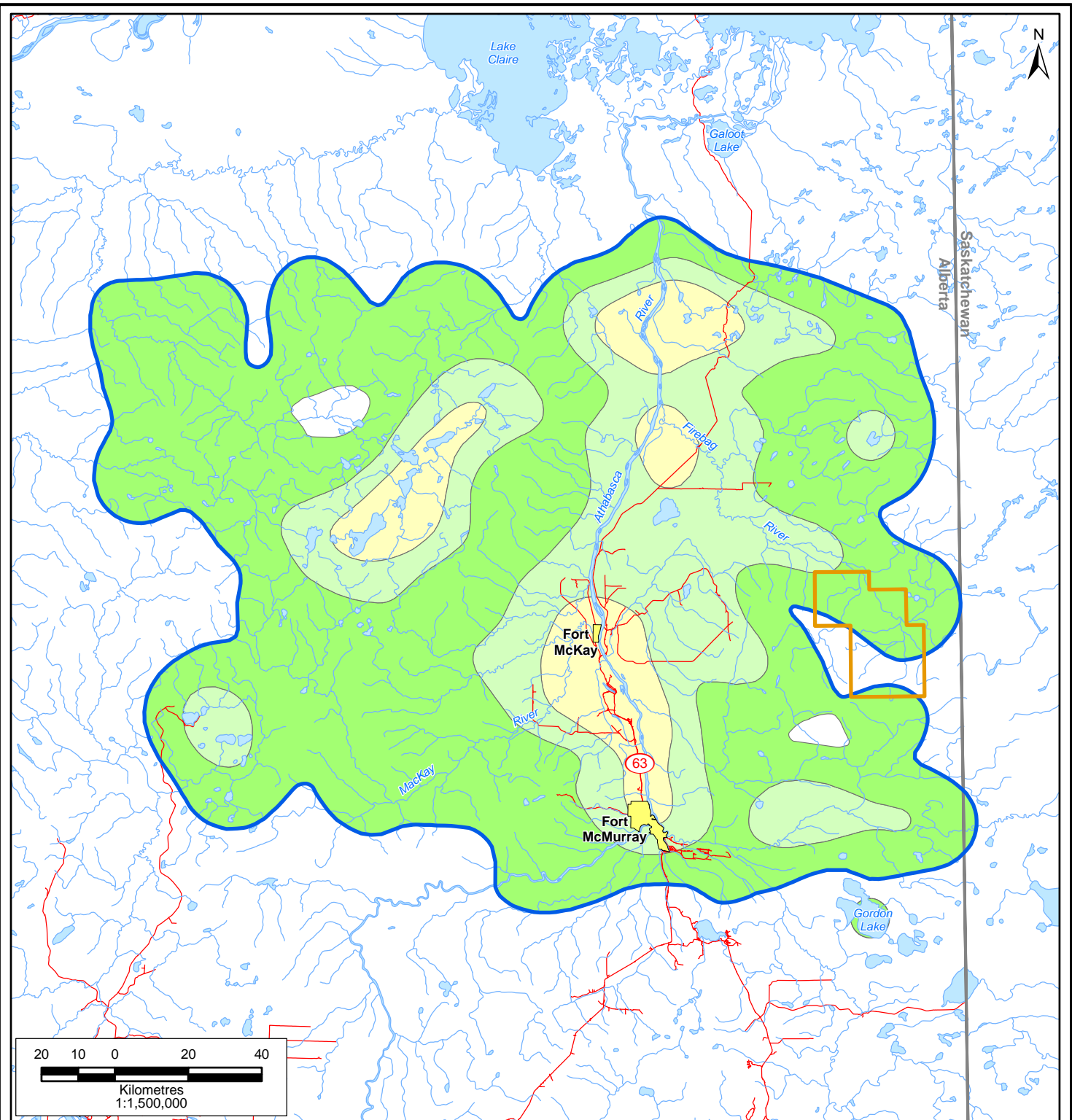
The community of Fort McKay does not direct TLU studies. The boundaries devised by McKillop (2001) were chosen to delimit the TURSA for this assessment on the Project and cumulative impacts to TLU associated with Fort McKay (Figure 14.2-1). This area totals 3.5 million ha.

The TLSA is defined by the spatial extent of the terrestrial resources that may be directly affected by the Project development. The TLSA defined for the assessment of potential impacts of Project development to soil, vegetation and wildlife is appropriate for this assessment since terrestrial resources are critical components of traditional lifestyles.

14.2.2 Temporal Boundaries

The historical and current timeframes discussed herein refer to the time period prior to the 1980s (historical) and from the 1990s to the present (current). These timeframe definitions were selected based on changes in development in the region that occurred in the mid-1980s. While oil sands development in the region started in the 1960s, it was not until the 1980s when the pace of industrial development started increasing rapidly that changes in TLUs were influenced by increased oil sands activities.

S:\Gis\Projects\CE\Cenovus\CE0339901_TelephoneLake_EIA\ArcGIS\Application\ReportFigures\Volume 02_Section 14 - Traditional Land Use\Fig14.02-01 FMKFN Trad Use.mxd



- Legend**
- Terrestrial LSA
 - Traditional Use RSA
 - Open Water
 - Watercourse
- Culturally Significant Traditional Resource Use Area**
- Intense Use
 - Moderate Use
 - Low Use

Source: Cenovus, FMKFN, Spatial Data Warehouse Ltd.

Cenovus
ENERGY

Cenovus TL ULC
Telephone Lake Project

Fort McKay FN Regional Traditional Resource Use

DATE: December 2011		Fig14.02-01 FMKFN Trad Use 11-11-22	
PROJECT: CE0339901		PROJECTION/DATUM: UTM Zone 12 NAD83	
ANALYST: KW	QA/QC: KW KZ EH	PROVIDED BY: AMEC	FINAL MAPPING BY: AMEC

Figure 14.2-1

Prior to 1980 many of the Aboriginal communities experienced significant and rapid changes in their traditional lifestyle starting with the arrival of Cree, Métis and then white fur traders and trappers in the late 1700s and early 1800s. Other influences on historical TLU and culture include:

- the introduction of new hunting, trapping and more recently transportation technologies;
- the development of trading posts and the fur trading system;
- the introduction and influence of the Catholic and Protestant religions;
- signing of treaties in western Canada;
- the settlement of permanent communities, designated trap lines and access to government subsidies; and
- residential schools.

In the 1980s, rapid industrial development included the completion of the Peter Lougheed Bridge and Canterra Road that improved access for both Aboriginal and non-Aboriginal people and changed traditional and other land use patterns in the surrounding region. As industrial and commercial development intensified, the traditional practices of many Aboriginal people in the region continued to change as members of Aboriginal communities began to become more involved in the wage economy as opposed to the traditional economy, with several people relocating to Fort McMurray. As a result, more of a mixed economy began to develop in the communities that were near the early development projects.

A new pattern is emerging with a shift from traditional to non-traditional employment for the Aboriginal population (mixed economy). According to the Regional Municipality of Wood Buffalo (RMWB) (2006), 31% of the Aboriginal workforce in Fort McMurray were directly employed by an oil sands or gas company, 15% were employed by a contractor providing services to the oil or gas sectors, 20% were taking part in other activities (such as being a student) and 18% were employed in the service or retail sector.

The Alberta Construction Sector Council (ACSC 2011) suggests that this new employment pattern is likely to continue during the next decade. If energy prices and oil sands industry activity levels are low, there will be a need to hire approximately 39,000 workers just to replace workers lost due to age-related attrition. If energy prices remain high, the petroleum industry may need to add over 130,000 workers between 2010 and 2020. The high demand for workers will attract Aboriginal and non-Aboriginal workforce. It is, therefore, anticipated that the next decade will see a continuous shift from traditional employment to oil sands employment for the Aboriginal workforce in the area.

14.3 Assessment Approach

A variety of approaches were taken to assess the potential impacts of the Project on TLU. This assessment considered how environmental components that are important to Aboriginal peoples in the region might be impacted by the Project. Aboriginal input and participation was utilized to help determine the importance of the identified potential environmental impacts to Aboriginal peoples ([Volume 1, Section 2.0](#)).

14.3.1 Key Issues

Key issues related to impacts on TLU and TEK include:

- impacts of heavy metal and acid deposition on traditional plants used by First Nation and Aboriginal Communities in the Athabasca oil sands region ([Volume 2, Section 16.0](#));
- use of native and traditional plant species in reclamation and the closure planning design ([Volume 1, Section 13.0](#));
- impact of development on medicinal plants, including the harvest and safe consumption of traditional plants growing on reclaimed areas;
- impact of development on wildlife of high traditional value (moose, rabbits, furbearers, grouse, waterfowl and squirrels) ([Volume 2, Section 12.0](#));
- uncertainty regarding the wildlife species that can be supported on reclaimed land, and whether the wildlife species on reclaimed areas will be those of traditional value;
- concern that increased activity will increase tourism, and the impacts of this activity on trap line holders; and
- space to carry out cultural/spiritual activities without disturbance.

14.3.2 Assessment Criteria

There is little quantitative analysis that can be performed on impacts to TLU, or on information relating to TEK. In an impact assessment context, discussions and evaluation of potential impacts are subjective in nature, based upon the understanding of TLU information and of the proposed Project and predictions regarding the impacts of the Project on traditional practices in the area.

Cenovus has studied the general land use patterns in the region to acquire and understand in an open and critical way the many facets of TLU, and to assess the potential impacts of the Project on traditional ways of life. Because this assessment is not quantitative, the criteria are subjective, as are the resulting assessments.

Environmental components that are of value and importance to Fort McKay were included in this assessment. These include wildlife, plants, and social/cultural components. Indicators of change were assigned to each ([Table 14.3-1](#)).

Table 14.3-1: Environmental Components Valued by Fort McKay

Category	Components of the Environment	Indicators of Change
Animals	Ungulates (e.g., moose, deer)	Decline in diversity or relative numbers of species. Adverse change in the availability and/or access to species due to change in migration patterns, change in species behaviour, or change in water and land travel routes. Decline in opportunities for harvesters to pursue activities due to increased competition or restricted access.
	Bear	
	Waterfowl (e.g., ducks, geese)	
	Birds	
	Fish	
	Small Mammals (e.g., fur bearers)	
Plants	Plants (e.g., medicinal plants)	Change in texture, size, and appearance in furs. Decline in the food qualities (such as nutritional value) and/or safety (due to contaminants). Change in texture, colour, taste and appearance.
Water	Surface Water	Water flow and water level impacts on ice formation, wildlife and fish, and water quality. Reduced quality of water for consumption due to contaminants and debris. Flooding of critical shoreline habitat.
	Groundwater	
	Marshes/Wetlands	
Land	Soils	Disturbance of critical habitat. Habitat loss, degradation, disturbance or fragmentation. Obstruction of wildlife/fish migratory routes.
	Forest	
Social/Cultural	Burial Sites	Removal or negative impacts to cabins or campsites. Removal or negative impacts to trails and access routes. Negative effects on historical, archaeological, cultural, paleontological or archaeological resources or sites.
	Historical/Significant Event Sites	
	Sacred Sites	
Air	Air Quality	Discharges or release of toxic chemicals, microbiological agents in vicinity of community and/or within traditional territory.
Noise	Noise Levels	Increased noise levels due to Project.

14.4 Methods

14.4.1 Secondary Information Review

Recently completed EIAs, interview transcripts from previous EIA TLU research programs, TLU and occupancy studies, and other applicable studies conducted on behalf of Aboriginal communities were reviewed for this assessment. This TLU and TEK information was provided with community permission according to the TEK Agreement signed by Cenovus with the Fort McKay Sustainability Department. Consultation and TEK information exchange is ongoing with the ACFN, the MCFN, and the FMFN.

Several studies were used to understand TLU and TEK on a regional scale:

- *From Where We Stand* (Fort McKay Tribal Association 1983);
- *There is Still Survival Out There: Traditional Land Use and Occupancy Study of the Fort McKay First Nations* (Fort McKay 1994);

- *A Profile of the Extended Community of Fort McKay, Alberta* (Fort McKay Environment Services Ltd. 1995);
- *Report of Wisdom Synthesized From the Traditional Knowledge Components Studies* (Bill et al. 1996);
- *A Survey of Consumptive Use of Traditional Resources in the Community of Fort McKay* (Fort McKay Environment Services Ltd. 1997);
- *Some Effects of Oil Sands Development on the Traditional Economy of Fort McKay* (Tanner et al. 2001); and
- *Inkonze: The Stones of Traditional Knowledge A Story of the Athabasca Tar Sands* (Coutu and Hoffman-Mercredi 1999).

Several studies completed for EIAs in the region were consulted to understand TLU and TEK at the local scale:

- *Synchrude Aurora Mine Studies* (BOVAR Environmental 1996; Fort McKay Environmental Services 1996);
- *Traditional Land Use Environmental Setting Report*. Jackpine Mine (Shell Canada Ltd. 2002);
- *Traditional Land Use Assessment* Jackpine Mine – Phase 1 (Shell Canada Ltd. 2002);
- *Traditional Land Use Baseline*. Suncor Firebag In Situ (Suncor Energy Inc. 2000);
- *Traditional Land Use and Traditional Ecological Knowledge Report*, Husky Sunrise Thermal Project (Husky 2004b);
- *Environmental Impact Assessment*. Birch Mountain Resources Ltd. Muskeg Valley Quarry (Birch Mountain 2004a);
- *Traditional Plant Report* from Site Visit to Birch Mountain Lease Area (Birch Mountain 2004b);
- *Hammerstone Project Volume 1 Traditional Resource Use and Traditional Ecological Knowledge*. Project Application and Environmental Impact Assessment (Birch Mountain Resources Ltd. 2006a);
- *Athabasca Chipewyan First Nation (ACFN) Traditional Resource Use and Traditional Ecological Knowledge* Addendum to Volume 1 Project Application and Environmental Impact assessment for the Hammerstone Project (Birch Mountain Resources Ltd. 2006b);
- data from site visit (2007); and
- *Tamarack Integrated Oil Sands Project* (Ivanhoe Energy Inc. October 2010).

14.4.2 Interviews

TLU interviews were completed with the Fort McKay Elders Advisory Group to understand the views of traditional residents, trapline holders and the traditional community in the Athabasca oil sands region. The interviews were an opportunity for participants to share their TEK and provide details about TLU.

On 12 April 2007, an initial presentation with members of the Elders Advisory Group in Fort McKay was held to introduce the proposed Project and to collect information on:

- trapping;
- hunting;
- fishing;
- traditional plant harvesting;
- sites of traditional importance such as cabins, cultural/spiritual sites;
- historical and current trails; and
- concerns and issues related to the Project and other development in the region.

The interviews were designed to obtain information regarding the use of the TLSA during the historical and current TLU periods.

14.4.3 Field Studies

On 10 September 2007, a field visit to the lease area was conducted with five members of the Fort McKay Elders Advisory Group. The purpose of the site visit was to photograph and document information about traditional plants, cabin sites, trails and any other TLU in the TLSA. The site visit also enabled the study team to geo-reference any information collected through the group interview and other documented sources relevant to the TLSA.

14.4.4 Traditional Plant Use Capability

To complement information gathered through the interviews and site visit in 2007, a traditional plant capability analysis was conducted to assess the suitability of the TLSA as traditional plant habitat and the potential impacts to traditional plants that might result from the development of the Project. The methods and results of the analysis are presented in [Volume 2, Section 11.0](#).

14.4.5 Evaluation Criteria

The impact assessment criteria used to assess Project-specific and cumulative impacts on traditional resource are contained in [Volume 2, Section 3.0](#).

14.5 Baseline Case

14.5.1 Traditional Activities in a Regional Context – Historical Setting

For years, the community of Fort McKay, in what is now the RMWB, has been relying on the land and its resources for survival. This relationship with the land and its resources is an integral part of the cultural history and tradition of the community. Understanding the impacts to these human-environment relationships requires an engagement with the experiences and heritage of each respective community that has been identified as having potential to be affected by the Project.

Fort McKay

The community of Fort McKay is situated at the junction of the McKay and Athabasca Rivers. Named by the Hudson Bay Company in 1821 after Dr. W.M. MacKay, the locale functioned as a hub connecting the many families who lived off the land in the surrounding region (Fort McKay Environmental Services 1995). Today, the community of Fort McKay includes those of Cree, Chipewyan and Métis heritage. The community of Fort McKay has experienced and continues to manage changes to their local economy (Fort McKay Environment Services Ltd. 1995). What exists today is a mixed, subsistence-based economy that integrates the traditional “bush” economy and the non-traditional economy tied to developments in this community’s region.

Historically, the Fort McKay community lived a mobile hunting and gathering lifestyle (Fort McKay Environment Services Ltd. 1995). Until the early 20th Century, the community was spread out along the Athabasca River and occupied a number of different seasonal camping sites including a main site on the western shore of the Athabasca River (now Fort McKay). Camps provided access to sustenance resources such as moose, deer, bear, caribou, upland birds such as grouse and ptarmigan, as well as a variety of plant resources. Families moved to and from different camps at various times of the year as they harvested a variety of food resources.

The traditional lifestyles of Aboriginal families in the Fort McKay community changed dramatically with the introduction of the fur trading economy by the Hudson Bay and Northwest Companies. Given the opportunities to trade, many families transitioned from a subsistence-based lifestyle to one more closely linked with the fur trade. Beginning in the 1850s and lasting until the middle of the 20th Century, legislation governing health, education and government benefits such as the Family Allowance restricted the mobility of families by requiring them to remain at or close to Fort McKay (Fort McKay Environment Services Ltd. 1995).

Despite restrictions to mobility, the traditional livelihood of the people of Fort McKay continued throughout the 20th century. Beginning in the late 1960s, the development of commercial oil sands projects has been accompanied by impacts, both negative and positive, that have changed the community and the lives of its members (Fort McKay Environment Services Ltd. 1995). The exploration, mining, and processing of oil sands deposits provided new economic opportunities for the people of Fort McKay but in doing so removed substantial amounts of the traditional resources used by the people to sustain their traditional way of life. The result has

been an economic transition from a largely traditional economy to a mixed economy that concentrates heavily on the wage opportunities supplied by oil sands activities. One outcome is a significant reduction in the number of people still living a traditional lifestyle (Fort McKay Environment Services Ltd. 1995).

From an historical perspective and up until the mid-1900s, the traditional bush economy has been well documented through interviews with Fort McKay Elders (Fort McKay 1994, Tanner *et al.* 2001). Traditionally, land use was based around an annual cycle that was divided into the seasons based on subsistence activities.

During the fall season a majority of the time was spent hunting, fishing, gathering plants and preparing for the winter hunting and trapping season. Preparation was needed to ensure that sufficient supplies such as clothing, tools and food were available for the harsh winter months.

In the winter season, families returned to their camps and cabins on the traplines. Trapping for fur-bearing animals lasted until mid-March while trapping for beaver and muskrat lasted until May. During this time hunting and ice-fishing also occurred. The family was busy skinning, stretching and sewing hides harvested through hunting and trapping.

Springtime saw the close of the trapping season. Hunting and fishing continued and plant gathering resumed.

In the summer months, families made the journey back to the main camps such as Fort McKay. Hunting, fishing, berry picking and associated activities like preparing hides and building tools continued.

Athabasca Chipewyan First Nation

Discussions and TEK gathering with the ACFN Sustainability Department and members of the community of Fort Chipewyan are ongoing, and when these discussions have resulted in sufficient information on the traditional activities of this community and if members are specifically affected by the Project, an assessment of the potential impacts of the Project on these activities will be made and provided to the regulatory agencies and stakeholders. More details regarding Cenovus's engagement with ACFN can be found in [Volume 1, Section 2.0](#).

Mikisew Cree First Nation

Discussions with the MCFN Government Industry Relations continue, and when these discussions result in notification from the MCFN of the finalization of their TLU study and a desire to participate in a TLU and TEK study, an assessment of the potential impacts of the Project on these activities will be made and provided to the regulatory agencies and stakeholders. More details regarding Cenovus's engagement with MCFN can be found in [Volume 1, Section 2.0](#).

Fort McMurray #468 First Nation

A TLU study with the FMFN is currently underway and Cenovus should have the results of this study by the end of 2011. When this is completed and sufficient information on the traditional activities of this community is made available to Cenovus, an assessment of the potential impacts of the Project on these activities will be made and provided to the regulatory agencies and stakeholders. Preliminary results indicate that there is no (or limited) use of the TLSA by FMFN.

Métis Locals

Discussions with the Métis Locals in the Wood Buffalo area are continuing, and decisions will be made about the collection of their TLU information. When these discussions have resulted in sufficient information on the traditional activities of these groups and it is made available to Cenovus, an assessment of the potential impacts of the Project on these activities will be made and provided to the regulatory agencies. Typically, Métis groups have not requested the collection of TLU for regulatory applications. Their participation and exchange of information in this regard has occurred through the consultation process.

14.5.2 Traditional Land Use in a Regional Context – Current Setting

Various components of the environment had, and continue to have today, spiritual, domestic, medicinal, nutritional, and economic importance for Aboriginal peoples. Aboriginal peoples hold a unique spiritual attachment to the environment and their culture and economy is intimately linked to the land and its resources. Resources harvested from the land are still used in the home as tools, or as material for cultural objects. The fur industry remains a source of supplemental income for a few, and a burgeoning traditional craft industry is creating new opportunities for local artists. Some Aboriginal people still rely on the medicinal properties of plants and animals to treat illness and maintain health and well-being. Animal and fish resources still comprise a significant proportion of the protein consumed in Aboriginal communities.

14.5.2.1 Wildlife

Information in the literature and obtained in interviews confirm that Fort McKay community members in the past hunted a wide range of animals in the TURSA ([Table 14.5-1](#)).

14.5.2.2 Fur-Bearers

Trapping of fur-bearing animals is an important tradition within Aboriginal communities in the surrounding region. Trapping generally occurs along traditional trails, streams and creeks. Trapping provides an important source of food, medicine and income. The fur-bearing species utilized by Aboriginal peoples are shown in [Table 14.5-2](#).

Table 14.5-1: Traditionally Used Wildlife

Information Source*	Common Name	Latin Name (Genus-species)	Significance ¹				
			S	D	M	F	E
Mammals							
1,2,3,4,5,6,7,8, 10, 11, 13,15	Beaver	<i>Castor canadensis</i>		X	X	X	X
1,2,3,4,5,7,8, 10, 11, 13, 14, 15,16	Bear, black	<i>Ursus americanus</i>	X	X	X	X	
2,3,7,8, 14	Bear, grizzly	<i>Ursus arctos</i>	X	X	X	X	
3,5,6,8,12, 14	Bison, American	<i>Bos bison</i>		X		X	
14, 16	Bison, Wood	<i>Bos athabasca</i>		X		X	
1,2,3, 5,6, 14,16	Caribou, barren ground	<i>Rangifer tarandus groenlandicus</i>		X		X	
1,2,3,4,5,7,8, 11, 14, 16	Caribou, woodland	<i>Rangifer tarandus caribou</i>		X		X	
1,2,3,4,6,7,8,10, 11, 12, 15	Coyote	<i>Canis latrans</i>					X
1,2,3,4,6,7,8, 10, 11, 14, 15, 16	Deer, white-tailed	<i>Odocoileus virginianus</i>		X	X	X	
1,2,3,4,6,7,8, 10, 11, 14, 15, 16	Deer, mule	<i>Odocoileus hemionus</i>		X	X	X	
3,7,8	Elk (Wapiti)	<i>Cervus elaphus</i>		X		X	
1,2,3,4,5,6,7,8, 10, 11, 15	Fisher	<i>Martes pennanti</i>					X
1,2,3,4,5,6,7,8, 10, 11, 15	Fox, red Fox, arctic	<i>Vulpes vulpes</i> <i>Alopex lagopus</i>					X
1,2,3,4,5,6,7,8, 10, 11, 15	Lynx, Canada	<i>Lynx canadensis</i>				X	X
1,2,3,4,5,6,7,8, 10, 11, 15	Marten	<i>Martes americana</i>					X
1, 3,4,5,6,7,8, 10, 11,	Mink, American	<i>Mustela vison</i>					X
1,2,3,4,5,6,7,8, 10, 11, 12, 14, 15, 16	Moose	<i>Alces alces</i>	X	X	X	X	X
1,2,3,4,5,6,7,8, 10,11, 13, 15	Muskrat	<i>Ondatra zibethicus</i>				X	X
1,3,5,6,7,8, 10, 11, 13, 15	Otter, river	<i>Lutras canadensis</i>					X
2,3,5,6,12	Porcupine	<i>Erethizon dorsatum</i>		X		X	
3,4,5,6,7,8,10,11, 15	Squirrel, red Squirrel, northern flying	<i>Tamiasciurus hudsonicus</i> <i>Glaucomys sabrinus</i>					X
2,3,5,7,8,11,	Skunk, striped	<i>Mephitis mephitis</i>	X		X		
1,2,3,4,5,6,7,8, 10, 11,	Snowshoe hare	<i>Lepus americanus</i>				X	X
1,3,4,5,6,7,8,10,11, 15	Weasel, least Weasel, long-tailed Weasel, short-tailed	<i>Mustela nivalis</i> <i>Mustela frenata</i> <i>Mustela erminea</i>					X
1,2,3,4,5,6,7,8,10,11, 15	Gray Wolf	<i>Canis lupus</i>					X
1,2,3,5,6,7,8,10, 11, 15	Wolverine	<i>Gulo gulo</i>					X
Birds and Waterfowl							
7,8,12	Cormorant, double-crested	<i>Phalacrocorax auritus</i>				X	
1,2,3,5,6,7,8, 11, 14	Crane, sandhill	<i>Grus canadensis</i>				X	
1,3,5,7,8,11, 14	Crane, whooping	<i>Grus americana</i>				X	
1,3,7,8,11	Crow, American	<i>Corvus brachyrhynchos</i>	X				

Information Source*	Common Name	Latin Name (Genus-species)	Significance ¹				
			S	D	M	F	E
3,5,7,8,10,11, 14, 16	Duck, mallard	<i>Anas platyrhynchos</i>		X		X	
1,3,4,5,6,7,8,10,11, 14, 16	Duck/Waterfowl species	Many genera		X		X	
1,2,3,5,7,8,11	Eagle, bald Eagle, golden	<i>Haliaeetus leucocephalus</i> <i>Aquila chrysaetos</i>	X				
3,5,6,7,8,10, 14, 16	Goose, Ross's	<i>Chen rossii</i>		X		X	
1,3,5,6,7,8,10, 14, 16	Goose, snow	<i>Chen caervlescens</i>		X		X	
3,5,6,7,8,10, 14, 16	Goose, greater white-fronted	<i>Anser albifrons</i>		X		X	
1,2,3,4,5,6,7,8,10,11, 14, 16	Goose, Canada	<i>Branta canadensis</i>		X		X	
1,2,3,6,8,11	Gull species	<i>Larus spp.</i>				X	
1,3,5,7,8,11	Grebe species	<i>Podilymbus sp</i> <i>Podiceps spp</i> <i>Aechmophorus sp</i>		X		X	
1,2,3,4,5,6,7,8,10,11, 13, 14, 16	Grouse, ruffed Grouse, sharp-tailed Grouse, spruce (spruce hen)	<i>Bonasa umbellus</i> <i>Tympanuchus phasianellus</i> <i>Falciptennis canadensis</i>		X		X	
1,3,5,7,8,11, 15	Hawk, broad-winged Hawk, cooper's Hawk, red-tailed Hawk, sharp-shinned	<i>Buteo platypterus</i> <i>Accipiter cooperii</i> <i>Buteo jamaicensis</i> <i>Accipiter striatus</i>	X				
1,3,6,8,11	Heron, great blue	<i>Ardea herodias</i>				X	
1,3,5,7,8,11, 14	Loon, common	<i>Gavia immer</i>	X	X			
1,3,7,8	Magpie, black-billed	<i>Pica pica</i>				X	
1,2,3,5,6,7,8,11, 15	Owl, great horned Owl, great grey Owl species	<i>Bubo virginianus</i> <i>Strix nebulosa</i> Many other genus		X		X	
1,2,3,7,8,11, 14	Pelican, American white	<i>Pelecanu erythrorhynchos</i>		X			
1,2,3,4,5,6,7,8,, 14, 15, 16	Ptarmigan, willow	<i>Lagopus lagopus</i>		X		X	
1,3,7,8	Raven, common	<i>Covus corax</i>				X	
	Scaup, Lesser	<i>Aythya affinis</i>		X		X	
1,2,3,5,6,8, 14, 16	Swan, tundra	<i>Cygnus columbianus</i>		X		X	
	Wigeon, American	<i>Anas americana</i>		X		X	

¹ Spiritual (S), Domestic (D), Medicine (M), Food (F), Economic (E).

*Information Sources:

1. Fort McKay Environment Services Ltd. (1996).
2. Fort McKay (1994).
3. Shell Canada Limited (2002).
4. Syncrude Canada Limited (1996).
5. ACFN (2003a, 2003b).
6. TrueNorth Energy (2002).
7. Suncor Energy Inc. (2000).
8. Suncor Energy Inc. (1998).
9. Fort McKay Environment Services Ltd. (1997).
10. Husky Sunrise (2004b).
11. Birch Mountain Resources Ltd. (2006a, 2006b).
12. information collected by Cenovus during public consultation ([Volume 1, Section 2.0](#)).
13. Synenco Energy Inc. (2006).
14. Chipewyan Prairie Dené First Nation (2007).
15. Ivanhoe Energy Inc. (2010).
16. FMFN (2006).

Table 14.5-2: Traditionally Used Fur Bearing Animals

Information Source*	Common Name	Latin Name (Genus-species)	Significance ¹					
			S	D	M	F	E	
1,2,3,4,5,6,7,8,10, 11, 12, 13, 14	Beaver	<i>Castor canadensis</i>		X		X	X	X
1,2,3,4,6,7,8,10,11, 13	Coyote	<i>Canis latrans</i>						X
1,2,3,4,5,6,7,8, 10,11, 12, 13, 14	Fisher	<i>Martes pennanti</i>						X
1,2,3,4,5,6,7,8, ,10,11, 12, 13, 14	Fox, red Fox, arctic	<i>Vulpes vulpes</i> <i>Alopex lagopus</i>						X
1,2,3,4,5,6,7,8, 10,11, 12, 13, 14	Lynx, Canada	<i>Lynx canadensis</i>					X	X
1,2,3,4,5,6,7,8,10,11, 12, 13, 14	Marten	<i>Martes americana</i>						X
1, 3,4,5,6,7,8,10,11, 14	Mink, American	<i>Mustela vison</i>						X
1,2,3,4,5,6,7,8,10,11, 12, 13, 14	Muskrat	<i>Ondatra zibethicus</i>					X	X
1,3,5,6,7,8, 10,11, 13, 14	Otter, river	<i>Lutras canadensis</i>						X
2,3,5,6,12	Porcupine	<i>Erethizon dorsatum</i>		X			X	
1,2,3, 5,6,10, 14	Rabbit	<i>Sylvilagus nuttalli</i>					X	X
3,4,5,6,7,8,10,11, 12, 13, 14	Squirrel, red Squirrel, northern flying	<i>Tamiasciurus hudsonicus</i> <i>Glaucomys sabrinus</i>						X
2,3,5,7,8,11,	Skunk, striped	<i>Mephitis mephitis</i>	X			X		X
1,2,3,4,5,6,7,8,11, 12	Snowshoe hare	<i>Lepus americanus</i>		X			X	X
1,3,4,5,6,7,8,10,11, 12, 13, 14	Weasel, least Weasel, long-tailed Weasel, short-tailed	<i>Mustela nivalis</i> <i>Mustela frenata</i> <i>Mustela erminea</i>						X
1,2,3,4,5,6,7,8,10,11, 12, 13, 14	Wolf	<i>Canis lupus</i>						X
1,2,3,5,6,7,8,10,11, 12, 13, 14	Wolverine	<i>Gulo gulo</i>						X

¹ Spiritual (S), Domestic (D), Medicine (M), Food (F), Economic (E).

*Information Sources:

1. Fort McKay Environment Services Ltd. (1996).
2. Fort McKay (1994).
3. Shell Canada Limited (2002).
4. Syncrude Canada Limited (1996).
5. ACFN (2003 a, 2003b).
6. TrueNorth Energy (2002).
7. Suncor Energy Inc. (2000).
8. Suncor Energy Inc. (1998).
9. Fort McKay Environment Services Ltd. (1997).
10. Husky Sunrise (2004b).
11. Birch Mountain Resources Ltd.(2006a; 2006b).
12. Chipewyan Prairie Dené First Nation (2007).
13. Ivanhoe Energy Inc. (2010).
14. FMFN (2006).

14.5.2.3 Fish

Fish resources were and continue to be an important resource for the traditional economies of the Aboriginal people in the region. Traditional fisheries include a number of lakes, rivers, streams and creeks scattered throughout the area. The Athabasca River, the Calumet River, the Ells River, the Mackay River, the Firebag River and the Muskeg River are all used to catch traditionally used fish species ([Table 14.5-3](#)). In addition, Gardiner and Namur Lakes, Lake Athabasca, Lake Claire, Mamawi Lake, Richardson Lake, McClelland Lake, and Kearl Lake are also used for traditional fish resources.

14.5.2.4 Plants

Plant resources are an important component of the traditional economies of the Aboriginal people in the region. Traditional plant usage among Aboriginal people in the region is shown in [Table 14.5-4](#).

14.5.2.5 Cabin Sites, Burial Sites and Other Significant Areas

Cabin sites, burial sites and other significant areas belonging to Fort McKay are documented in *There is Still Survival Out There* (Fort McKay 1994). Cabin locations are generally located along river or creek confluences, at good fishing spots, or on high ground with good views. Throughout the TURSA, 115 cabins have been identified by members of the Fort McKay (1994), of which 54 were cabin ruins in 1994.

A number of burial sites belonging to Fort McKay are scattered throughout the TURSA (Fort McKay 1994). The largest sites (containing upwards of 40 graves each) are located at Point Brule, Popular Point, Fort McKay Reserve, and Namur Lake Reserve (Fort McKay 1994).

Although these sites were identified in the TURSA, only two cabins and no grave sites were located within the TLSA.

14.5.3 Traditional Land Use in a Local Context

This section documents early, current and potential future use of the TLSA by traditional users, including fishing, hunting, trapping, plant harvesting and any other traditional or cultural uses as identified by Aboriginal groups.

Early Use of the TLSA

The TLSA is located approximately 90 km northeast of Fort McMurray. Evidence of early human occupation in the TLSA (approximately 6,000 years ago) was summarized based on artifacts found and an interpretation of early settlement activities from these artifacts in [Volume 2, Section 15.0](#).

Table 14.5-3: Traditionally Used Fish Species

Information Sources*	Common Name	Latin name (Genus-species)	Significance ¹				
			S	D	M	F	E
1,3,4,5,6,7,8,10,11, 12, 13, 14	Arctic Grayling	<i>Thymallus arcticus</i>				X	
1,2,3,4,6,7,8,11,	Chub, lake Chub, flathead	<i>Couesius plumbeus</i> <i>Platygobio gracilis</i>				X	
9,11,	Cisco	<i>Coregonus artedii</i>				X	
1,2,3,4,5,6,7,8,10,11, 14	Goldeye	<i>Hiodon alosoides</i>				X	
1,2,3,4,5,6,7,8,11, 12	Ling Cod (Burbot)	<i>Lota lota</i>				X	
1,3,7,8,11	Minnows	<i>Cyprinidae</i> Family Many Genus				X	
1,3,4,5,6,7,8,10,11, 12, 14	Northern Pike (Jackfish)	<i>Esox lucius</i>				X	
1,2,3,4,5,7,8,11, 12, 14	Suckers	<i>Catostomus spp.</i>				X	
1,2,3,4,5,6,7,8, 12, 14	Trout, brook Trout, lake Trout, rainbow	<i>Salvelinus fontinalis</i> <i>Salvelinus namaycush</i> <i>Oncorhynchus mykiss</i>				X	
3,4,6,7,8,11, 12	Trout-Perch	<i>Percopsis omiscomaycus</i>				X	
1,2,3,4,5,6,7,8,10,11, 12, 14	Walleye (Pickerel)	<i>Stizostedion vitreum vitreum</i>				X	
1,2,3,4,5,6,7,8,11, 12, 14	Whitefish, lake Whitefish, mountain	<i>Coregonus clupeaformis</i> <i>Prosopium williamsoni</i>				X	
7, 8, 11	Yellow Perch	<i>Perca flavescens</i>				X	

¹ Spiritual (S), Domestic (D), Medicine (M), Food (F), Economic (E).

*Information Sources::

1. Fort McKay Environment Services Ltd. (1996).
2. Fort McKay (1994).
3. Shell Canada Limited (2002).
4. Syncrude Canada Limited (1996).
5. ACFN (2003 a, 2003b).
6. TrueNorth Energy (2002).
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10. Husky Sunrise (2004b).
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14. FMFN (2006)

Table 14.5-4: Traditional Use of Plants

Information Source	Common Name	Latin Name (Genus, species)	Significance ¹			
			S	D	M	F
Trees						
1,2,3,4,5,6,7,8, 11, 15	Birch (white or paper birch)	<i>Betula papyrifera</i>	X	X	X	X
1,2,3,4,6,7,8,11, 15	Fir, balsam	<i>Abies balsamifera</i>	X	X	X	
1,2,3,4,5,6,7,8,9, 11, 15	Pine, jack	<i>Pinus banksiana</i>	X	X	X	
1,2,3,4,5,7,8, 15	Pine, lodgepole	<i>Pinus contorta</i>		X	X	
1,2,3,4,5,6,7,8,9, 11	Aspen, trembling (white poplar)	<i>Populus tremuloides</i>		X	X	X
1,2,3,4,5,6,7,8,9, 10,11	Poplar, balsam (black poplar)	<i>Populus balsamifera</i>		X	X	X
1,2,3,4,5,6,7,8,9, 10,11, 15	Spruce, black	<i>Picea mariana</i>		X	X	X
1,2,3,4,5,6,7,8, 10,11, 15	Spruce, white	<i>Picea glauca</i>		X	X	
1,2,3,4,5,6,7,8,9,11	Tamarack/Larch	<i>Larix laricina</i>		X	X	
Shrubs						
1,2,3,4,6,7,8,9,11	Alder, river	<i>Alnus tenuifolia</i>		X	X	
2,3,4,6,7,8, 11	Alder, green	<i>Alnus crispa</i>		X	X	
7,11	Bearberry, alpine	<i>Arctostaphylos rubra</i>				X
1,2,3,4, 6,7,8,9,11	Bearberry, common (kinnickinnik)	<i>Arctostaphylos uva ursi</i>	X	X	X	X
3,4,6,7,8,11, 13	Birch, bog	<i>Betula pumila</i>		X	X	X
1,2,3,4,5,6,7,8,9,10,11, 12, 13, 14, 15	Blueberry	<i>Vaccinium myrtilloides</i>			X	X
3,7,8,9,11	Buffaloberry (soapberry)	<i>Shepherdia canadensis</i>			X	X
1,2,3,4,5,6,7,8,11, 13, 15	Cherry, choke	<i>Prunus virginiana</i>		X	X	X
1,2,3,4,5,6,7,8,10,11, 12	Cherry, pin	<i>Prunus pennsylvanica</i>	X	X	X	X
6,9,11	Cinquefoil, shrubby	<i>Potentilla fruticosa</i>			X	X
2,3,4,5,6,7,8,9,10,11, 12	Cranberry, bog	<i>Vaccinium vitis-idaea</i>			X	X
1,2,4,5,6,10,11, 13, 14, 15	Cranberry, high-bush	<i>Viburnum opulus</i>			X	X
1,2,3,4,5,6,7,8,9,10,11, 13, 15	Cranberry, low-bush (mooseberry)	<i>Viburnum edule</i>			X	X
7,11	Crowberry	<i>Empetrum nigrum</i>			X	X
1,2,3,4,5,6,7,8,11	Currant, black & red	<i>Ribes spp.</i>			X	X
2,3,4,6,7,8,11	Dewberry/ Trailing raspberry	<i>Rubus pubescens</i>			X	X
1,2,3,4,6,7,8,9,11, 13	Dogwood, Red Osier (red willow)	<i>Cornus stolonifera</i>	X	X	X	
7,11	Gale, sweet	<i>Myrica gale</i>			X	X
1,2,3,4,5,6,7,8,11, 15	Gooseberry	<i>Ribes oxacanthoides</i>			X	X
1,2,3,4,6,7,8,11	Hazelnut, beaked	<i>Corylus cornuta</i>		X		X
3,4,6,7,8,11, 15	Honeysuckle, bracted	<i>Lonicera involucrata</i>			X	
3,4,6,7,8	Honeysuckle, fly	<i>Lonicera caerulea</i>			X	
3,4,6,7,8,11, 15	Honeysuckle, twining	<i>Lonicera dioica var. glaucescens</i>			X	
1,2,3,4,6,7,8	Huckleberry	<i>Vaccinium spp.</i>				X
1,2,3,4,6,7,8,11, 15	Juniper, common/ ground	<i>Juniperus communis</i>			X	X

Information Source	Common Name	Latin Name (Genus, species)	Significance ¹			
			S	D	M	F
1,3,4,5,6,7,8,9,10,11,15	Labrador tea (muskeg)	<i>Ledum groenlandicum</i>			X	X
1,2,3,4,5,6,7,8,9,10,11,13,14,15	Raspberry, wild red	<i>Rubus idaeus</i>			X	X
8,11	Rose, common wild	<i>Rosa woodsii</i>			X	X
1,2,3,4,5,6,7,8,9,11,15	Rose, prickly	<i>Rosa acicularis</i>			X	X
1,2,3,4,5,6,7,8,9,10,11,13,15	Saskatoon	<i>Amelanchier alnifolia</i>		X	X	X
2,3,4,6,7,8,11	Snowberry	<i>Symphoricarpos albus</i>			X	
1,2,3,4,6,7,8,9,11,13	Willow (general)	<i>Salix</i> spp.	X	X	X	X
Herbaceous Plants						
7,11	Arrow-grass, seaside	<i>Triglochin maritima</i>	X		X	
3,4,6,7,8,11	Aster, showy	<i>Aster conspicuous</i>	X		X	
3,4,6,7,8	Bedstraw, northern	<i>Galium boreale</i>	X	X		
3,4,6,7,8,11	Bedstraw, sweet scented	<i>Galium trifolium</i>	X	X		
7,11	Buck-bean	<i>Menyanthes trifoliata</i>				
1,3,4,6,7,8,11	Bulrush	<i>Scirpus</i> spp.			X	X
1,2,4,5,6,7,8,9,11	Bunchberry (dogwood)	<i>Cornus canadensis</i>			X	X
1,3,4,6,7,8,9,11	Cattail, common	<i>Typha latifolia</i>		X	X	X
1,3,4,7,8	Chamomile, scentless	<i>Matricaria matricariodes</i>			X	X
7,11	Cinquefoil, marsh	<i>Potentilla palustris</i>				
3,4,6,7,8,11	Cloudberry	<i>Rubus chamaemorus</i>			X	X
3,4,6,7,8,11	Dock, western	<i>Rumex occidentalis</i>		X	X	
9,11	Fireweed	<i>Epilobium angustifolium</i>			X	X
7,11	Goldenrod, Canada	<i>Solidago canadensis</i>			X	X
3,4,6,7,8,11	Harebell	<i>Campanula rotundifolia</i>			X	
1,3,4,6,7,8,11	Horsetail	<i>Equisetum</i> spp.		X	X	
7,11	Meadow Rue	<i>Thalictrum</i> spp.	X	X	X	X
1,2,4,5,6,7,8,9,10,11,13,15	Mint, wild	<i>Mentha arvensis</i>	X	X	X	X
1,3,4,6,7,8,11	Nettle, common	<i>Urtica dioica gracilis</i>	X	X	X	X
6,11	Pineapple weed	<i>Matricaria matricariodes</i>	X	X	X	
3,5,6,7,8,11	Pitcher plant (green frog plant)	<i>Sarracenia purpurea</i>	X	X	X	X
1,3,4,6,7,8,11	Plantain, common	<i>Plantago major</i>	X	X	X	X
2,3,7,8,11	Raspberry, dwarf	<i>Rubus acaulis</i>			X	X
1,2,3,4,5,6,7,8,10,11,13,15	Rat root (sweet flag)	<i>Acorus calamus</i>			X	X
5,15	Sagewort	<i>Artemisia</i> spp.		X	X	X
3,4,6,7,8,11	Sarsaparilla, wild (rabbit root)	<i>Aralia nudicaulis</i>		X	X	X
2,3,4,6,7,8,11	Seneca-root (snake-root)	<i>Polygala senega</i>			X	
	Siberian Yarrow	<i>Achillea sibirica</i>			X	
1,2,3,4,5,6,7,8,9,10,11,13,15	Strawberry, wild	<i>Fragaria virginiana</i>			X	X
2,3,5,7,8,11,15	Sweetgrass		X		X	
1,3,4,6,7,8,11	Tansy, common	<i>Tanacetum latifolia</i>			X	X
1,2,3,4,6,7,8,11,15	Twisted stalk	<i>Streptopus amplexifolius</i>				X
7,11	Water-parsnip	<i>Sium suave</i>			X	X

Information Source	Common Name	Latin Name (Genus, species)	Significance ¹			
			S	D	M	F
4,7,8	Wintergreen, white	<i>Pyrola eliptica</i>			X	
2,4, 6,7,8,12	Wintergreen, common pink	<i>Pyrola asarifolia</i>			X	
1,3,4,6,7,8,9,12,	Yarrow, common	<i>Achillea millefolium</i>			X	
Mosses and Lichens						
3,4,6,7,8,9,12	Club moss, stiff	<i>Lycopodium amnotinum</i>	X		X	
9,	Freckle pelt	<i>Peltigera aphthosa</i>		X	X	
7,9,12	Reindeer lichen	<i>Cladina</i> spp.		X	X	
1,3,4,6,7,8,9,10,11,12	Sphagnum moss	<i>Sphagnum</i> spp.		X	X	
Fungi/ Mushrooms						
2,3,4,5, 6,7,8,9,	Puff balls	<i>Lycoperdon</i> spp.			X	
2,3,5,7,8,9,11, 13, 15	Willow fungus	--		X	X	
3,4,6,7,8	Red touchwood fungus	<i>Echinodontium tinctorium</i>			X	X
3,4,6,7,8	Rock tripe	<i>Umbilicaria</i> spp.				X
3,4,6,7,8	Canadian Tuckahoe fungus	<i>Polyporus tuberaster</i>			X	X
3,4,6,7,8	Bracket fungus	<i>Fomes officinalis</i>		X	X	X
3,4,6,7,8	Bracket fungus	<i>Fomes pinicola</i>		X	X	

¹ Spiritual (S), Domestic (D), Medicine (M), Food (F).

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15. FMFN (2006)

14.5.4 Current Use of the TLSA

As the site is somewhat remote and not easily accessible for most of the year, few Fort McKay community members have used this area in recent times. This is corroborated in comments received at the 10 September 2007 field visit to the lease area when all five community members commented that they had never been to the TLSA.

Supporting this, published regional traditional resource use studies by Fort McKay community members speak to the low use of the TLSA. One half of the TLSA has been identified as an area of 'low use' to sustain traditional ways of life while the remaining half of the TLSA has not been identified as being an area of use for traditional activities by Fort McKay community members (Figure 14.2-1).

GLIMPS (June 2011) indicates that four registered traplines intersect and/or cross parts of the TLSA. Trapline #2902 intersects the northwest quadrant of the TLSA. Trapline #2905 intersects the northeast quadrant of the TLSA. Trapline #2940 intersects the southeast quadrant of the TLSA while Trapline #2926 intersects the southwest quadrant of the TLSA (Section 14.6.5 and Figure 14.5-1). Of these four trapline holders, Trapline #2926 is the only trapline registered to a Fort McKay community member. The Fort McKay community member and family indicate very limited use of the area because of the lack of access (Registered Fur Management Area #2926, 2011 pers. comm.).

In addition to the identified traplines within the TLSA, two cabin sites have been identified. One of the cabins is located on the east side of Telephone Lake, while the other cabin is located on the south side of an unnamed lake and near to a traditional trail (Figure 14.5-2). Another cabin has been located within the TURSA on an unnamed lake southwest of the TLSA while a cabin ruin has been identified just north of Otter Lakes within the TURSA.

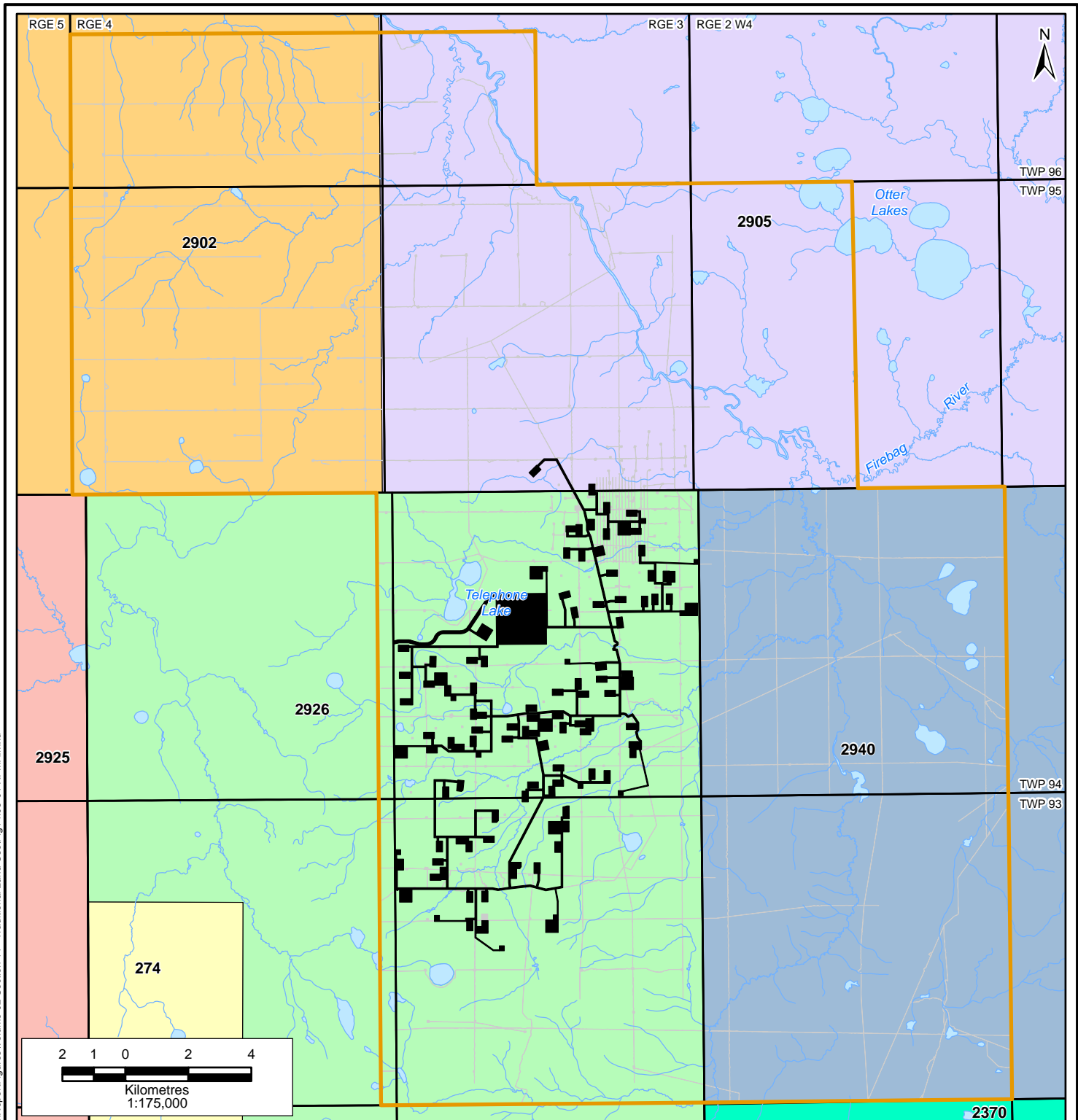
That the TLSA is supportive of traditional plant harvesting activities is suggested by comments and plant identification received during the 10 September 2007 field visit. Table 14.5-5 references traditional plants identified during the site visit.

Table 14.5-5: Traditional Plants Identified and Referenced During the 10 September 2007 Site Visit

Plants Identified	Cultural Significance			
	R	D	M	F
Labrador tea (muskeg)	–	–	X	X
Bearberry, common (kinnickinnik)	X	X	X	X
Blueberry	–	–	X	X
Cherry, pin	X	X	X	X
Sagewort	–	X	X	X
Sweetgrass	X	–	X	–
Spruce, black (cones)	–	–	X	–
Diamond Willow fungus	–	X	X	–
Birch (white)	X	X	X	X
Wild onion	–	–	X	X

X = Gathered for traditional use: Ritual (R), Domestic (D; includes building), Medicine (M), or Food (F).

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- Legend**
- Terrestrial LSA
 - Telephone Lake Project Footprint
 - Baseline Disturbance
 - Open Water
 - Watercourse
- Registered Fur Management Area**
- 274
 - 2370
 - 2902
 - 2905
 - 2925
 - 2926
 - 2940

Source: Cenovus, Spatial Data Warehouse Ltd.



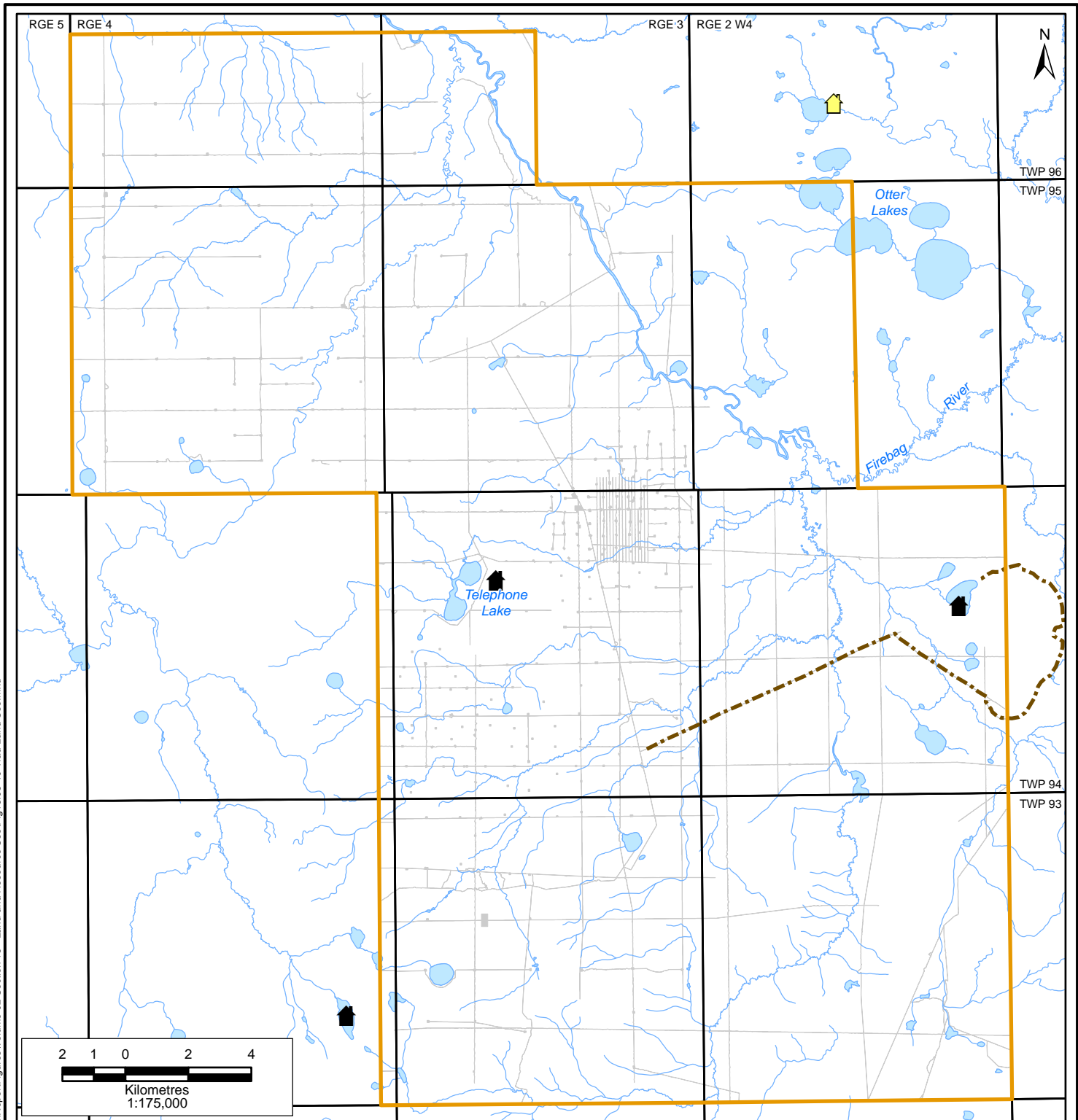
Cenovus TL ULC
Telephone Lake Project

Registered Fur Management Areas

DATE: December 2011		Fig14.05-01 RFMA 11-12-05	
PROJECT: CE0339901		PROJECTION/DATUM: UTM Zone 12 NAD83	
ANALYST: KW	QA/QC: KW RK EH	PROVIDED BY: AMEC	FINAL MAPPING BY: AMEC

Figure
14.5-1

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- Legend**
- Terrestrial LSA
 - Baseline Disturbance
 - Open Water
 - Watercourse
 - Traditional Trail
 - Cabin Location
 - Cabin Ruin Location

Source: Cenovus, Spatial Data Warehouse Ltd.



Cenovus TL ULC
Telephone Lake Project

Traditional Cabins and Trails

DATE: December 2011		Fig14.05-02 Trad Land Use 11-11-22	
PROJECT: CE0339901		PROJECTION/DATUM: UTM Zone 12 NAD83	
ANALYST: KW	QA/QC: KW KZ EH	PROVIDED BY: AMEC	FINAL MAPPING BY: AMEC

Figure 14.5-2

No grave sites or salt licks have been identified within the TLSA. A traditional trail appears to originate/terminate close to the cabin located on the south side of an unnamed lake within Trapline #2940 (Figure 14.5-2).

14.6 Application Case

This section describes the potential Project-related impacts that may occur to traditional resources and land uses. From the Aboriginal perspective, impacts to traditional lifestyles are a product of interactions with the quality, abundance, and access to traditional resources. The Application Case assessment is based upon the full Project layout. However, with staged development and progressive reclamation, the total area disturbed at one time will be much less than assessed. Therefore, the assessment is conservative.

Increased access can result in increased impact to traditional lands and traditional activities. Access includes, but is not confined to, networks of man-made disturbances such as roads, off-road trails, and cut lines, combined with natural features such as streams, creeks and upland trails. Access varies seasonally and is dependent upon mode of transport (truck, off-road vehicle, foot). Disruptions or changes to individual features of a particular access network may not restrict access altogether, but may inhibit ease of movement through the network.

Presently, the relative remoteness and limited access of the TLSA have been identified as likely reasons why the TLSA is used infrequently by Fort McKay community members and others for traditional activities. However, construction of the proposed Project will improve access into the area and will potentially increase the opportunities for traditional activities and recreational opportunities for all user groups. It is hard to predict the number and balance of traditional and non-traditional users that will use the area once additional access has been created. Increased access for traditional users is generally understood to be a positive impact while increased access for non-traditional users is generally viewed as a negative impact to existing and potential traditional land use.

For safety and security reasons, access to the central processing facility will be controlled by Cenovus during construction and operations.

14.6.1 Mitigation

Mitigation strategies and monitoring programs will be designed to incorporate TEK. Strategies to mitigate and manage Project-specific impacts include:

- continue use of the constraints approach to avoid impact to sensitive species and areas;
- reclaim using vegetation communities that may include a variety of plant species with value for TLU;
- adhere to the 100 m buffer in place adjacent to all watercourses;
- minimize disruptions to trapline permit holder's access to trapline areas overlapping the Project through the development of an access management plan;

- provide compensation to trapline permit holders for direct loss of trapping opportunities;
- where practical, maintain access to trails and other significant sites during operations and reclamation;
- share environmental information about the traditional land with the affected Aboriginal groups as they develop their TEK approaches;
- provide opportunities for local Aboriginal employment and business opportunities for Aboriginal businesses; and
- consider flexible employment opportunities to allow participation in the non-traditional economy.

14.6.2 Traditional Plant Harvesting

The potential impacts associated with Project development on traditionally used plants and berries is assessed in detail in [Volume 2, Section 11.6.4](#). The impacts to these vegetation communities were predicted to be moderate magnitude but after reclamation, the final impact will be low ([Volume 2, Section 11.6.4](#)).

Therefore, the impacts on potential traditional plant harvesting are considered to be negative in direction, local in geographic extent and of moderate magnitude. The duration of impact is long-term, as impacts to traditional plant harvesting will last until the end of the operational life of the Project, and until reclamation is complete. The frequency of the impacts is seasonal, as plants are harvested primarily in the summer and fall. Coupled with the remote location of the TLSA and the infrequency of recent reported use, the confidence in these predictions is good and the final impact rating is low.

14.6.3 Hunting

Despite the relative remoteness and limited use of the TLSA by Fort McKay community members, the TLSA supports a wide range of animals conducive to traditional hunting activities ([Volume 2, Section 12.0](#)). During the 10 September 2007 field visit, community members spotted two bull moose near the Firebag River. Coyote and possible caribou or moose tracks were spotted on a sand dune located just south of the Firebag River within the TLSA.

Construction of the proposed Project will result in improved access into the TLSA and the PPA. This may increase potential traditional hunting in the areas previously inaccessible due to remoteness. Therefore, the direct impact on traditional hunting activity is positive, the geographic extent of the impact is defined as local and the magnitude of the impact is low. The duration of impact is long-term, as impacts will last until the end of the operational life of the Project, and until subsequent reclamation restores baseline conditions. The frequency of the impacts is continuous. Coupled with the remote location of the TLSA and the reversible nature of the impact, the confidence in these predictions is good and the final impact rating is low.

14.6.4 Fishing

Fishing is an important activity for the community of Fort McKay. Presently, the relative remoteness and limited access to the TLSA limits fishing opportunities for the Fort McKay. However, with improved access into the Proposed Project Area (PPA), this may increase potential fishing opportunities, thereby positively impacting the availability of traditionally-used fish species.

Fish abundance is related to the suitability of fish habitat. Due to the 100 m setback from all watercourses and lakes ([Volume 2, Section 3.0](#)), no direct loss or alteration of habitats supporting traditionally-used fish species is expected ([Volume 2, Section 9.0](#)).

Within the TLSA, Telephone Lake is the closest lake to the PPA, though white sucker is the only large-bodied fish species documented in the lake. With the current development scenario, the proposed access road into the PPA is located approximately 320 m from Telephone Lake.

Given this potential positive Project impact to fishing, the geographic extent is defined as local. The duration of the impact is long-term and the magnitude of the impact is low. The frequency of the impacts is continuous as fishing is practiced year round. Coupled with the remote location of the TLSA and the reversible nature of the impact, the confidence in these predictions is good and the final impact rating is low.

14.6.5 Trapping

Trapping continues to be an important activity in the TLSA. Traplines overlapping with the TLSA are shown in [Figure 14.5-1](#). Details of the trapline registered to a Fort McKay community member that may be impacted by Project development are shown in [Table 14.6-1](#).

Table 14.6-1: Impact to Traditional Trapping Opportunities for a Fort McKay Community Member in the TLSA

Registered Fur Management Areas (Trapline #)	Area of Trapline (ha)	Trapline Overlap with TLSA (%)	Trapline Overlap with Project (%)
2926	44,276	44.9	3.6

Approximately 45% of Trapline #2926 falls within the TLSA and approximately 3.6% could potentially be lost to Project development. This may be offset somewhat, however, by the increased access into the TLSA, which may allow for greater use of this area. The Project is assessed as having a negative impact on Trapline #2926 with the geographic extent being local and the magnitude being moderate. The duration of the impact is long-term, as potential impacts to trapping on this trapline may extend beyond the operational life of the Project, depending on when fur-bearing animals return to the local area, and depending on reclamation timing and success. The frequency of the effects is seasonal since trapping is a seasonal activity. The likelihood of this event occurring is high, the confidence in these predictions is high and the final impact rating is moderate. Cenovus will continue to work with RFMA holder #2926 to enhance any of the positive impacts and mitigate any negative impacts.

14.6.6 Cabin Sites, Burial Sites and Other Significant Areas

Trapline #2926 has two cabins located in the TLSA (Figure 14.5-2). Trapline #2905 has one cabin ruin located in the TLSA and Trapline #2940 has one cabin and a traditional trail located in the TLSA.

With the exception of the cabin located on Telephone Lake (in Trapline #2926 located within the TLSA), all cabins are located at a considerable distance from the Project. It is understood from communication with the cabin owners that the cabin located on Telephone Lake is not currently in use. Therefore, the direction of impact on these cabins is neutral.

14.6.7 Summary

Table 14.6-2 summarizes the Application Case impacts for the Project.

Table 14.6-2: Project Specific Impacts on Traditional Land Use Indicators

Attribute or Indicator Assessed	Direction	Geographic Extent	Magnitude	Duration	Frequency	Reversibility	Confidence	Project Impact Rating
Traditional plant harvesting activities in traditional lands	Negative	Local	Moderate	Long-Term	Seasonal	Reversible	Good	Low
Hunting activities for traditionally hunted animal species	Positive	Local	Low	Long-Term	Continuous	Reversible	Good	Low
Fishing activities in traditional lands	Positive	Local	Low	Long-Term	Continuous	Reversible	Good	Low
Trapping activities on traplines in traditional lands	Negative	Local	Moderate	Long-Term	Seasonal	Reversible	Good	Low
Cabin Sites, Burial Sites and Other Significant Areas	Neutral	–	–	–	–	–	–	–

14.7 Planned Development Case

Cenovus recognizes that the Project and other proposed, approved and existing regional developments will have cumulative impacts on TLU. The following discussion contains quantitative information based on the intersection of existing developments, approved developments and other proposed developments with TLU at the regional and local scale as well as qualitative information based on consultation with the directly affected Aboriginal communities in the region.

Traditional resource use varies across the TURSA. Most of the intense use is associated with waterways, particularly the Athabasca River valley and lakes to the west of Fort McKay.

With respect to direct impacts on traplines belonging to the community of Fort McKay and overlapping the TLSA, there is no operating or approved development that would interfere with trapline activities in the TLSA (Figure 14.7-1). Proposed development overlapping the TLSA consists only of the Project, and the potential impact to Trapline #2926 from the Project has been discussed in Section 14.6.

Cabin vandalism and theft are also potential impacts of concern to trappers. In addition to these direct disturbances, regional developments will potentially result in indirect disturbances including changes in water systems, noise, access changes, increased traffic and increased recreational use of the area. Increased access and use of the area by traditional users could be tempered by greater competition for the same resources between traditional and non-traditional resource users accessing the area at the same time.

Trapping is only one activity that comprises the traditional culture of the Fort McKay. Hunting, fishing, and plant gathering are also important activities practiced on a regional scale. The loss of TLU and cultural practices on the landscape as an existing overall trend could be further impacted by cumulative effects.

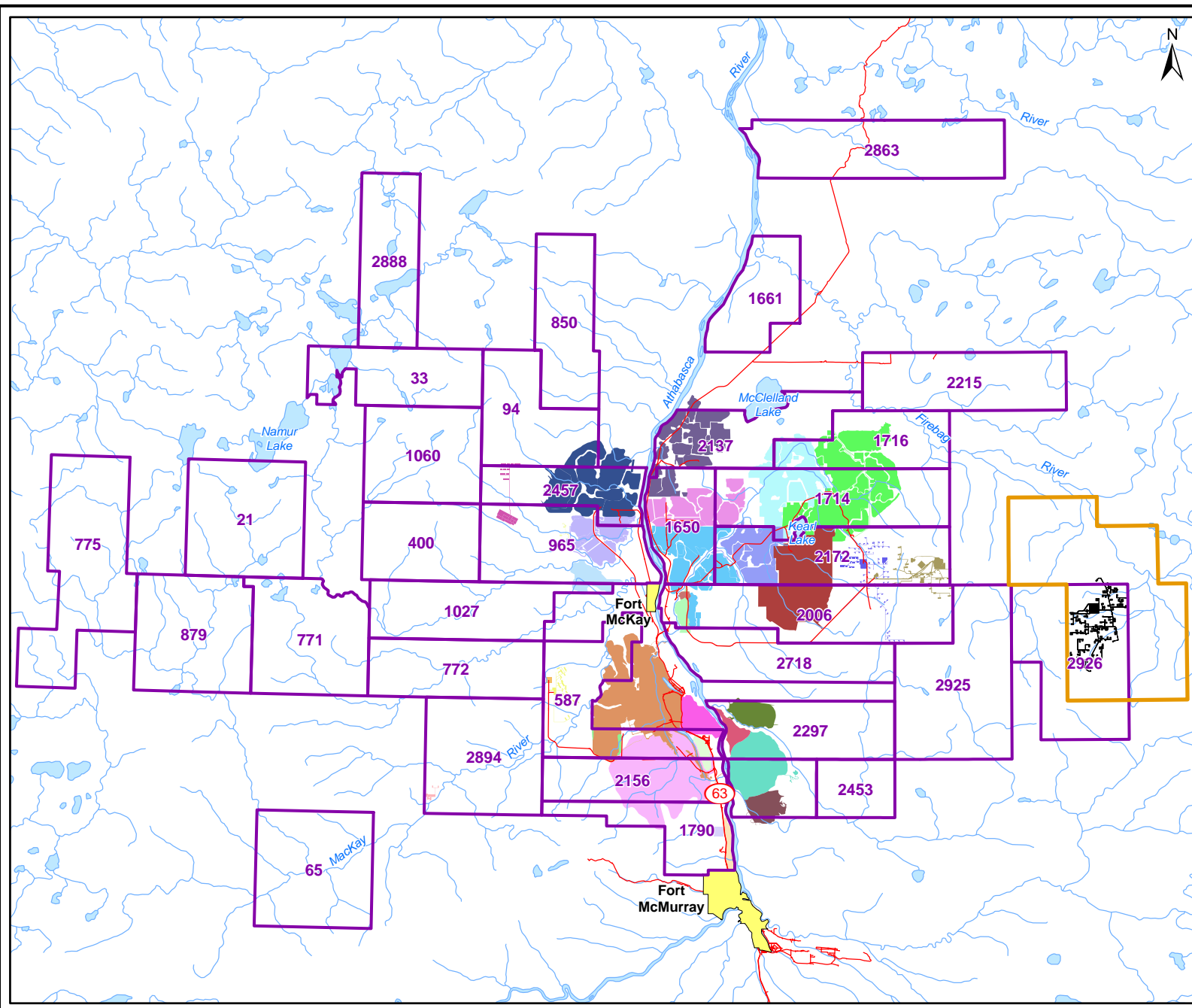
Quantitative calculations are based upon the Project footprints of existing, approved and proposed developments. Where Project footprints were not available (as was the case with some proposed developments), the lease area was conservatively used to approximate the potential cumulative loss of traditionally used land to regional developments. Figure 14.7-2 identifies the developments overlapping with the TURSA that were considered for the cumulative assessment. The cumulative impacts to the traditional territory of the Fort McKay from operating, approved and planned development are shown in Table 14.7-1.

Table 14.7-1: Operating, Approved and Planned Development Impacts to Traditional Lands

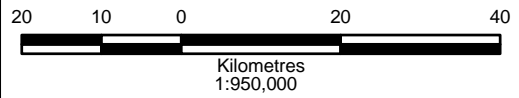
Area	Total	Project Disturbance		Regional Baseline Disturbance		Regional Cumulative Disturbance		Project Contribution to Regional Cumulative Disturbance
	ha	ha	%	ha	%	ha	%	%
Fort McKay Traditional Lands	3,523,479	1,606.43	0.05	126,209	3.58	174,358	4.95	0.92

Baseline disturbance covers approximately 126,209 ha (3.58%) of the total traditional territory within Alberta belonging to Fort McKay (Figure 14.7-2). With the addition of approved and proposed projects, disturbed area will increase to 174,358 ha (4.95%) of the total traditional territory within Alberta of the Fort McKay. The Project represents less than 1% (0.92%) of the total regional, cumulative development disturbance.

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- Legend**
- Terrestrial LSA
 - Fort McKay Community Trapline
 - Telephone Lake Project Footprint
 - Open Water
 - Watercourse
- Operating and Approved Developments**
- CNRL - Horizon
 - Hammerstone Corp. - Muskeg Valley Quarry
 - Husky/BP - Sunrise
 - Imperial/ExxonMobil - Kearn Lake
 - Shell Albian Sands - Jackpine Phase 1
 - Shell Albian Sands - Muskeg River & Expansion
 - Suncor - Base & Millennium Upgraders
 - Suncor - East Athabasca Highway
 - Suncor - Firebag
 - Suncor - Fort Hills
 - Suncor - MacKay River
 - Suncor - Millennium
 - Suncor - North Steepbank Extension
 - Suncor - South Tailings Pond
 - Suncor - Steepbank
 - Suncor Energy Inc. - Dover
 - Syncrude - Aurora North
 - Syncrude - Aurora South
 - Syncrude - Mildred Lake
 - Syncrude - SWSS
 - Value Creation - Terre de Grace Pilot
- Planned Developments**
- E-T Energy - Poplar Creek
 - Hammerstone Corp. - Hammerstone
 - Parsons Creek Aggregates - Limestone Quarry
 - Shell Albian Sands - Jackpine Phase 2
 - Southern Pacific - STP-McKay
 - Suncor - Voyageur South
 - Suncor - Voyageur Upgraders
 - Total E&P - Joslyn North Mine
 - Total E&P - Joslyn SAGD
 - Total E&P - Joslyn South Mine



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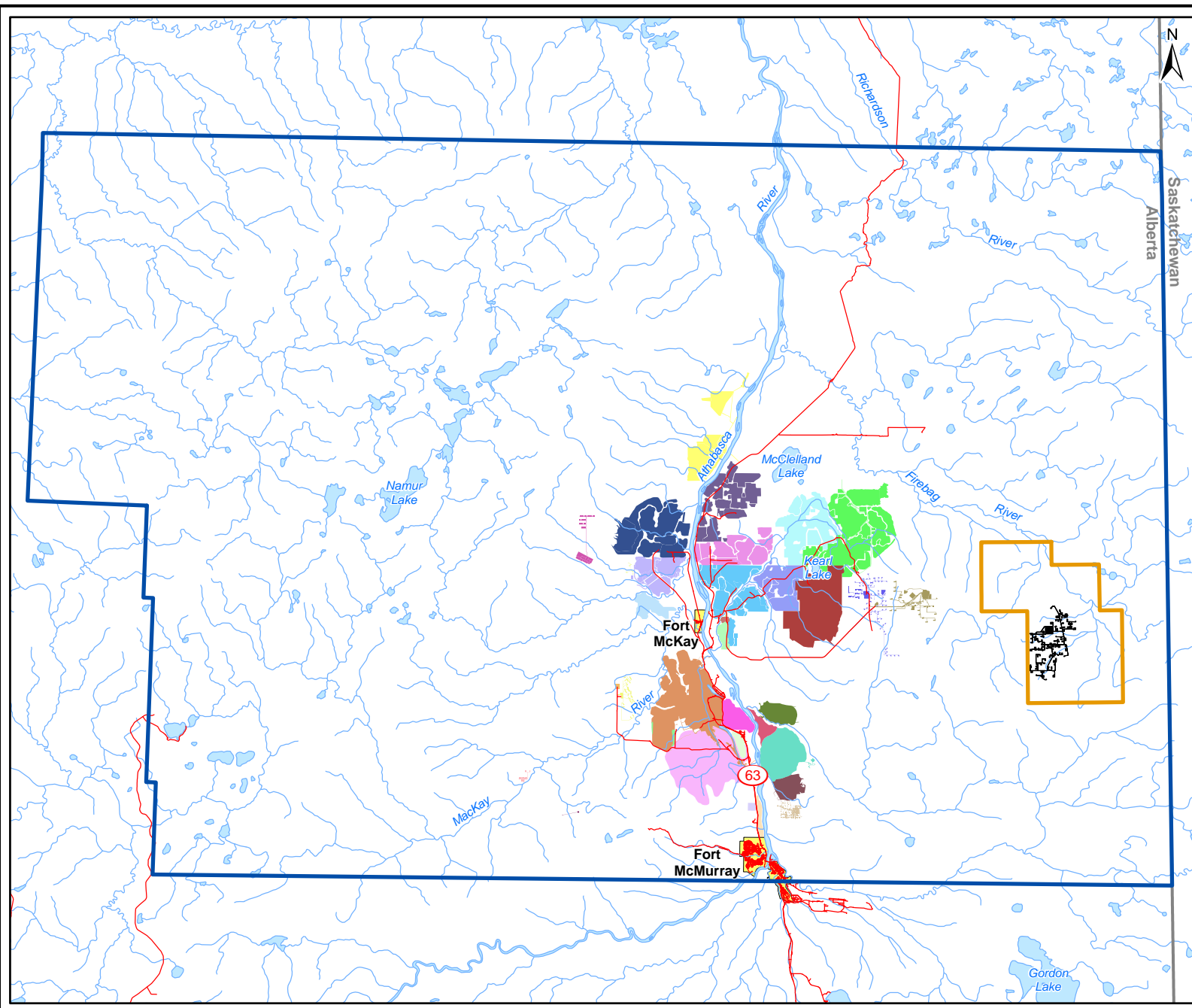
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Overlap of Operating and Approved Planned Developments within Traplines Belonging to the Fort McKay Community

DATE: December 2011		Fig14.07-01 OAPD Trpin FMFN 11-11-22	
PROJECT: CE0339901		PROJECTION/DATUM: UTM Zone 12 NAD83	
ANALYST: KW	QA/QC: KW KZ EH	PROVIDED BY: AMEC	FINAL MAPPING BY: AMEC

Figure
14.7-1

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Legend

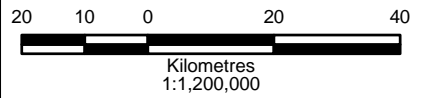
- Terrestrial LSA
- Fort McKay FN Traditional Territory
- Telephone Lake Project Footprint
- Open Water
- Watercourse

Operating and Approved Developments

- Athabasca Oil Sands - MacKay River
- CNRL - Horizon
- Hammerstone Corp. - Muskeg Valley Quarry
- Husky/BP - Sunrise
- Imperial/ExxonMobil - Kearl Lake
- Shell Albian Sands - Jackpine Phase 1
- Shell Albian Sands - Muskeg River & Expansion
- Suncor - Base & Millennium Upgraders
- Suncor - East Athabasca Highway
- Suncor - Firebag
- Suncor - Fort Hills
- Suncor - MacKay River
- Suncor - Millennium
- Suncor - North Steepbank Extension
- Suncor - South Tailings Pond
- Suncor - Steepbank
- Suncor Energy Inc. - Dover
- Syncrude - Aurora North
- Syncrude - Aurora South
- Syncrude - Mildred Lake
- Syncrude - SWSS
- Value Creation - Terre de Grace Pilot

Planned Developments

- E-T Energy - Poplar Creek
- Hammerstone Corp. - Hammerstone
- Ivanhoe - Tamarack
- Parsons Creek Aggregates - Limestone Quarry
- Shell Albian Sands - Jackpine Phase 2
- Shell Albian Sands - Pierre River
- Southern Pacific - STP-McKay
- Suncor - Voyageur South
- Suncor - Voyageur Upgraders
- Total E&P - Joslyn North Mine
- Total E&P - Joslyn SAGD
- Total E&P - Joslyn South Mine



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Overlap of Operating and Approved and Planned Developments within Fort McKay FN Traditional Territory

DATE: December 2011		Fig14.07-02 OADP FMFN 11-11-22	
PROJECT: CE0339901		PROJECTION/DATUM: UTM Zone 12 NAD83	
ANALYST: KW	QA/QC: KW EH CGS	PROVIDED BY: AMEC	FINAL MAPPING BY: AMEC

Figure 14.7-2

For the total traditional territory of the Fort McKay, the magnitude of cumulative impacts to TLU and TEK is low, negative in direction, regional in geographic extent, long-term in duration, of continuous frequency, and the confidence in this assessment is moderate. The overall cumulative development impact rating is low, and the Project contribution to these impacts is rated as low. Mitigation for lost trapping opportunities due to development are provided through compensation paid to the trapper(s) by the developers according to the established Sustainability Department compensation matrix which relates type of activity to cash compensation. Additionally, trappers are encouraged to become involved in the business or employment opportunities that are available on or near their trap lines.

14.8 Monitoring

Cenovus will continue to work and consult with the Aboriginal communities that may be affected by the Project. Once additional TLU information is available, Cenovus will work to incorporate the information into Project planning where reasonable.

14.9 Summary

At a local scale and after the implementation of mitigation, the potential Project impacts to Fort McKay TLU activities are judged to be low (positive) for hunting, low (positive) for fishing, low (negative) for trapping, low (negative) for plant harvesting and neutral for all cabin sites. Direct disturbances to land resulting from Project development will result in a low impact to trapping opportunities on Trapline #2926.

The development of multiple projects in the region has resulted, and will continue to result, in impacts to traplines associated with the Fort McKay community, and to lands considered to be Fort McKay traditional territory. The contribution of the Project to regional cumulative effects on traplines and traditional lifestyles is low (less than 1%). Reclamation of other regional developments and progressive reclamation will restore much of the land to a state suitable for long-term traditional resource use.

Impacts on the TLU of other communities in the region will be assessed once discussions and studies with those communities have been completed.

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