

Appendix 19-A

Land Use and Access Baseline Report



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Land Use and Access Baseline Report

Crown Mountain Coking Coal Project

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Acronyms, Abbreviations, Definitions

ALC	Agricultural Land Commission
AIR	Application Information Requirements
BC EAA	British Columbia Environmental Assessment Act
BC EAO	British Columbia Environmental Assessment Office
CEAA	Canadian Environmental Assessment Act
EA	Environmental Assessment
km	Kilometre
ha	Hectares
LSA	Local Study Area
MFLNRO	Ministry of Forest, Lands, Natural Resource Operations and Rural Development
NTFP	Non-Timber Forest Products
OGMA	Old Growth Management Area
RDEK	Regional District of East Kootenay
RSA	Regional Study Area
TSA	Timber Supply Area
WMU	Wildlife Management Unit

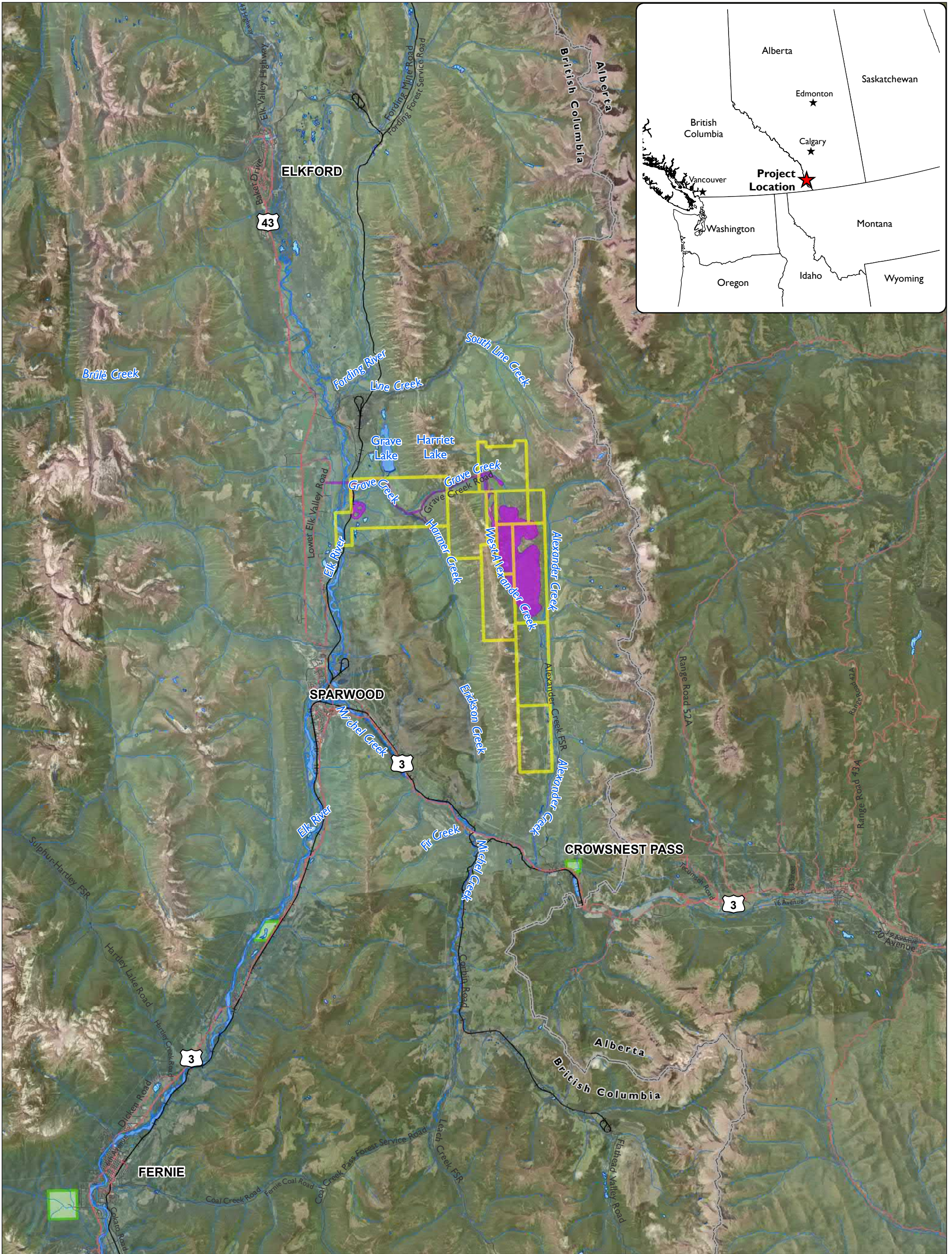
1.0 Introduction

1.1 Project Overview

NWP Coal Canada Ltd (NWP) is proposing to develop the Crown Mountain Coking Coal Project (the Project), an open pit metallurgical coal mine located in the Elk Valley coal field in the East Kootenay Region of south eastern British Columbia .The Project comprises ten coal licences, covering a total area of approximately 5,630 hectares (ha), referred to as the “Project property”.

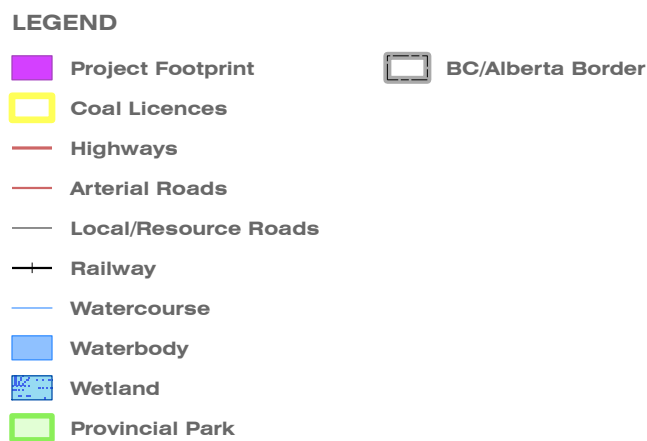
The Project is located between several existing metallurgical coal mines in the Elk Valley, the nearest being Teck Coal Limited’s (Teck) Elkview Operations (8 kilometres [km] to the southwest) and Line Creek Operations (12 km to the north). The Elk Valley and Crowsnest coal fields are home to 5 of Canada’s 23 producing coal mines. The coal mines in the area produce over 21 million tonnes per annum of export quality metallurgical and thermal coal and represent over 70% of Canada’s total coal exports annually, making the Elk Valley coal field the most productive in the country. Exploration activities have indicated that the coal at the Project site is typical of coking coals produced from existing mines in the Elk Valley. The Project is expected to produce approximately 10,150 tonnes per day (tpd) and up to 4.0 million run-of-mine tonnes per year for 15 years. The high quality metallurgical coal would be transported via railway to coastal BC, where it would be shipped overseas to be used in steelmaking. The centre of the Project’s property (i.e., coal licences) is located approximately 12 km northeast of the District Municipality of Sparwood, British Columbia (**Figure 1-1**). The site is currently not within an organized municipality. By road, the Project is situated approximately 30 km from Sparwood. The Project is accessed by several local roads, including Grave Creek Road in the northwest and Alexander Creek Road from the south.

If approved, the proposed Project would create a new coal mine within the Elk Valley, influencing the local socio-economy, particularly the communities of Sparwood, Elkford, Crowsnest Pass, and Fernie. The high quality metallurgical coal would be transported via railway to the Port of Vancouver and subsequently shipped overseas for use in steelmaking.



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Project Location and Footprint Figure 1-1



MAP DRAWING INFORMATION: Data Provided by Province of British Columbia, NWP Coal Canada Ltd, Dillon Consulting Limited

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MAP CHECKED BY: DM
MAP PROJECTION: NAD 1983 UTM Zone 11N



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Key mine components include, but are not limited to:

- Surface extraction areas (3 pits – north pit, east pit, and south pit);
- Waste rock management areas;
- Plant area (includes raw coal stockpile area, a processing plant, shops, and offices);
- Clean coal transportation route (via an overland conveyor and haul road);
- Rail loadout facility and rail siding;
- Power supply;
- Natural gas supply;
- Explosives storage;
- Fuel storage;
- Sewage treatment; and
- Water supply.

The Project is subject to both the *Canadian Environmental Assessment Act (CEAA) 2012* and the *British Columbia Environmental Assessment Act (BC EAA) 2002*. Characterization of baseline land use and access conditions is required to assess potential effects on land use as a result of Project activities.

This report is organized as follows:

- **Section 2.0** describes the study boundaries;
- **Section 3.0** presents the methods used for the baseline study;
- **Section 4.0** presents a description of land use and access baseline conditions;
- **Section 5.0** provides a summary of land use and access baseline conditions;
- **Section 6.0** presents references cited in this report; and
- **Section 7.0** provides a glossary of terms used in this report.

1.2 Purpose

The purpose of this baseline report is to describe the existing land and resource use (referred to frequently as the “land use and access”) environment in the defined study areas. The description of the existing (or baseline) environment provides the basis for determining potential changes to land use conditions in the study area as a result of the proposed Project. This information will be used to:

- Identify potential effects of Project construction and operations on the current land uses and conditions;
- Determine suitable mitigation and benefit enhancement measures;
- Identify residual adverse effects after mitigation; and
- Evaluate the significance of residual adverse effects once mitigations have been taken into account.

1.3 Scope

Valued Components (VCs) are the foundation for the assessment of Project effects on the natural and human environment that have scientific, ecological, economic, social, cultural, aesthetic, archaeological, or historical importance. The selection of appropriate VCs helps to ensure a focused, meaningful, and effective assessment of potential effects.

VCs scoped into the assessment were based on the provincial Pre-Application process and associated requirements, including the Valued Components for Environmental Assessment (NWP, 2016) and related guidance document (EAO, 2013) and the Project Application Information Requirements (AIR; EAO, 2018). Issues raised during consultation on the Valued Components for Environmental Assessment document (NWP, 2016), the draft AIR, and consultation with the Ktunaxa Nation Council were considered in the selection of VCs. VCs were also scoped into the assessment based on the federal terms of reference for the Project, specifically the Environmental Impact Statement Guidelines (CEAA, 2015).

The Land Use and Access Baseline Report describes the baseline conditions for two VCs, the Land Use and Access VC and the Recreation and Tourism VC. Four measurement indicators were identified for the Land Use and Access VC and three measurement indicators were identified for the Recreation and Tourism VC. These measurement indicators are listed in **Table 1-1**.

Table 1-1: Valued Components and Measurement Indicators

Valued Component	Measurement Indicators
Land Use and Access	<ul style="list-style-type: none"> • Implementation and consistency of land use designations • Implementation and use of land use policies • Access to resource harvesting areas for recreation purposes • Quality of recreational and tourism experiences
Recreation and Tourism	<ul style="list-style-type: none"> • Recreational use (e.g. hunting, ATV trails, fishing, hiking, etc.) • Quality of recreational and tourism experiences • Noise and Air Quality

Source: B.C. Environmental Assessment Office [EAO], 2018.

The land use and access baseline conditions presented in this report addresses the current land use and access environment and trends at the regional and local level. This report provides an overview of land use planning and designations as well as land use, tenures, and access at the regional and local level.

2.0 Study Boundaries

Baseline conditions are described for the Land Use and Access Regional Study Area (RSA) and Local Study Area (LSA) as shown in **Figure 2-1**.

2.1 Temporal Boundaries

The land use and access assessment is bounded temporally by the four phases of the Project. The assessment will consider:

- **Construction and Pre-Production** – Period from the start of construction to the beginning of operation; anticipated to begin in 2022 and be 19 months in duration.
- **Operations** – Period from operation of the site and production extending until closure, including maintenance activities associated with the site; anticipated to begin in 2023 or 2024 and extend 15 years.
- **Reclamation and Closure** – Encompasses the execution of the closure plan for the site and reclamation; anticipated between 2039 and 2047 and to occur over 2 years.
- **Post-Closure** – Includes activities related to reclamation, environmental effects and geotechnical monitoring, and decommissioning (Project Year 19 to Project Year 34).

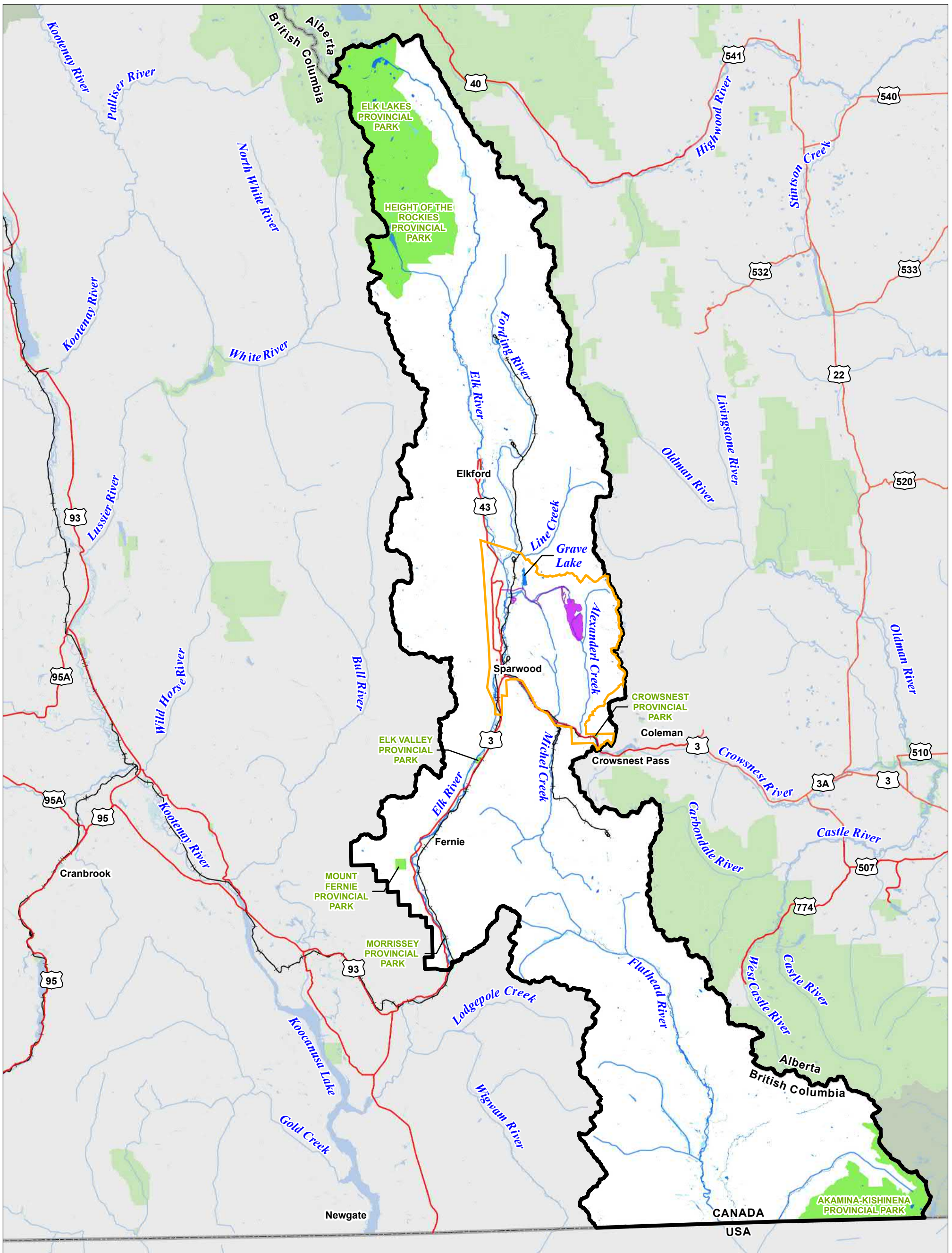
2.2 Study Areas

The study areas were determined based on the potential for Project effects on the existing land use and access environment. The spatial extent of the land use and access environment study areas were determined considering the following:

- Project activities;
- Project location;
- Physical extent of potential project and cumulative effects; and
- Provincial, regional, and local government administrative boundaries.

The Project is also in the asserted traditional territory of the Ktunaxa Nation, which consists of the following four Ktunaxa member communities:

- Akisq'nuk (Columbia Lake) First Nation;
- ʔAq'am Community (St. Mary's Band);
- Yaqaan Nukiy (Lower Kootenay Indian Band); and
- ʔakinkumʔasnuqʔit (Tobacco Plains Indian Band).














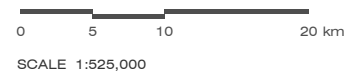
Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Land Use and Access Study Areas

Figure 2-1

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|---|--|---|-------------------|
|  | Land Use and Access Regional Study Area (Electoral Area A) |  | Highways |
|  | Land Use and Access Local Study Area |  | Railway |
|  | Project Footprint |  | BC/Alberta Border |
|  | National Park | | |
|  | Provincial Park/Protected Area | | |
|  | Waterbody | | |
|  | Wetland | | |
|  | Watercourse | | |



MAP DRAWING INFORMATION:
Data Provided by NWP Coal Canada Ltd, Dillon Consulting Limited,
Province of British Columbia GeoBC Open Data, Government of
Alberta Open Data, Natural Resource Canada

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MAP PROJECTION: NAD 1983 UTM Zone 11N



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Information related to the Ktunaxa Nation's non-traditional land use is referenced in this baseline report. Non-traditional land use activities referenced in this report include commercial activities and interests.

The following sections describes the three identified study areas including: Project Foot Print, Local Study Area (LSA) and Regional Study Area (RSA).

2.2.1 Project Footprint

The Project footprint (**Figure 1-1**) is the directly affected area and represents the anticipated area of physical disturbance associated with the construction and operation of the Project. The Project footprint covers approximately 1,300 ha and is positioned approximately 12 km northeast of the Sparwood and approximately 5 km west of the provincial boundary between B.C. and Alberta. This area includes both permanent (e.g., mine site) and temporary (e.g., laydown areas, utility lines, etc.) project components.

Key components of the proposed Project include, but are not limited to:

- Surface extraction areas (3 pits – north pit, east pit, and south pit);
- Waste rock management areas;
- Interim and main sediment ponds;
- Plant area (includes raw coal stockpile area, a processing plant, and site support facilities);
- Clean coal transportation route (via an overland conveyor and haul road);
- Rail load-out facility and rail siding (includes various auxiliary facilities);
- Power supply;
- Natural gas supply;
- Explosives storage;
- Fuel storage;
- Sewage treatment; and
- Water supply.

2.2.2 Local Study Area

The Land Use and Access LSA includes the Project footprint and surrounding lands within which direct and indirect Project effects on land use and access may occur. The LSA includes the majority of the District Municipality of Sparwood (**Figure 2-1**). There are some sections of the District Municipality of Sparwood that are outside of the LSA (north and south of the LSA). These areas are not with the LSA due to their distance from the Project footprint and the expectation that these areas would not be subject to the same level of effect as lands that are close to the Project footprint. While not in the LSA, these areas are within the RSA. In addition, the LSA encompasses:

- Access management areas (i.e., Alexander Creek Access Management Area and Grave Prairie Access Management Area);
- Private land holdings (e.g., Conservations Lands);
- Existing areas of Agricultural Land Reserve (ALR) land; and
- Trapline areas and existing trapping cabins identified through BC Data and primary data collection program.

2.2.3 Regional Study Area

The Land Use and Access RSA is the regional area within which direct and indirect effects¹ may occur from the Project. The RSA is inclusive of both the Land Use and Access LSA and the Project footprint and includes the boundaries of the Electoral Area A of the Regional District of East Kootenay (**Figure 2-1**). Local residents as well as people who live outside the RSA may be affected through the Project's potential effects to outdoor recreation activities and public access. Potential land use and access effects in the RSA are expected to be of less significance than effects in the LSA.

The RSA includes the communities of Elkford, Sparwood, and Fernie and rural areas surrounding these communities.

¹ Indirect Effects are defined by CEAA as secondary environmental effects once removed from the cause-effect pathway that occurs as a result of the project (CEAA, 2019).

3.0 Data Collection Methodology

Data and information collection undertaken to describe land use and access baseline conditions was completed by conducting preliminary desktop (secondary) research, supplemented by conducting key informant interviews and stakeholder engagement (primary research). Secondary research was conducted through 2018, 2019, and 2020. Primary research was conducted through 2020. Data collected through secondary and primary research was summarized and sorted by land use category for presentation in this report.

3.1 Secondary Research

The main source of land use and access baseline information collected through desk-based research was spatial data available through existing government databases such as BC Data Catalogue. This valuable source of spatial data provides information on topics such as tenures, land use, designations, and land use activities.

In addition, baseline information was also collected from the following sources:

- Regional District of Kootenay (RDEK) publications;
- Municipal studies and reports;
- Provincial and national government studies and reports;
- Private sector and professional association reports;
- Internet sites;
- Internet publications;
- Spatial databases (e.g., BC Data, Trails BC, Canvec, etc.);
- Academic research; and
- Completed environmental assessments (EAs) and related baseline studies for other projects situated in close proximity to the Project.

A full list of referenced sources is included in the **Section 6.0**.

Table 3-1 below provides a list of areas of interest considered for baseline conditions characterization and their sources. Areas of interest provide the basis for developing a robust description of land use and access, which may be impacted by the Project. These areas of interest were selected to form the basis for indicators to be used in the land use and access impact assessment. Indicators used will be reflective of areas of interest and will be based on the data available for collection within the baseline reporting.

Table 3-1: Land Use and Access Research Sources

Valued Component	Measurement Indicators	Secondary Sources
Land Use and Access	<ul style="list-style-type: none"> Implementation and consistency of land use designations 	<ul style="list-style-type: none"> Kootenay Boundary Land Use Implementation Strategy (1997) Elk Valley Consolidated Zoning Bylaw No. 829 (2020)
	<ul style="list-style-type: none"> Implementation of land use policies 	<ul style="list-style-type: none"> Kootenay Boundary Land Use Implementation Strategy (1997) Elk Valley Official Community Plan Bylaw No. 2532.
	<ul style="list-style-type: none"> Access to resource harvesting areas for recreation purposes 	<ul style="list-style-type: none"> Access Management Areas – Kootenay Region (2019)
Recreation and Tourism	<ul style="list-style-type: none"> Quality of recreation and tourism experiences^a 	<ul style="list-style-type: none"> Visiting Sparwood (2016) Fernie’s Tourism Master Plan (2020) Trails BC (2020)
	<ul style="list-style-type: none"> Recreational use (e.g. hunting, ATV trails, fishing, hiking, etc.) 	<ul style="list-style-type: none"> Trails BC (2020) Elkord Trails Association (n.d.) Fernie Trails Alliance (2020)
	<ul style="list-style-type: none"> Noise and Air Quality 	<ul style="list-style-type: none"> Noise and Air Quality data collected as part of Project studies

Notes: (a) the quality of recreation and tourism experiences is a measurement indicator for both the Land Use and Access VC and the Recreation and Tourism VC.

3.2 Primary Research

Primary data collection was undertaken as part of land use and access baseline conditions. Primary data collection has contributed to land use and access baseline reporting and was used to verify secondary data collected and to inform further secondary data collection. Key informant interviews and discussions (via telephone and/or questionnaire) were conducted with stakeholders including external agencies (i.e., municipal government), community representatives, and relevant interest groups. More than 50 individuals were contacted including government representatives, land users, and other interest groups. Each stakeholder was provided a tailored list of questions relating to their knowledge base.

Participants were identified based on their ability to support the overall objectives of primary data collection with a focus on addressing knowledge gaps. Participants included representatives from local government, non-governmental organizations (NGO), recreation and tourism businesses, clubs, and other organizations relevant to land use and access within the study areas. A list of organizations contacted as well as copies of the interview guide questions are provided in **Appendix A**.

Fifty-three stakeholders were contacted between May 2020 and July 2020. Each stakeholder was contacted a minimum of three times for participation in the program including by phone and email. Of the stakeholders that were reached, 25 interviews were conducted and 15 stakeholders expressed that they were not willing to participate in the survey.

Findings from interviews conducted are included in this report. Further detail on land use and access primary data collection is included in **Appendix A**.

3.3 Data Challenges

The following data challenges and limitations were identified during land use and access baseline data collection:

- Overages or overlaps between data sets for spatial features;
- Incomplete data sets for spatial features;
- Secondary data available on land use and access features, including lack of sources and non-public information; and
- Not being able to receive information from all of the contacts identified as part of the primary data collection program.

The main challenge encountered in the land use and access baseline was the overages, or overlaps, between different data sets for spatial features. An overage occurs when two different datasets contain information related to the same feature. For example, in **Section 4.2.1**, roads identified in the Canvec (2020) dataset may overlap with transportation line features identified in the Digital Road Atlas (n.d) dataset. As a result, there is potential that these overages result in the double counting of features. In order to reconcile this issue, the overages have been reference clearly and appropriately in instances where overages were observed.

4.0 Description of Existing Land Use and Access Environment

4.1 Land Use Planning and Designations

NWP is proposing to develop the Crown Mountain Coking Coal Project (the Project), an open pit metallurgical coal mine located in the Elk Valley coal field in the East Kootenay Region of south eastern British Columbia .The Project comprises ten coal licences, covering a total area of approximately 5,630 hectares (ha), referred to as the “Project property”. All tenure licenses and the application are in good standing with the Province of British Columbia.

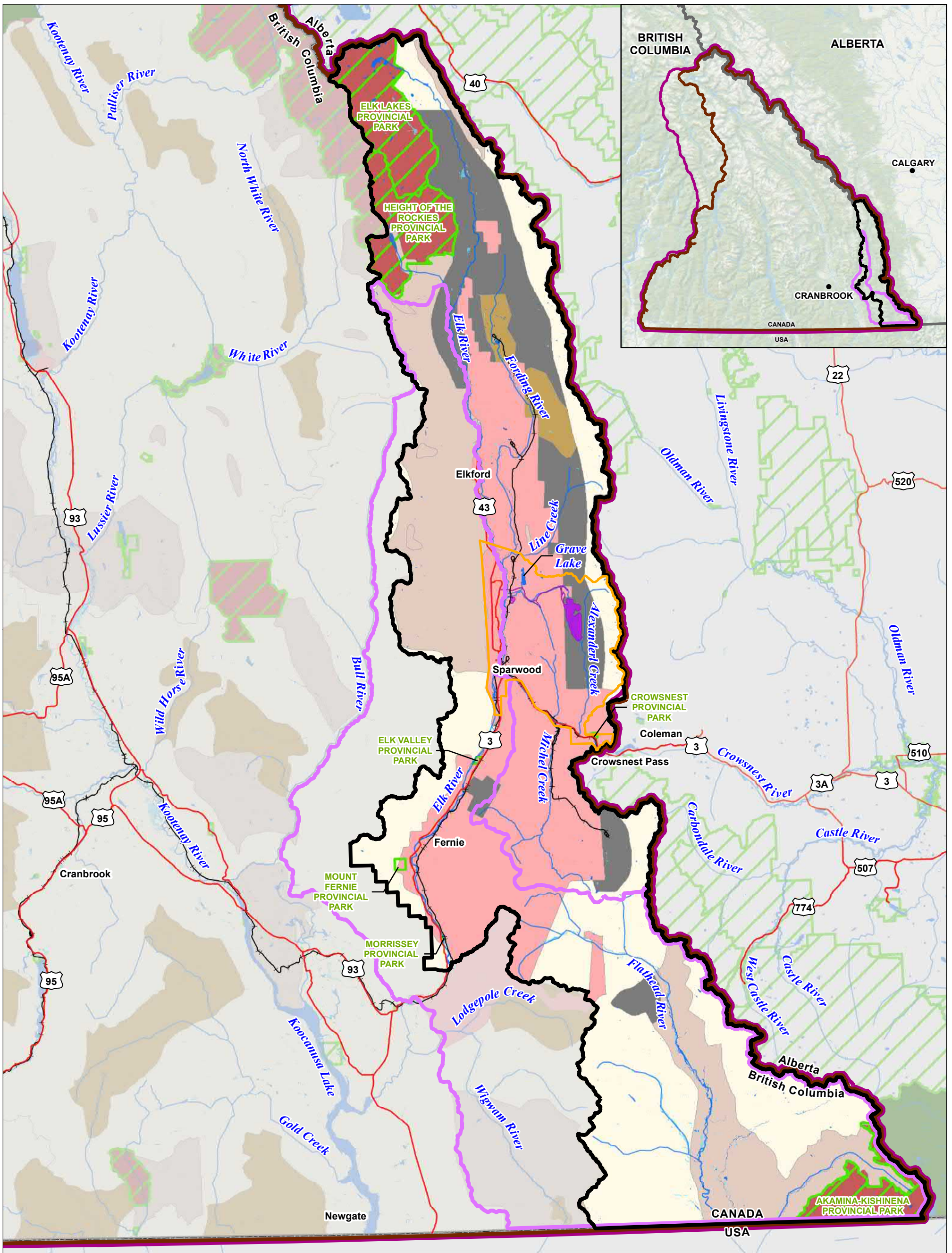
This section describes existing local, regional and provincial land use management plans as well as land use designations and zoning on and near the Project.

4.1.1 Regional Study Area

Regional Land Use Planning

In 1992, the BC government directed the development of a strategic-level land use plan to identify a comprehensive and integrative vision for land and resource use in the Kootenay-Boundary region. As a result, a regional land use planning process was conducted between 1993 and 1997.

Through this process, the East Kootenay Land Use Plan was completed in 1995. This 1995 Plan, which has since been retired, included land use designations of new protected areas, special resource management zones, integrated resource management zones and preliminary enhanced resource management zones. The East Kootenay Land Use Plan (1995) also committed provincial agencies to further regional land planning to refine the enhanced management zones. Accordingly, the Kootenay Boundary Land Use Plan Implementation Strategy (KBLUPIS) was released in 1997 (Kootenay Inter-Agency Management Committee, 1997). **Table 4-1** summarizes the land use designations, as outlined in the KBLUPIS, within the Land Use and Access RSA, LSA, and Project footprint (**Figure 4-1**).



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Kootenay Boundary Land Use Designations Figure 4-1

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- | | | |
|---|--|--------------------------------|
| Kootenay Boundary Land Use Plan Implementation Strategy | Private Land | Provincial Park/Protected Area |
| Kootenay Boundary Higher Level Plan Order | Integrated Resource Management Zone (IRMZ) | Waterbody |
| Southern Rocky Mountain Management Plan | Special Resource Management Zone (SRMZ) | Wetland |
| Land Use Designations | Land Use and Access Regional Study Area (Electoral Area A) | Watercourse |
| Coal ERDZ (Dedicated) | Land Use and Access Local Study Area | Highways |
| Enhanced Resource Development Zone (ERDZ) | Project Footprint | Railway |
| Protected Area | National Park | BC/Alberta Border |

0 5 10 20 km
SCALE 1:525,000
MAP DRAWING INFORMATION:
Data Provided By NWP Coal Canada Ltd, Dillon Consulting Limited,
Province of British Columbia GeoBC Open Data, Government of
Alberta Open Data, Natural Resource Canada
MAP CREATED BY: RBB
MAP CHECKED BY: DM
MAP PROJECTION: NAD 1983 UTM Zone 11N



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Table 4-1: Land Use Designations within the Study Areas

Land Use Designation	Land Use and Access RSA	Land Use and Access LSA	Project Footprint
Enhanced Resource Development Zone	Yes	Yes	Yes
Integrated Resource Management Zone	Yes	Yes	No
Protected Area	Yes	No	No
Special Resource Management Zone	Yes	Yes	No
Private Land	Yes	Yes	Yes

Source: (MFLNRO, 2020)

The main objectives of the KBULPIS (1997) include:

- Contribute to environmental, social, and economic sustainability;
- Reduce potential for disruptive land use conflicts;
- Support a secure and certain basis for public and private planning as well as investment in resource development and community planning;
- Integrate with other government strategic planning initiatives related to land and resource management; and
- Provide context and strategic direction for detailed, operational levels of land and resource management planning and decision-making.

The KBLUPIS (1997) applies to all public lands and waters in the Kootenay / Boundary regional planning area. It is important to note that the plan does not contain prescriptive direction for private land, rather, as noted above, it aims to provide strategic long-term direction to enhance security and certainty for private planning and investment in resource management.

The KBLUPIS also provides geographically specific resource management guidelines for individual resource values (e.g. connectivity, grizzly bears, ungulate winter range, etc.) (Kootenay Inter-Agency Management Committee, 1997). In 2001, specific provisions outlined in the KBLUPIS were legally established as higher level plan (i.e. the Kootenay-Boundary Higher Level Plan Order) under the *Forest Practices Code of British Columbia Act*. In 2002, the Kootenay-Boundary Higher Level Plan Order was revised and established new resource management zones and objectives. Since 2002, nine subsequent orders, or legal amendments, that vary the objectives outlined in the Kootenay-Boundary Higher Level Plan Order (2002) have been approved. However, only six remain effective, while the other three have since expired or been cancelled.

It is important to note that the objectives and guidelines outlined in the Kootenay-Boundary Higher Level Plan Order (2002) are not intended to impact the permitting of subsurface resource exploration and development. These objectives do not affect the operational plans for exploration, development, and production activities when authorized through the other legislation (i.e. *Mineral Tenure Act*, the *Coal Act*, and the *Mines Act*) (Ministry of Sustainable Resource Development, 2002).

Building off of the KPLUPIS (1997) and the Kootenay-Boundary Higher Level Order Plan (2002), in 2003, the Southern Rocky Mountain Management Plan was developed. This sustainable management plan covers the southern portion of the RSA, including Flathead and Wigwam, as well as the western portion of both the RSA and LSA, including the west side of the Elk River drainage. The Southern Rocky Mountain Management Plan (2003) provides the strategic direction for resource management on provincial Crown lands; it does not include federal lands, private lands, or protected areas. This Plan was amended in 2010 to reflect the BC Government's decision to prohibit mining, oil and gas, and coal exploration and development in the Flathead River Watershed. In 2011, the *Flathead Watershed Conservation Act* was introduced (Ministry of Sustainable Resource Management, 2003). Additional information on this restriction is provided in **Section 4.2.6**.

The 2005 Cranbrook West Recreation Management Strategy overlaps with a small section of the RSA (north of Sparwood only about 67 ha overlaps with the western boundary of the RSA) and provides the strategic-level direction on backcountry recreation. This plan does not consider industrial access. Since the implementation of this plan, access management areas and snowmobile restrictions have changed and take precedence where they differ from the Cranbrook West Recreation Management Strategy (Ministry of Sustainable Resource Management, 2005). Additional details on Access Management Areas intersected by the Project Study Areas is provided in **Section 4.2.8**.

Agricultural Land Reserve

The Agricultural Land Commission (ALC) is responsible for administering the *Agricultural Land Commission Act*. The Agricultural Land Reserve (ALR) is a provincial zone in which agriculture is recognized as a priority land use. Agriculture, farming, and other compatible land uses are permitted on these lands. Unless approved by the ALC, non-agricultural uses are restricted on these lands (ALC, 2014).

Within the Land Use and Access RSA, ALR areas are primarily located along with Elk River, which runs north to south through Elkford, Sparwood and Fernie. The RSA transects 13,396 ha of ALR land. Additional information on agricultural activity in the land use and access RSA is provided in **Section 4.2.3**.

Old Growth Management Areas

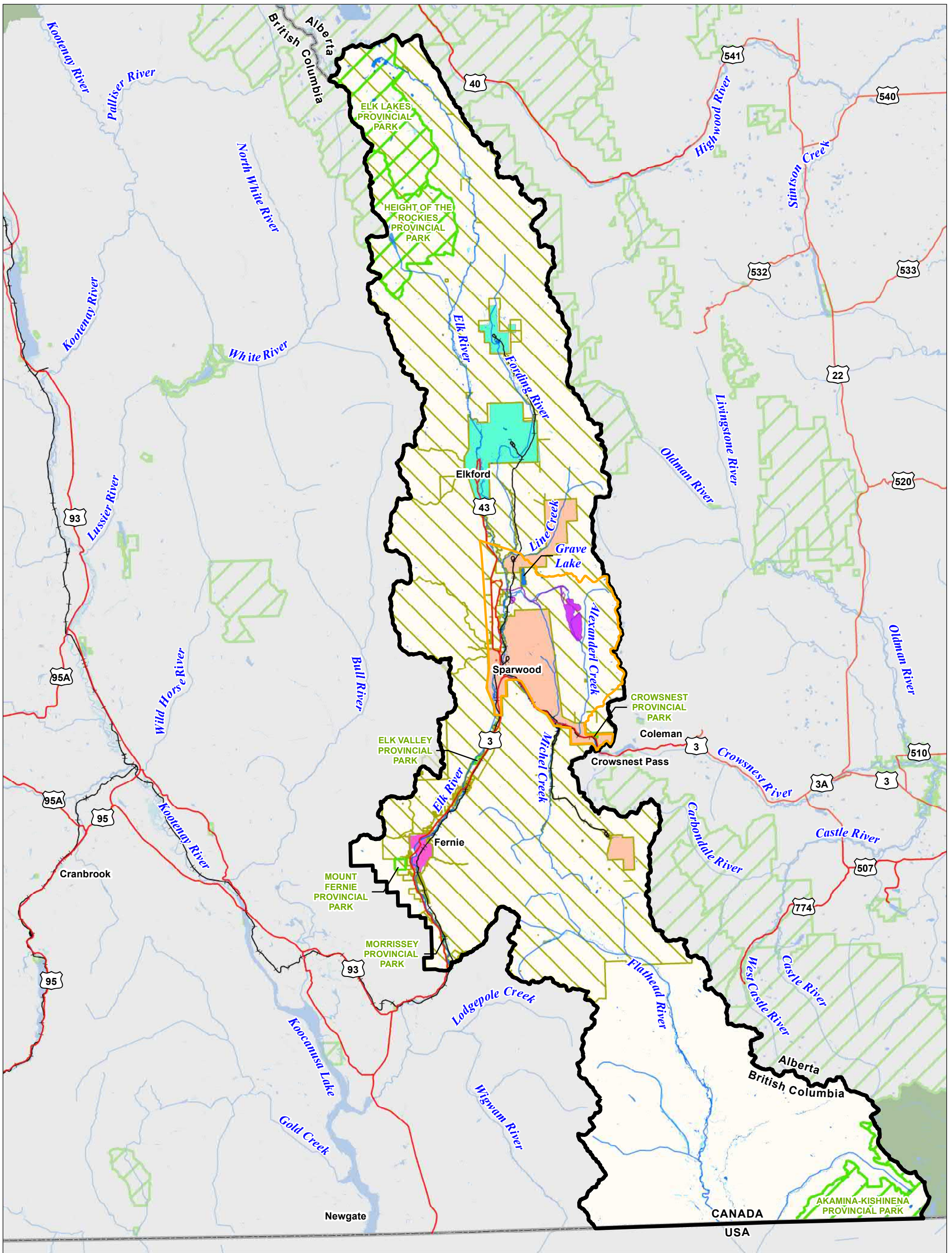
Old Growth Management Areas (OGMAs) are a mechanism to protect and attain old-growth forests and enhance biodiversity. The Kootenay Boundary Higher Order Plan (2002) provides legal direction for identifying and defining old and mature seral forests. This order outlines biodiversity emphasis targets for different seral stages by landscape unit and biogeoclimatic unit (Ministry of Sustainable Development, 2002). As previously noted, since 2002, there have been multiple orders that have been approved, which have amended and varied objectives, including the biodiversity emphasis targets and old mature forest objectives. Within the RSA, the 2005 amendment revised biodiversity emphasis options mapping to enhance timber and biodiversity management in the area.

In 2005, the *Forest Practices Code of British Columbia Act* was repealed and replaced largely by the *Forests and Range Practices Act*. This major change in government direction had implications in terms of how legal objectives related to OGMAs would be considered moving forward. In 2006, the Integrated Land Management Bureau decided not to legalize spatial OGMAs in the Southern Interior region. This was largely based on the view that existing legal objectives were deemed adequate (ILMB, 2007). Non-Legal OGMAs are spatially defined areas of old growth forest that are defined through operational planning or landscape unit planning processes. When preparing Forest Stewardship Plans, forest licensees are not required to follow OGMA direction and can choose to manage biodiversity targets through alternative methods. The RSA overlaps with 25,679.3 ha of non-legal OGMAs.

Municipal and Regional Zoning

The Elk Valley Official Community Plan (Elk Valley OCP), Bylaw No. 2532, (2014) identifies long-term strategies to guide land use and development within the planning area boundary. This plan encompasses the majority of the RSA. However, it excludes the City of Fernie, the District of Sparwood, and the District of Elkford; these three incorporated communities are responsible for land use zoning within their municipal boundaries. In addition, the land within the Fernie Alpine Resort Official Community Plan and the Island Lake Official Community Plan is also excluded from the Elk Valley OCP (RDEK, 2014a) (**Figure 4-2**)

The Elk Valley Zoning Bylaw No. 829 (1990) establishes permitted land uses. All rural land within the Elk Valley is presently zoned; private land owners are entitled to develop and use their land in accordance with the existing zoning of their property. Amendments to the Elk Valley Zoning Bylaw No. 829 are to be consistent with direction provided in the Elk Valley OCP (RDEK, 2014a).



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Official Community Plan Areas and Land Use Designations

Figure 4-2

LEGEND

- | | | |
|--|--------------------------------------|-------------------|
| Elk Valley Land Use Designation | Land Use and Access Local Study Area | BC/Alberta Border |
| Elk Valley Official Community Plan Area | Project Footprint | |
| Elkford Official Community Plan Area | National Park | |
| Fernie Official Community Plan Area | Provincial Park/Protected Area | |
| Sparwood Official Community Plan Area | Waterbody | |
| Land Use and Access Regional Study Area (Electoral Area A) | Wetland | |
| | Watercourse | |
| | Highways | |
| | Railway | |



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DATE: 2021-12-14

4.1.2 Local Study Area and Project Foot Print

Regional Land Use Planning

Under the KBLUIS (1997) designations, the Land Use and Access LSA overlaps with the following land use designations (**Figure 4-1**):

- **Coal Enhanced Resource Development Zones (ERDZ)** – This category is exclusively located within the East Kootenay region. This land use designation prioritizes coal mining exploration and development activities. It includes areas where the land is suitable, or potential suitable, for intensive coal resource development (Kootenay Inter-Agency Management Committee, 1997);
- **Integrated Management Zones** – The primary objective of this category is to balance environmental, economic, and social benefits from resource values within the zone. Resource management in these areas is intended to be guided by the distribution, availability, and sensitivity of resources (Kootenay Inter-Agency Management Committee, 1997); and
- **Special Resource Management Zones** – The priority of this category is maintain the integrity of special and sensitive values. Resource development is acceptable within this designation, however it may be subject to numerous conditions due to the fact that there is a greater concentration of conservation-oriented value features within the area (Kootenay Inter-Agency Management Committee, 1997).

The majority, approximately 68 percent, of the land in the LSA is designated as private land. The Coal ERDZ designation covers 20 percent of the LSA, the Integrated Resource Management Zone designation covers 11 percent, while one (1) percent is designated as Special Resource Management Zone.

The Project footprint is almost entirely, 1039.5 ha or 81 percent, located on provincial public lands designated as Coal - ERDZ. The remaining area, approximately 243.5 ha or 19 percent of the Project footprint, is situated on private land and not subject to provincial land use plans (Kootenay Inter-Agency Management Committee, 1997).

Under the Kootenay Boundary Higher Level Plan Order (2002), approximately one percent of the LSA has been identified as a connectivity corridor and one percent of the LSA has been identified as an Enhanced Resource Development Zone – Timber. Within the Project footprint approximately 24.5 ha, or two percent of the total Project footprint area, is designated as Enhanced Development Zone – Timber. Timber ERDZs can be located on both Crown land and private forestry land and represent priority areas for intensive timber management land.

Municipal and Regional Zoning

The primary purpose of the Elk Valley Official Community Plan (OCP) is to provide policy direction for the development of private land in the Elk Valley. However, the plan area covers large areas of Crown land and that Crown land does not fall under the jurisdiction of the Regional District of East Kootenay.

The LSA overlaps with 27,946.8 ha of the Elk Valley OCP, representing 66 percent of the LSA. The majority of this land, approximately 97 percent, is designated as Rural Resource, while two percent is designated as Open Space, Recreation and Trails (**Figure 4-12**). A description of these designations is provided below:

- **Rural Resource** – This land use designation supports agriculture, rural residential and rural resource land use, and recognizes the use of these lands for public utility, resource extraction, and greenspace and recreation.
- **Open Space Recreation and Trails** – This designation is intended to support greenspace, recreational amenities, agricultural use, local regional and provincial parks, and other protected areas such as wildlife corridors.

The remaining one percent of LSA land within the Elk Valley OCP includes a range of designations such as residential, institutional, and industrial.

The LSA also transects 14,393.7 ha of the District of Sparwood, approximately 34 percent of the LSA (**Figure 4-12**). Under the District of Sparwood Zoning Bylaw No. 264 (1981), the majority of this land, approximately 68 percent, has been zoned for industrial use, while approximately 27 percent of this land has been zoned for agricultural use. Examples of permitted uses on industrial zoned land include, but are not limited to, light manufacturing and processing, mineral extraction and processing, and logging and sawmills. Permitted uses on agricultural zoned lands include uses such as agriculture, silviculture, greenhouses, and family dwellings. The remaining five (5) percent has been zoned as commercial, institutional, mobile park home, public utility, recreation and open space, or residential. The Project footprint does not overlap with the District of Sparwood.

The Project footprint is located entirely within the Elk Valley OCP. Under the Elk Valley OCP, the majority of these lands, approximately 99 percent, are designated as Rural Resource, with the remaining one percent designated as Open Space, Recreation and Trails.

As previously noted, the Elk Valley Zoning Bylaw No. 829 (1990) establishes permitted land uses. The Project footprint currently overlaps with lands designated by the Elk Valley Zoning Bylaw No. 829 (1992) as Rural Resource (RR-60), and Rural Residential (RR-8). The majority of the Project footprint overlaps with Rural Resource Zone, approximately 1,272.4 hectares. Rural Resource Zones currently allow agricultural use, extraction of sand and gravel, and harvesting, transport, and storage of forest resources, wildland use, including cabins and backcountry commercial recreation lodges, in addition to other land uses (RDEK, 2019). The Project footprint also overlaps 1.99 ha of Rural Residential (Hobby Farm) Zone. Permitted uses on this land include agricultural land use, wildland use, single, and two family dwellings as well as other land uses (RDEK, 2019).

Agriculture

The LSA overlaps with 6,383.1 ha of ALR land and the Project footprint transects 96.7 ha of ALR land. Additional information on agricultural activity in the LSA is provided in **Section 4.2.3**.

Old Growth Management Areas

No legal OGMAs are located within the LSA or Project footprint. However, the LSA overlaps with 656.35 ha of non-legal OGMAs, while the Project footprint overlaps with 248.69 ha of non-legal OGMAs (MFLNRO, 2020a).

4.2 Land Uses, Tenures, and Access

The East Kootenay region is characterized by resource extraction industries such as mining and forestry and the contrasting landscape, which provides features for nature-based tourism and recreation. As result, land use within the region has a relatively high number of mining tenures and recreation opportunities. The prevalence of mining, in part, can enable outdoor recreation activities which can require higher disposable income. These landscape and natural features and resulting recreation opportunities can also attract seasonal populations and tourists.

Section 4.2 provides a summary of land uses, tenures, and access surrounding and within the Project footprint. This section provides a summary of relevant regulation, and a summary of land use features within the Land Use and Access RSA, Land Use and Access LSA, and Project footprint. The following land uses are considered within this section:

- Access;
- Parks and Protected Areas;
- Agriculture;
- Mining and Exploration;
- Forestry;
- Oil and Gas Development;
- Non-Timber Forest Products;
- Wildlife and Fish Harvesting; and
- Recreation and Tourism.

For each land use category, figures and geospatial data are provided summarizing the land use features transected by the Project Study Areas.

4.2.1 Access

4.2.1.1 Regional Study Area

Access to and within the Land Use and Access RSA is primarily via Highway #3 (Crowsnest Highway), a major east-west highway. Highway #3 provides access to the RSA through Fernie from the west and Crowsnest Pass from the east. In addition, Highway #43 (Elkford Highway) provides north-south connections between Elkford and Sparwood (**Figure 4-3**). In addition, the RSA transects a total of 1,751 roads segments² and over 18,000 transportation line features (Canvec, 2020; Digital Road Atlas, n.d.).

Within the RSA, there are two airports. The Elk Valley Airport located in Sparwood and the Elk Valley Hospital located in Fernie (MFLNRO, 2020b).

Canadian Pacific rail operates throughout the RSA, with rail lines running north-south, parallel to Highway #3 until Elkford where the rail line continues to Fording River. There is also an east-west line that begins in Sparwood and runs through Crowsnest Pass. The RSA transects the following Canadian Pacific rail subdivisions: Byron Creek, Cranbrook, Crowsnest, and Fording River (MFLNRO, 2020c).

4.2.1.2 Local Study Area and Project Footprint

Access infrastructure transected by the Land Use and Access LSA including the Project footprint is summarized in **Table 4-2**.

Table 4-2: Access Infrastructure in the Land Use and Access LSA

Access Feature	Project Footprint		Land Use and Access LSA	
	Number of Segments	Length (km)	Number of Segments	Length (km)
Airport	n/a	n/a	1	n/a
Railway	3	0.62	43	70.84
Roads	1	0.06	490	152.79
Transportation Line Features	156	51.51	3,313	1,088

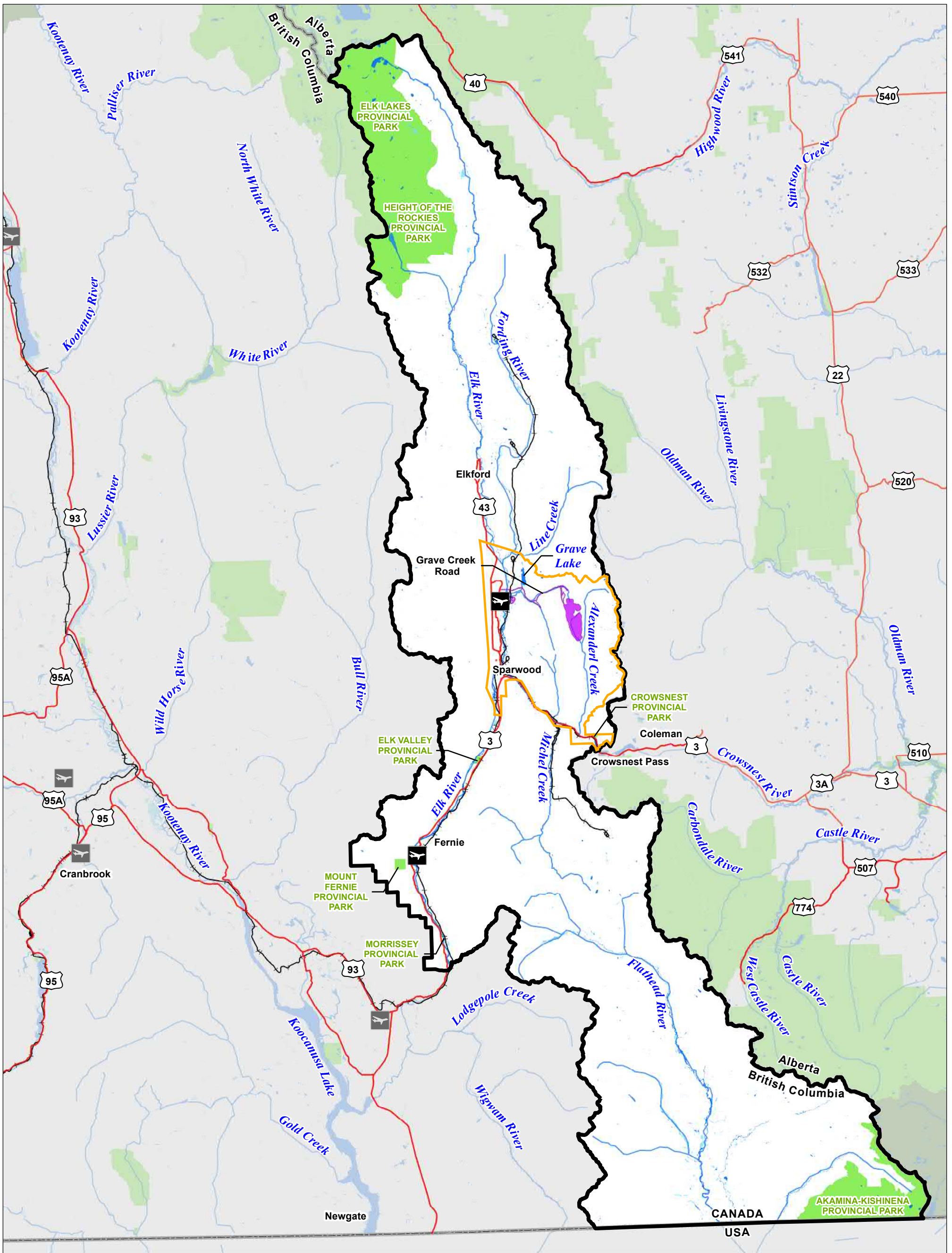
Sources: Canvec, 2020; Digital Road Atlas, n.d.

Notes: km = km; Data related to roads was source from Transportation Networks in Canada (Canvec, 2020) and data related to transportation line is from Digital Road Atlas, a BC geodatabase. There is potential for overlap between these two data sets.

Segment = Linear section of a transportation feature with uniform characteristics

Transportation Line Features = Includes multiple different types of features such as major and minor arterial roads, major and minor highways, local residential roads, resource roads, as well as all unknown or unclassified roads. In addition, transportation line features can include sections of unique structures such as bridges, causeways, and snowsheds (i.e. type of structure built over a roadway for avalanche control).

² A segments is defined as a linear section of a transportation feature with uniform characteristics.

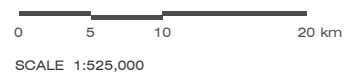


Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Transportation Land Use and Access Figure 4-3

LEGEND

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|--|--|--|-------------------|
| | Airport | | Waterbody |
| | Highways | | Wetland |
| | Railway | | Watercourse |
| | Land Use and Access Regional Study Area (Electoral Area A) | | BC/Alberta Border |
| | Land Use and Access Local Study Area | | |
| | Project Footprint | | |
| | National Park | | |
| | Provincial Park/Protected Area | | |



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Within the LSA, there is one airport. The Elk Valley Airport is located on the east side of Highway #43 between Sparwood and Elkford. This airport is not a commercial facility; it has a paved unlit runway intended for day-use only and limited winter maintenance. The Elk Valley Airport is used primarily by small, private pilots as well as the Forest Service during the summer months (RDEK, 2019b).

Within the LSA, there are 490 road segments, covering a total distance of 151 km (Canvec, 2020). These segments include multiple roads within the District of Sparwood and connecting to Crowsnest Pass. The LSA also intersects with multiple Forest Service Road (FSR), including Alexander Creek FSR, Alexander Creek Cut-Off FSR, Brule Creek FSR, Line Road, Scalehouse FSR, Nordstrum Creek FSR, Sulphur Spring FSR, and Valley FSR (Canvec, 2020).

In addition, the LSA transects multiple unnamed access roads, utility access roads, industrial roads, as well as other unnamed and unsigned roads (Canvec, 2020). The LSA also transects 3,313 segments of transportation line features, covering a total length of 1,088 km (Digital Road Atlas, n.d.).

The Project footprint is accessed by several FSRs, including the Grave Creek Road northwest of the northern coal tenure and Alexander Creek Road from the south (NWP Coal, 2014). The Project footprint overlaps 156 transportation line feature segments³, covering a total distance of 51.51 km (Digital Road Atlas, n.d.). The Project footprint transects 0.06 km of Grave Lake Road.

The LSA transects 43 segments, or 70.84 km, of Canadian Pacific rail lines. Within the Project footprint, there are three Canadian Pacific rail segments, extending 0.62 km through the Project footprint. The LSA also transects the following Canadian Pacific rail subdivisions: Cranbrook, Crowsnest, and Fording River (MFLNRO, 2020c).

4.2.2 Parks and Protected Areas

In BC, parks and protected areas are established, protected, and maintained to preserve natural and cultural values, while providing outdoor recreational and economic opportunities to surrounding communities (BC Parks, 2020a). In BC, Protected Lands and Waters designations include: all parks managed by BC Parks, all national protected area designations (e.g. National Parks), provincially administered conservation lands, and BC's private conservation lands. Within the Land Use and Access RSA, there are designated protected lands, including provincial parks, provincially administered conservation lands, and private conservation lands. In addition, there is one regional park managed by the RDEK. **Table 4-3** provides an overview of legislation pertaining to parks and protected areas in BC.

³ Transportation Line Features include multiple different types of features such as major and minor arterial roads, major and minor highways, local residential roads, resource roads, trails as well as all unknown or unclassified roads. In addition, transportation line features can include unique structures such as bridges, causeways, and snowsheds (i.e. type of structure built over a roadway for avalanche control. A transportation Line Segment is a section of a transportation line feature, as defined above, with uniform characteristics.

Table 4-3: Parks and Protected Areas Legislation

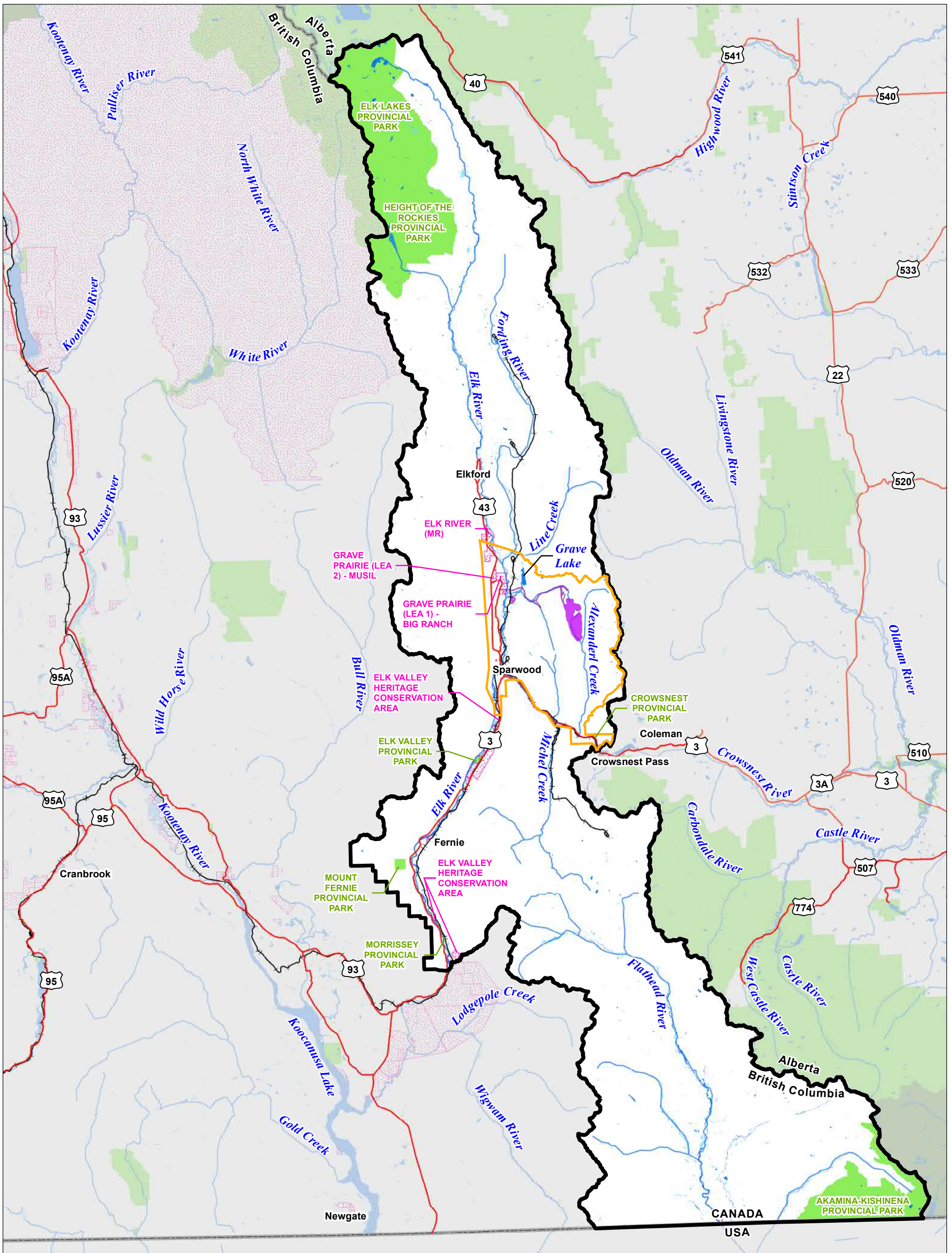
Legislation	Description	Regulatory Authority
<i>Park Act, RSBC 1996, C.344</i>	Provides for the establishment, classification and management of parks, conservancies and recreation areas. Under this Act, there are three classes of parks: Class A, B, and C.	BC MOE
<i>Protected Areas of British Columbia Act, RSBC 2000, C17</i>	Ensures that the boundaries of Class A parks, conservancies, and ecological reserves cannot be changed or removed, except through an Act.	BC MOE
<i>Land Act, SBC 1996. C. 245</i>	Governs the disposition, management, and administration of Crown land. The Act applies to land uses including, but not limited to, tourism/commercial recreation, agriculture, mining, oil and gas, airports, and community and institutional use.	MFLNRO

4.2.2.1 Regional Study Area

The RSA overlaps seven (7) Class A provincial parks, covering a total of area of 44,240 ha (**Figure 4-4**). These include:

- **Height of the Rockies Provincial Park** - Located on the northern boundary of the RSA;
- **Elk Lakes Provincial Park** - Located on the northern tip of the RSA;
- **Crowsnest Provincial Park** - Located southeast of Sparwood and in close proximity to Highway #3;
- **Elk Valley Provincial Park** - Located in close proximity to the Highway #3 and southwest of Sparwood;
- **Mount Fernie Provincial Park** - Located on the east side of Highway 3 and southwest of Sparwood;
- **Morrissey Provincial Park** - Located south of Fernie and along the Elk Valley River; and
- **Akamina – Kishinena Provincial Park** - Located at the south-east corner of the RSA boundary (BC Parks, 2020b).













In BC, there are two types of conservation lands: administered lands and non-administered lands. Administered conservation lands are lands over which the Province of BC has legal administrative and management authority (Province of BC, n.d.). Within the RSA, there are two administered conservation lands, including: Grave Prairie (LEA 1) – Big Ranch; and Grave Prairie (LEA 2) – Musil (MECCS, 2020). Wildlife Management Areas are also defined as administered conservation lands, these are defined and discussed in further detail in **Section 4.2.8**.

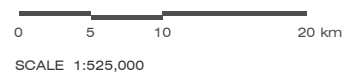


Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Parks and Protected Areas Figure 4-4

LEGEND

- | | |
|--|---|
|  National Park |  Watercourse |
|  Provincial Park/Protected Area |  Highways |
|  Conservation Land |  Railway |
|  Land Use and Access Regional Study Area (Electoral Area A) |  BC/Alberta Border |
|  Land Use and Access Local Study Area | |
|  Project Footprint | |
|  Waterbody | |
|  Wetland | |



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Comparatively, non-administered lands are defined as lands over which a recorded interest for fish and wildlife has been secured; however, administration and management authority has not been secured (Province of BC, n.d.). The majority of non-administered conservation lands have been withdrawn from the disposition under the *Land Act*. Within the RSA, there are three non-administered conservation lands, including Elk River, White River, and Flathead River (MECCS, 2020).

In addition, RDEK's Elk Valley Regional Park is located within the RSA. RDEK's Elk Valley Regional Park is located on the east side of Highway 43 between Sparwood and Elkford. This park is open from May 1 until September 15 annually and for day-use only. Amenities include picnic areas, hiking trails, baseball diamond, sports fields, and horseshoe, and bocce pits (RDEK, 2019)

4.2.2.2 Local Study Area and Project Footprint

The parks and protected area features transected by the Land Use and Access LSA including the Project footprint are summarized in **Table 4-4**. Within the LSA, there is one provincial parks and three conservation lands. The LSA overlaps between 55.5 percent of the Elk River Conservation Lands and 100 percent of the total feature area of the other three protected area features. The Project footprint transects 9.7 ha (2.8 percent) of the Grave Prairie—Big Ranch Conservation Lands. The LSA does not overlap with any national parks. Crowsnest Provincial Park and the conservation lands identified in **Table 4-4** are described in more detail below.

Table 4-4: Parks and Protected Area Features in the Land Use and Access LSA

Name	Description	Project Footprint		Land Use and Access LSA	
		Ha	% of total area ^a	Ha	% of total area ^b
Crowsnest Provincial Park	Provincial Park	n/a	n/a	45.2	100.0%
Grave Prairie (LEA 1) – Big Ranch	Conservation Lands	9.7	2.8%	347.6	100.0%
Grave Prairie (LEA 2) – Musil	Conservation Lands	n/a	n/a	114.7	100.0%
Elk River	Conservation Lands	n/a	n/a	285.5	55.5%

Sources: MFLNRO, 2020d; MECCS, 2020.

Note(s): a. % of total denotes % of total protected area feature

b. % of total Grave Prairie (LEA 1) conservation lands area

Ha = hectares; LSA = local study area; % = percentage; n/a = not available; LEA = Lease

Crowsnest Provincial Park

Crowsnest Provincial Park is located southeast of Sparwood (**Figure 4-4**). Approximately 45.2 hectares of Crowsnest Provincial Park is transected by the LSA. The primary role of the Crowsnest Provincial Park is to protect significant Indigenous cultural heritage features. Located along Highway #3, the secondary role of the Park is to provide a day use / rest area for travellers (BC Parks, 2003). The Parks also acts as a travel corridor for wildlife migrating through Crowsnest Valley and to protect endangered species. The following describes these roles in more detail:

- **Cultural Features:** Crowsnest Provincial Park has been identified as a significant place for Indigenous traditional land use, including sites used by Kootenai and Blackfoot people. Within Crowsnest Provincial Park there is one known archaeological site associated with prehistoric chert mining, which represents the refinement of tools and weaponry. In addition, this site is associated with a temporary campsite that is estimated to have been used since 6,600 BP (before present) (BC Parks, 2003).
- **Recreational Features:** Located along Highway #3, Crowsnest Provincial Park is the gateway to British Columbia and serves as an information stop for travellers, including a historical interpretation of the area and large map that provides local highlights and destinations. This park is open for day use and offers scenic views of the Rockies and amenities such as a picnic area. The rest stop portion of the park is maintained by the Ministry of Transportation and has parking capacity for up to 70 vehicles (BC Parks, 2003).
- **Natural Features:** Crowsnest Provincial Park is an important travel corridor for wildlife migrating through the Crowsnest Valley. There is ongoing road, facility, and utility corridor development within and adjacent to the park, which has significantly modified the landscape. However, the forest cover increases with the distance away from the rest stop and provides shelter from human disturbance to ungulates such as deer, elk and moose. In addition, the west side of Crowsnest Pass and Phillips Pass provides foraging lands to ungulates. Crowsnest Provincial Park also provides protection to two known endangered plant species: the blue-listed elk thistle and the blue-listed Booth's willow. (BC Parks, 2003).

Grave Prairie Conservation Lands

The Big Ranch Conservation Area is a conservation land complex that includes the Grave Prairie (LEA 1) – Big Ranch conservation lands and the Grave Prairie (LEA 2) – Musil conservation lands (Habitat Conservation Trust Foundation, 2019). The LSA overlaps with the entire area of the Grave Prairie (LEA 1) – Big Ranch and the Grave Prairie (LEA 2) – Musil Conservation Lands (**Table 4-4** and **Figure 4-4**) The Project footprint only transects less than 3% (9.7 ha) of the Grave Prairie (LEA 1) – Big Ranch Conservation Lands. The Grave Prairie conservation lands and LSA overlap occurs on the west side of the Project footprint, covering a section of the transmission line. As previously noted, these conservation lands are administered lands, which are privately owned by the Nature Trust of BC and leased to the Ministry of Forests, Lands and Natural Resource Operations to conserve and managed fish and wildlife habitat (Habitat Conservation Trust Foundation, 2019). The Grave Prairie conservation lands contains a diversity of habitats, including plant communities, old growth black cotton-spruce forest and open grassland, that contribute to its conservation value; it is an ungulate winter range and is utilized by an abundance of species such as raptors and red-listed badgers (Habitat Conservation Trust Foundation, 2019). In addition, this conservation area borders the Elk River which contains populations of cutthroat trout, rainbow trout, and blue-listed trout (Habitat Conservation Trust Foundation, 2019). The conservation and property management goals include: the protection of wildlife and maintenance of habitat conditions; access management; and land management for conservation values, while minimizing risk and prioritizing public safety.

The Nature Trust of BC encourages public enjoyment and recreational use, including walking, horseback riding and learning about the significance of the conservation lands. The Nature Trust of BC also restricts unauthorized access through boundary signage, fence lines, and gates (Habitat Conservation Trust Foundation, 2019).

Elk River Conservation Lands

The Elk River Conservation Lands are non-administered lands or reserve lands. The Elk River conservation lands are an area of Crown that has been temporarily withdrawn from disposition under the *Land Act* to conserve and manage fish and wildlife habitat (MFLNRO, 2020d). Unlike administered conservation lands, the administration and management authority over non-administered conservation lands has not been secured. The LSA overlaps with 285.5 ha of the Elk River Conservation Lands, approximately 55.5 percent of the total Elk River Conservation Lands.

In 2013, Teck Resources Inc. purchased private lands, including approximately 3,059 ha at Grave Prairie and 3,098 ha at Alexander Creek (Kornelson, 2013). Teck has suggested that these lands will be used for wildlife and habitat conservation purposes; however, unlike the conservation lands described above, Teck's lands are not officially designated as conservation lands. In cooperation with Indigenous communities, local residents, and other stakeholders, Teck intends to develop management plans for these lands (Teck, 2018).

4.2.3 Agriculture

Approximately 10% of the land in the RDEK is located within the Provincial ALR. Approximately one third of ALR land in RDEK is privately owned. The remaining two thirds is Crown land owned and managed for multiple purposes (e.g. wildlife, forestry, mining, etc.). Key barriers to the expansion and diversification of the agricultural industry in the RDEK include difficulty in accessing Crown land for agricultural use, the high cost of land ownership in relation to productivity, and the under-utilization of privately owned land (RDEK, 2014b). As such, in many instances, ALR land located in the Land Use and Access RSA may have additional or alternative uses.

In BC, ALR lands are areas with the greatest agricultural capability. **Table 4-5** provides a description of the legislative context in which this land is protected and prioritized for agricultural land use.

Table 4-5: Agricultural Land Use Legislation

Legislation	Description	Regulatory Authority
<i>Agricultural Land Commission Act</i> , SBC 2002. C. 36	Establishes the principles for the protection and preservation of agricultural land in BC. This Act identifies the land permitted for farm use as an agricultural land reserve.	PA

4.2.3.1 Regional Study Area

The Land Use and Access RSA overlaps 12 ALR land parcels, which cover a total area of 13,396 ha (**Figure 4-5**). These ALR land parcels are located in close proximity to the Elk River, which runs through Elkford, Sparwood, Hosmer, and Fernie. The majority of the ALR land in the RSA is pasture/rangeland or forested cover. Cattle, equine-related activities, and forage production are the primary agricultural activities in the RSA (RDEK, 2014b). In 2011, there were approximately 572 head of beef cattle and 130 equines (horses) in the Elk Valley area (RDEK, 2011).

4.2.3.2 Local Study Area and Project Footprint

The Land Use and Access LSA transects 66.5 percent of three (3) ALR land parcels with a combined overlap of 6383.0 hectares. The Project footprint transects 96.7 ha, or 1.2 percent, of one ALR land parcel. This overlap occurs on the west side of the Project footprint, covering sections of the transmission line, access road, and the rail loadout components. Within the LSA, ALR lands are concentrated north of Sparwood along the Elk River, and west of Grave Lake. **Table 4-6** provides a summary of the ALR parcels transected by the LSA and Project footprint. In addition, one cattle corral was identified within the LSA during primary data collection activities.

Table 4-6: Agricultural Land Reserves (ALR) Transected by the Project Foot Print and Land Use and Access LSA

ALR Land Parcel	Project Footprint		Land Use and Access LSA	
	Ha	% of total area ^a	Ha	% of total area ^a
ALR Parcel – 3870890	96.7	1.2%	5929.5	73.5%
ALR Parcel – 3871958	n/a	n/a	453.5	30.0%
ALR Parcel – 3871959	n/a	n/a	0.007	100%

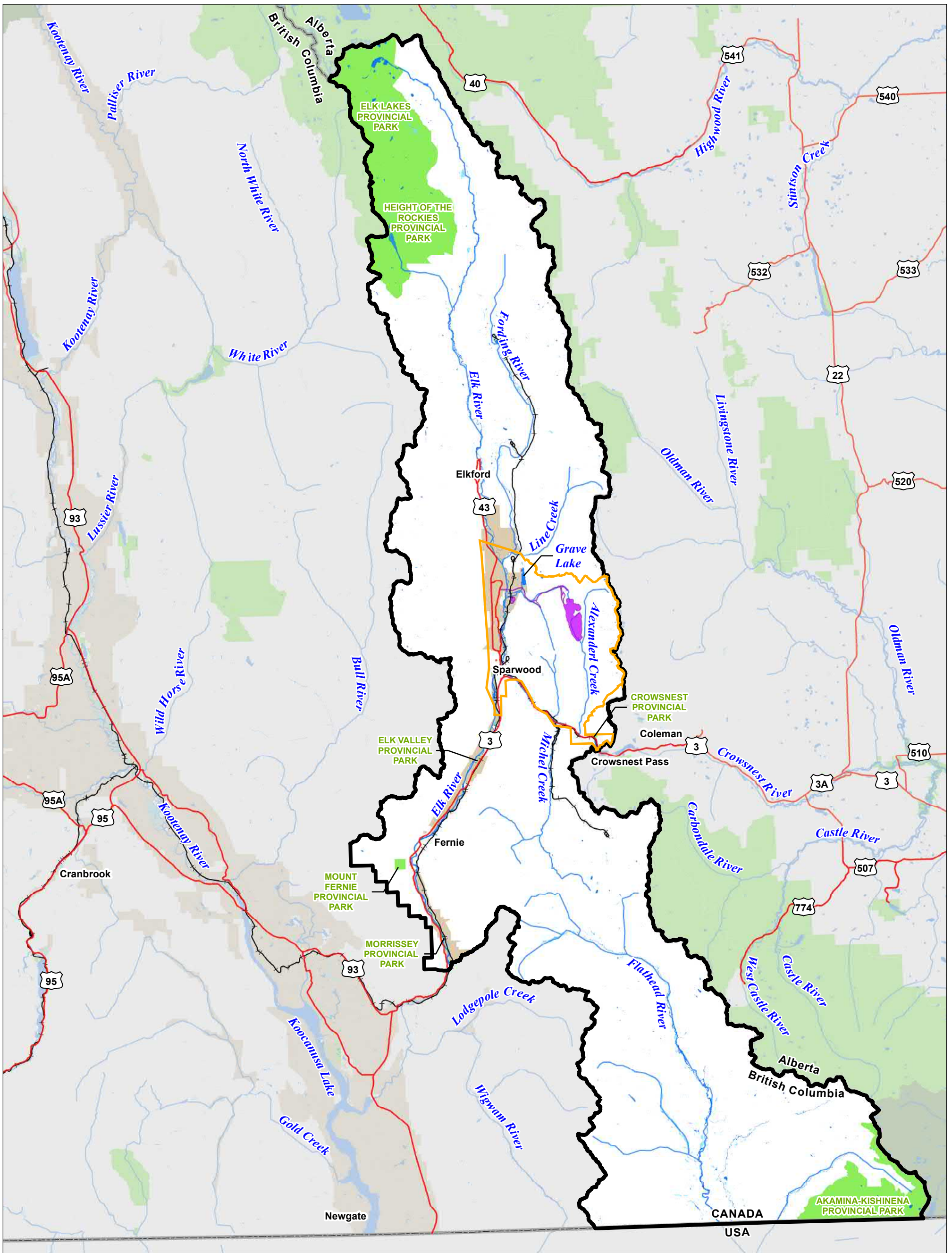
Sources: (Agricultural Land Commission, 2020)

Note(s): a. % of total denotes % of total ALR parcel feature area

Ha = hectares; LSA = local study area; % = percentage; n/a = not available ALR = Agricultural Land Reserve

4.2.4 Mining and Exploration













The mining industry represents the largest component of the regional economy in the RDEK. More specifically, in the Elk Valley, coal is the leading mineral resource product. **Table 4-7** outlines the legislation that governs mineral exploration and mining activities in BC.

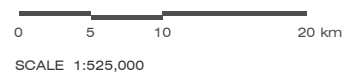


Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Agricultural Land Reserves Figure 4-5

LEGEND

- | | |
|--|---|
|  Agricultural Land Reserve |  Wetland |
|  Land Use and Access Regional Study Area (Electoral Area A) |  Watercourse |
|  Land Use and Access Local Study Area |  Highways |
|  Project Footprint |  Railway |
|  National Park |  BC/Alberta Border |
|  Provincial Park/Protected Area | |
|  Waterbody | |



MAP DRAWING INFORMATION:
Data Provided By NWP Coal Canada Ltd, Dillon Consulting Limited,
Province of British Columbia GeoBC Open Data, Government of
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Table 4-7: Mineral Exploration and Development Activities Legislation

Legislation	Description	Regulatory Authority
<i>Mineral Tenure Act</i> , RSBC 1996. C. 292	Authorizes the registration of mineral and placer titles within BC and provides the policy framework for the administration of Mineral Titles.	BC MEMPR
<i>Mines Act</i> , RSBC 1996. C.293	Authorizes mineral exploration and development activities related to exploration, development, construction, production, closure, reclamation, and abandonment.	BC MEMPR
<i>Coal Act</i> , RSBC 2004. C. 15	Authorizes coal exploration and development activities. This Act outlines tenure requirements and coal title registration.	BC MEMPR

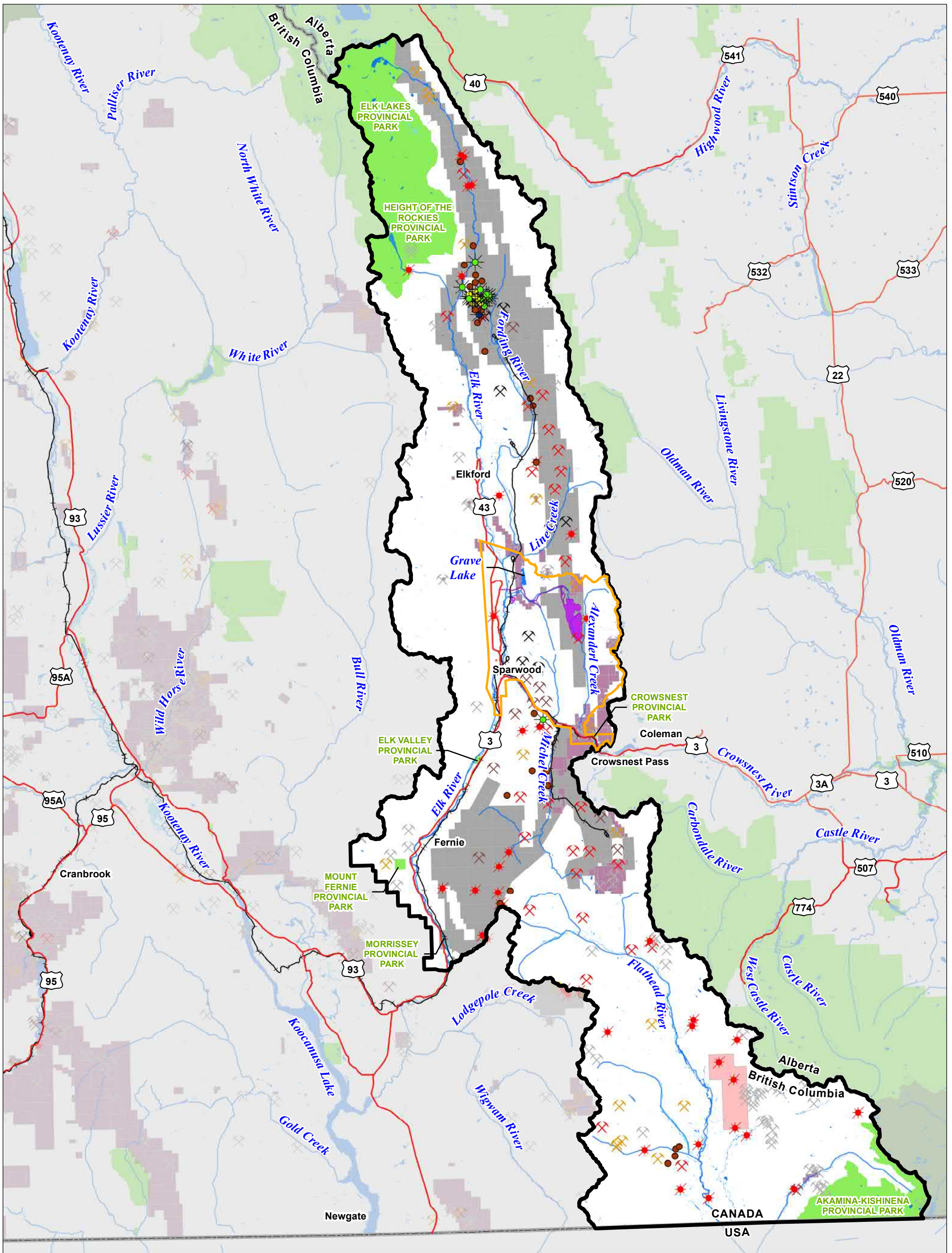
4.2.4.1**Regional Study Area**

The Land Use and Access RSA overlaps with 137 mine sites, including active, abandoned, and potential mine sites. Eight of these sites are currently producing or active coal mine sites (**Figure 4-6**). These include the following steelmaking coal mines operated by Teck Resources Limited (Teck):

- Fording River - Located approximately 29 km northeast of Elkford (Teck, 2019a);
- Greenhills - Located approximately eight km from Elkford (Teck, 2019b), which includes two sites;
- Line Creek - Located approximately 25 km north of Sparwood (Teck, 2019c), which includes both the Horseshoe Ridge site and the Line Creek Extension; and
- Elkview Operations - Located approximately three km east of Sparwood (Teck, 2019d), which includes Elkview, Baldy Ridge Extension, and Harmer Ridge sites (Dupley, 2019; Teck, 2019d).

The RSA transects 12 past producing mine sites and 117 potential mine sites. In addition to NWP's Crown Mountain Coking Coal Project, the RSA overlaps with multiple proposed coal mines, including Teck's Coal Mountain Mine, Centermount Coal Ltd.'s Bingay Coal Mine, and North Coal Ltd.'s Michel Creek. Teck's Coal Mountain Mine reached the end of its life in early 2018. Teck has proposed to expand this operation. The proposed Coal Mountain Phase 2 Project, which is currently on hold, is located approximately 15 km south of Sparwood. This proposed project would be an open-pit coal mine with an area of disturbance of approximately 1000 ha (IAAC, 2020a). Centermount Coal Ltd. has proposed the Bingay Main Coal Mine, located 25 km north of Elkford. If approved, this project would produce one million tonnes of coal per year for approximately 13 years (IAAC, 2020b). North Coal Ltd. has proposed to construct and operate a coal mine, the Michel Coal Project, approximately 15 km southeast of Sparwood (IAAC, 2020c). In addition, Teck is currently at the early engagement stage of the extension of Fording River Operations (BC EA Office, 2021).

The RSA overlaps a total of 83 Mineral Claims, 181 Coal Licenses, 12 Coal Leases, three (3) Coal Licenses Applications and one (1) Mineral Lease.



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Mines, Oil and Gas Tenures and Status Figure 4-6

LEGEND

Oil and Gas Surface Hole Status

- Abandoned
- Cancelled
- Cased
- Completed
- Suspended

Mines Status

- Past Producer
- Producer

- Developed Prospect
- Prospect
- Showing

Tenure Area

- Coal
- Mineral
- Placer
- Petroleum and Natural Gas Tenure Areas

- Land Use and Access Regional Study Area (Electoral Area A)

- Land Use and Access Local Study Area
- Project Footprint

- National Park
- Provincial Park/Protected Area
- Waterbody
- Wetland
- Watercourse
- Highways
- Railway
- BC/Alberta Border

0 5 10 20 km
SCALE 1:525,000

MAP DRAWING INFORMATION:
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4.2.4.2 Local Study Area and Project Footprint

The Land Use and Access LSA transects a total of 16 mine sites, including active mine sites, past mine sites, or potential mine sites. Three mines are currently producing (i.e. active mine sites). These mines include: Elkview, Baldy Ridge Complex, and Harmer Ridge. Together, these three sites constitute Teck's Elkview Operations. Elkview Operations is currently operational and employs approximately 920 people (BC Mine Information, 2020). Elkview Operations is primarily (95 percent) owned by Teck; Nippon Steel & Sumitomo Metal Corporation and POSCO Canada Limited own the remaining five percent (Teck, 2019d). In addition, the LSA overlaps with four past producing or inactive mines. There are also seven occurrences hosting minor in-situ mineralization and one occurrence that contains mineralization and warrants further exploration (British Columbia Geological Survey, n.d.). A detailed description of mine status, mineral claims, and coals licenses can be found in **Table 4-8**

The LSA transects 45 mineral claims and 13 coal licenses. Ten (10) of these coal licenses are held by NWP. The owners of the mineral claims and the other three coal licenses include: Fertoz International Inc., Graymount Western Canada Inc., Johan Thom Shearer, High Brix Manufacturing Inc., North Coal Ltd., NWP Coal Canada Ltd., Summit Natural Rock Inc., Norman LLOYD Tribe, and Teck. The Project footprint overlaps one developed prospect, the Crown Mountain Project. The Project footprint also overlaps four (4) mineral claims and eight (8) coal licenses. All eight (8) of the coal licenses are held by NWP. The owners of the mineral claims include Fertoz International Inc. and Summit Natural Rock Inc.

Table 4-8: Mine Status, Mineral Claims and Coal Licenses in the Project Footprint and Land Use and Access LSA

Mine Status, Mineral Claims and Coal licenses	Project Footprint			Land Use and Access LSA		
	Number of occurrences	Ha	% of total tenure area	Number of occurrences	Ha	% of total tenure area
Showing	n/a	n/a	n/a	7	n/a	n/a
Prospect	n/a	n/a	n/a	1	n/a	n/a
Developed Prospect	1	n/a	n/a	1	n/a	n/a
Producer	n/a	n/a	n/a	3	n/a	n/a
Past Producer	n/a	n/a	n/a	4	n/a	n/a
Mineral Claims	4	15.2	3.2%	45	5011.0	72.7%
Coal Licenses	8	1119.2	25.1%	13	5743.6	97.2%

Source: (Ministry of Energy Mines and Petroleum Resources, 2020a) (Ministry of Energy Mines and Petroleum Resources, 2020b)

Notes: n/a = not applicable; %=percent; Showing = occurrences hosting minor in-situ mineralization; Prospect = occurrences documented as containing mineralization that warrants further exploration; Developed Prospect = occurrences on which exploration and development have progressed to a stage that allows a reasonable estimate of the amount(s) of one or more potentially mineable commodities; Producer = currently producing mine; Past Producer = past producing mine.

Tenure area is defined as the registered area of the tenure. Tenures can include mineral, coal and placer tenures (Ministry of Energy Mines and Petroleum Resources, 2020b).

4.2.5 Forestry

Forestry in the Land Use and Access RSA occurs on Crown land and privately managed land. In BC, regulatory requirements differ between forestry on crown land and forestry on private managed land. Their respective legislative context is described in **Table 4-9**.

Table 4-9: Forestry Legislation

Legislation	Description	Regulatory Authority
<i>Forest Act, RSBC 1996. C. 157</i>	Addresses the classification and management of forests and forest land in BC and outlines rights related to the disposition of Crown timber. This Act governs tenure agreements, allowable annual cuts and harvests, road permits, licenses, as well as compliance, and enforcement provisions.	MFLNRO
<i>Forest and Range Practices Act, SBC 2002. C 69</i>	Outlines how forest and range practices and resource-based activities are to be conducted on Crown land, including the protection of everything in and on them (e.g. plants, animals, and ecosystems). This Act governs how all forest and range activities during all stages of planning, road building, logging, reforestation, and/or grazing.	MFLNRO
<i>Private Managed Forest Land Act, SBC 2003. C 80</i>	Established the role of the Managed Forest Council, specifically its objectives, scope and authority. This Act outlines procedures related to private managed forest land application, withdrawal of management commitment, exit fees, and local government land use restrictions.	Managed Forest Council

4.2.5.1 Regional Study Area

Crown Land

The Land Use and Access RSA transects two Timber Supply Areas (TSA), which is the administrative unit of Crown land used to manage timber harvests. These two TSAs include:

- **Cranbrook TSA** - Located in the southeastern corner of BC and includes Kimberly, Sparwood, Fernie and Elkford. This TSA has an Annual Allowable Cut (AAC) of 808,000m³; and
- **Invermere TSA** - Located northern end of the RSA and includes the Height of the Rockies Provincial Park. This TSA has an AAC of 496,720m³.

The Cranbrook and Invermere TSAs are located within the Kootenay Boundary Natural Resource Region and administered by the Rocky Mountain Natural Resource District (BC, 2020).

Canadian Forest Products Ltd. (Canfor) is the main forestry company that operates on Crown land within the RSA (**Figure 4-7**). Other forestry companies that operate in the RSA on Crown land include BC Timber Sales Kootenay, Galloway, and Nupqu Development Corporation (MFLNRO, 2020f).

Within the RSA, there are 48 active forest tenures. Through these tenures, the Province grants the rights and outlines the conditions to harvest Crown timber. The active Forest Licenses are held by Canfor and Aq'am Resources Ltd. Partnership. The active Occupant License to Cut tenures are held by NWP, Teck, Resorts of the Canadian Rockies Inc., Fording Coal Ltd., and Pacific American Coal Ltd. The SB TSL S20 single mark tenures are held by Marvin Fraser, Canfor, Leonard Gudeit, Joseph Blackmore, Brandon Blackmore, and 489581 BC Ltd. Roberts Enterprises Ltd. holds all the active woodlot licenses transect by the RSA. In addition, the Nupqu Development Corporation, a natural resource management company owned by Ktunaxa Nation, holds all the Community Forest Agreements (Firelight Group et al., 2014; MFLNRO, 2020e).

Private Managed Forest Land

CanWel owns approximately 55,000 ha of private managed forest land in the Elk Valley (Benoit et al., 2019). In addition, Canfor purchased the rights to harvest timber in Managed Forest 471 from Tembec. Managed Forest 471 includes the majority of surface tenure held by Teck within the Elk Valley. Under a Harvesting Rights Agreement with Teck, Canfor has the exclusive right to harvest, sell, process, or dispose of timber on Managed Forest 471 land (Golder Associates Ltd., 2015). Managed Forest 27 also overlaps with the RSA (Golder Associates Ltd., 2015).

Located near Elkford, the Agnes Creek Sawmill and Trading Company is located within the RSA.

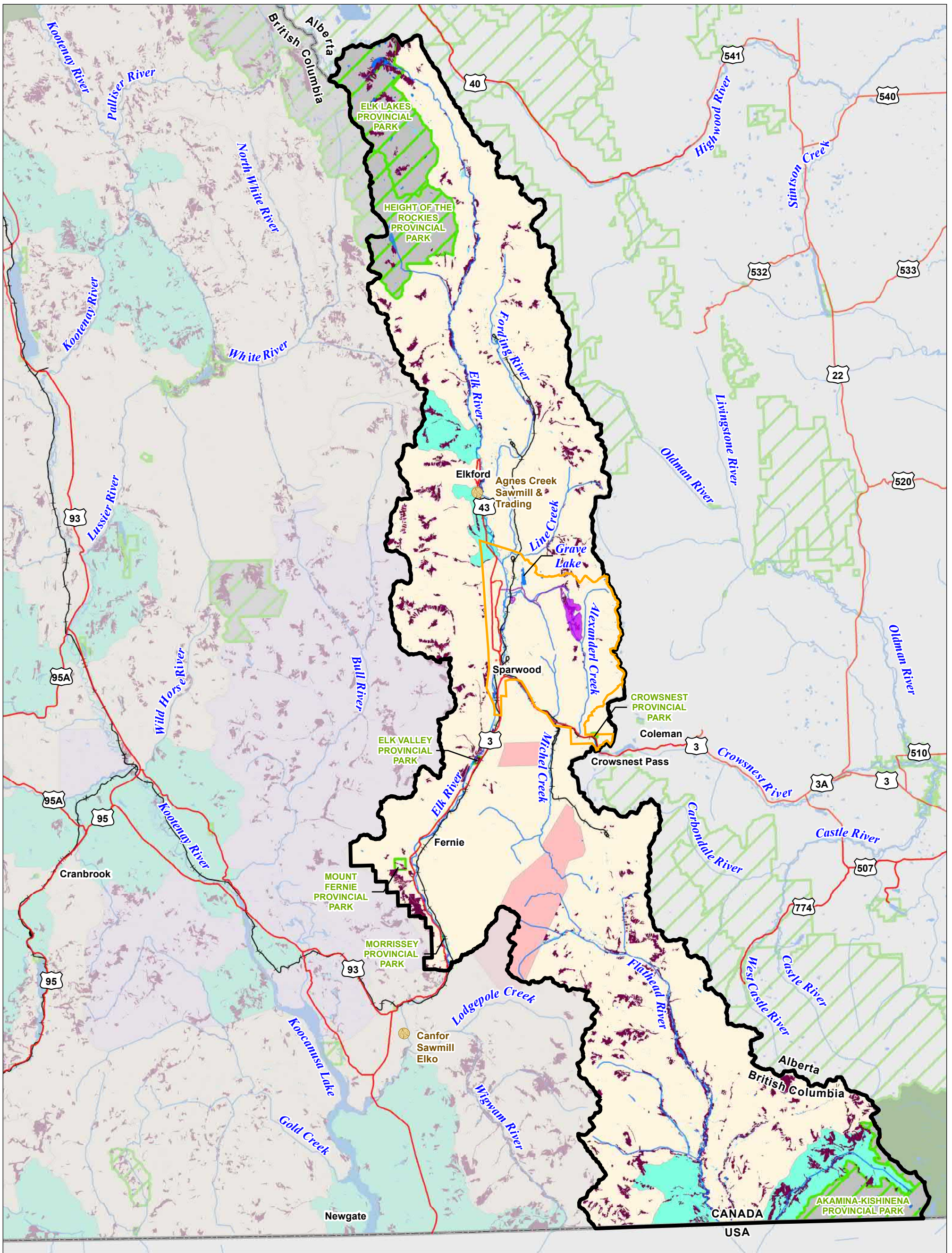
4.2.5.2

Local Study Area and Project Footprint

Crown Land

Canfor is also the primary forestry operator on Crown Land in the Land Use and Access LSA, operating 98 percent (or 41,645.8 ha) of the total licensee operating area of the LSA. The remaining licensee operating area in the LSA, approximately 675.1 ha, is operated by BC Timber Sales – Kootenay. Canfor's operating area tenure, A19040, covers the entirety of the Project footprint (MFLNRO, 2020g). This is volume-based forest tenure that grants Canfor the right to harvest Crown timber annually for the duration of the licenses within specified areas of Crown Land. Under Canfor's A19040 license, timber harvesting has occurred in the Alexander Creek area (Golder Associates Ltd., 2015).

The LSA transects one forestry tenure access road that extends 1.7 km in length and covers an area of 1.9 ha. In addition, the LSA overlaps with the Cranbook TSA.



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Forestry Tenures and Old Growth Management Areas Figure 4-7

LEGEND

- | | | |
|------------------------------------|--|-------------------|
| Sawmill | Land Use and Access Regional Study Area (Electoral Area A) | Highways |
| Old Growth Forest Management Areas | Land Use and Access Local Study Area | Railway |
| Licensee Operating Area | Project Footprint | BC/Alberta Border |
| BC Timber Sales - Kootenay | National Park | |
| CANFOR | Provincial Park/Protected Area | |
| Galloway | Waterbody | |
| Nupqu Development Corporation | Wetland | |
| Unallocated | Watercourse | |

0 5 10 20 km

SCALE 1:525,000

MAP DRAWING INFORMATION:
Data Provided By NWP Coal Canada Ltd, Dillon Consulting Limited,
Province of British Columbia GeoBC Open Data, Government of
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The LSA overlaps with multiple active forest tenures, or specific rights to use Crown land and its resources. The LSA overlaps the entirety (1,611.0 ha) of NWP's active Occupant Licence to Cut. While the Project footprint transects a total of 60.7 percent of NWP's active Occupant Licence to Cut.

Roberts Enterprises Ltd holds two active Woodlot Licenses located near Weigert Creek, which is northwest of Grave Lake and of the Project footprint. The LSA transects 39.2 ha, or 43.7 percent, of these two (2) active Woodlot Licenses. In addition, the LSA also transects 41.2 percent of one (1) Woodlot License – Schedule A, which is also held by Roberts Enterprises Ltd. Through the Schedule A provision, in exchange for the right to harvest Crown timber, Roberts Enterprises Ltd. is also required to manage private land in accordance with provincial legislation. **Table 4-10** provides additional details related to the forest tenures and managed licenses that are held within the LSA and Project footprint.

Private Managed Forest Land

The LSA overlaps with Managed Forest 471 and Managed Forest 27 (Province of BC, 2020; Keefer Ecological Services Ltd., 2020).

Table 4-10: Active Forest Tenures and Managed Licenses

Company	License Type	Project Footprint			Land Use and Access LSA		
		Number	Ha	% of Total Tenure Area	Number	Ha	% of Total Tenure Area
Canfor	Forest Licensee Operating Area Tenure	1	1,283	0.2%	1	41,645.8	8%
BC – Timber Sales Kootenay	Forest Licensee Operating Area Tenure	n/a	n/a	n/a	1	675.1	21%
NWP Coal Canada Ltd.	Occupant Licence to Cut	1	978.0	60.7%	1	1,611.0	100.0%
Roberts Enterprises Ltd.	Woodlot Licence	n/a	n/a	n/a	2	39.2	43.7%
Roberts Enterprises Ltd.	Woodlot Licence – Schedule A	n/a	n/a	n/a	1	245.9	41.2%

Sources: MFLNRO, 2020e; MFLNRO, 2020h

Ha = hectares; LSA = local study area; % = percentage; n/a = not available

4.2.6 Oil and Gas Development

The BC Oil and Gas Commission regulates oil and gas development in BC. **Table 4-11** summarizes oil and gas development legislation in BC.

Table 4-11: Oil and Gas Development Legislation

Legislation	Description	Regulatory Authority
<i>Oil and Gas Activities Act, SBC 2008. C. 36</i>	Regulates oil and gas related activities in BC, including wells, facilities, oil refineries, natural gas processing plants, pipelines as well as oil and gas road. In addition, this Act provides authority to the BC Oil and Gas Commission and outlines	BC Oil and Gas Commission
<i>Petroleum and Natural Gas Act, RSBC 1996. C 361</i>	Governs the disposition, administration, and management of petroleum and natural gas. Regulates subsurface tenures and royalties for oil and gas activities.	BC Oil and Gas Commission

4.2.6.1

Regional Study Area

The East Kootenay Basin (EKB) is located within the Land Use and Access RSA. This basin extends approximately 60 km north-northwest of Elkford, nearly 35 km south of Fernie and overlaps with Sparwood. To the east, it is bounded by the Alberta - BC border, while the western boundary follows the west edge of the Elk Valley. According to the BC Oil and Gas Commission, approximately 15 percent of all coal bed gas in BC is located within the EKB (BC Oil Commission, 2011).

The RSA transects one (1) natural gas tenure, Flathead, which covers an area of 4,392.8 ha (**Figure 4-6**). It is important to note that in 2011 the *Flathead Watershed Area Conservation Act* received Royal Assent, which prohibits mining, oil, and gas activities within the Flathead coalfield.

In addition, the RSA transects 95 oil and gas surface wells (**Figure 4-6**). Currently, none of these wells are active. These tenures are held by Alberta Energy Company (AEC), Border Oils, Calstan, Canadian, Canlin Energy Corporation, Chevron, Canadian Natural Resource Limited (CNLR), COP, ECA, ECAOG, EVC, Exxon Mobil, Fording, Lornel, Norwest, PARA, SCE, Shell, Suncor, Symmetry, and Teck.

4.2.6.2

Local Study Area and Project Footprint

The Land Use and Access LSA transects two abandoned or non-active oil and gas wells. These include the Chevron Mansfield well and the Canadian Natural Resources Ltd. Highrock well. Since the 1960s, exploratory wells have been drilled in the area, however no commercial oil and gas volumes have been established to date (BC Oil Commission, 2011). The Project footprint does not overlap with any active or non-active oil and gas wells.

4.2.7 Non-Timber Forest Products

Non-Timber Forest Products (NTFPs) include plant and fungus resources and associated services of the forest, excluding conventional timber products. While NTFPs have been described as a growing component of socio-economic systems in BC, the economic value of harvested NTFPs is difficult to determine due to the informal nature of the market and associated sales (Hamilton, 2012).

In BC, no legislation has been specifically designed to govern the harvesting of NTFPs, however certain pieces of legislation are relevant such as legislation that regulates rights to access resources, the actions of forest and range managers, the *Forest Act*, and the *Forest and Range Practices Act* (**Section 4.15.5**). In addition, this includes legislation that outlines types of land use deemed acceptable in specific areas, including protected areas (**Section 4.15.2**).

Through tenure agreements, rights to harvest NTFPs on Crown land have been granted by the provincial government through mechanisms such as Community Forest Agreements or First Nations Woodland licenses. Comparatively, private forest land owners hold the rights to all forest resources on their lands. In some cases, forest companies will manage access to NTFPs (Hamilton, 2012). However, as noted above, NTFP harvesting is largely informal in nature and many harvesters are reluctant to apply for permits (Hamilton, 2012).

4.2.7.1 Regional Study Area

Key NTFPs harvested in the Elk Valley include huckleberries and morel mushrooms (Golder Associates Ltd., 2015). As a result of ease of access, huckleberry harvesting in the Land Use and Access RSA most frequently occurs in close proximity to nearby communities and main roads. Anecdotally, the Elk Valley has been identified as a prime area for huckleberry harvesting. Since huckleberry bushes re-grow faster than other bushes, many of the most productive huckleberry sites in the area have been previously logged and/or broadcast burned. In general, the huckleberry harvesting in the RSA occurs from July until October (Golder Associates Ltd., 2015).

The majority of huckleberry harvesting in the RSA is largely for household consumption purposes. However, the recent increase in commercial huckleberry harvest in the Kootenay Boundary region has damaged critical grizzly bear habitat and foraging areas. In order to protect grizzly bear habitat, commercial-scale huckleberry harvesting has been prohibited in specific areas near Fernie and Morrissey from July to October. This restriction has been in place since 2018 and is reviewed on an annual basis. These closed areas remain open for Indigenous peoples picking huckleberries in accordance with a recognized Aboriginal right and household picking (MFLNRO, 2020i).

In the Elk Valley, the majority of morel mushroom harvesting is for household consumption, and it often occurs in conjunction with other recreational activities (i.e. hunting, fishing, hiking, etc.) (Golder Associates Ltd., 2015). Typically, the harvesting of mushrooms in the Elk Valley starts in September and ends in October (Golder Associates Ltd., 2015). The location of morel mushrooms tends to be difficult to predict. However, forested areas that have recently been damaged by wildfire events are known to particularly productive areas for morel mushrooms (Keefer et al., 2010).

Additional NTFPs harvested in the RSA include various mushroom species such as king bolete mushrooms, porcini mushrooms, hedgehog mushrooms, chanterelles mushrooms, and shaggy mane mushroom. King botele mushrooms have been reported to occur in areas with cattle, whereas shaggy mane mushrooms have been reported to be more commonly found around forest roads (Golder Associates Ltd., 2015). Saskatoon berries, grouse berries, bilberries, elderberries choke cherries, and lomatium root are also harvest in the Elk Valley. Harvesting sites for Saskatoon berries have also been identified near the communities of Sparwood and Fernie. These NTFPs species are harvested for recreational purposes; they do not occur in high quantities, nor are they in commercial demand (Golder Associates Ltd., 2015).

4.2.7.2 Local Study Area and Project Footprint

Within the Land Use and Access LSA, huckleberries are harvested on the naturally re-vegetation slopes around Sparwood (Golder Associates Ltd., 2015). The harvesting of Saskatoon berries also occurs in areas around Sparwood (Golder Associates Ltd., 2015). As previously noted, the sites of morel mushroom harvesting are linked to wildfire events, which can be difficult to predict.

4.2.8 Wildlife and Fish Harvesting

Wildlife and fish harvesting are prevalent activities throughout the Land Use and Access RSA. In order to regulate hunting, trapping, and freshwater fishing in the province, nine administrative regions, which are further sub-divided into Wildlife Management Units (WMUs), have been established in BC. **Table 4-12** provides an overview of the *Wildlife Act* (1996; amended in 2020), which is the key piece of legislation that governs wildlife and fish harvesting in BC.

Table 4-12: Wildlife and Fish Harvesting Legislation

Legislation	Description	Regulatory Authority
<i>Wildlife Act, RSBC 1996. C. 488</i>	Regulates the management of wildlife. This Act outlines the requirements for licenses and permits related to hunting, trapping, and angling; establishes wildlife management areas and protects critical wildlife areas and sanctuaries; and outlines requirements for guided outfitters.	BC MOE

4.2.8.1

Regional Study Area

The Land Use and Access RSA overlaps the following hunting, trapping, and fishing activities and features:

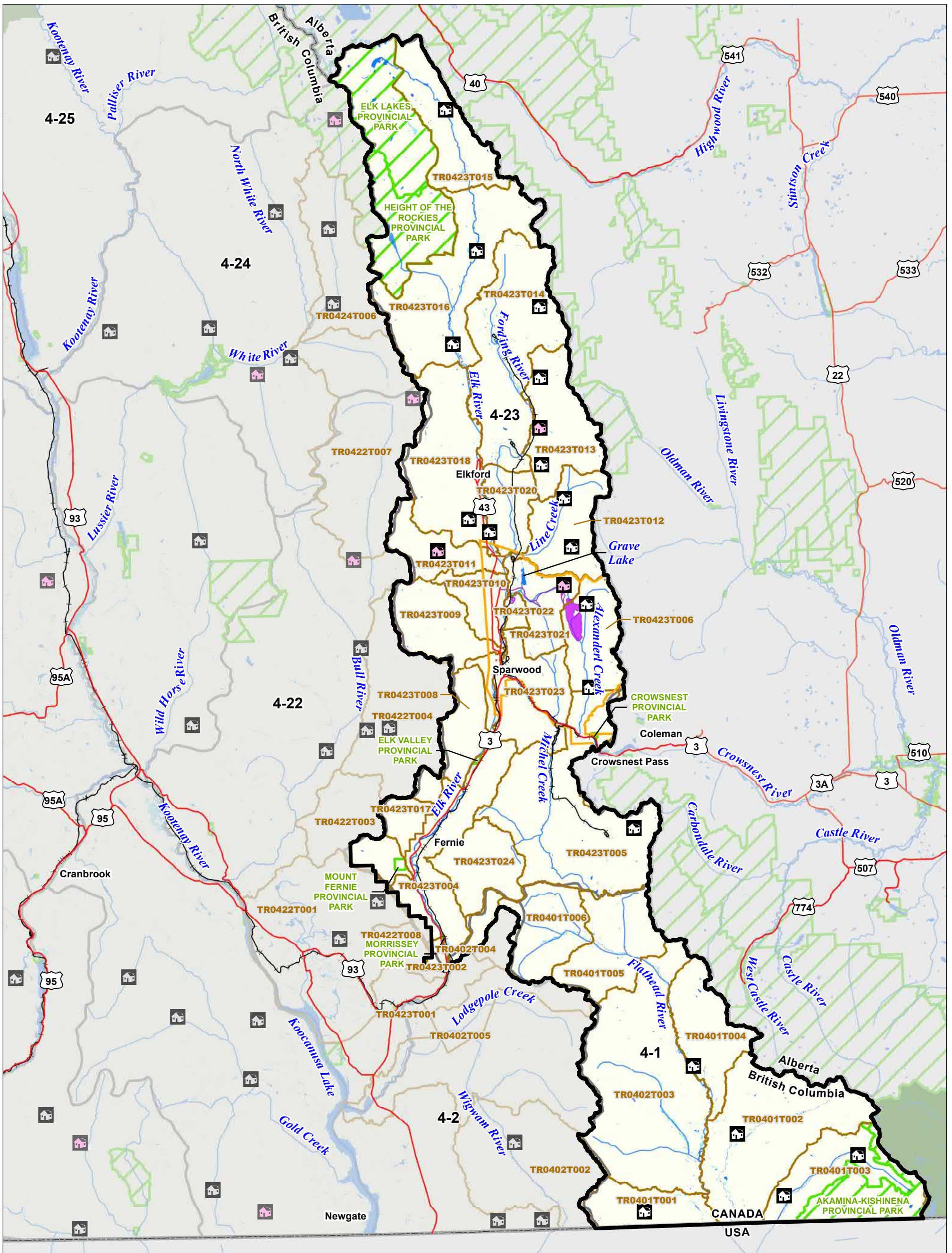
- **Hunting:** There are six (6) WMUs, specifically WMU 4-1, 4-2, 4-22, 4-23, 4-24, and 4-25 (Figure 4-8);
- **Trapping:** There are 36 trapline tenures, covering an area of approximately 460,792 hectares (Figure 4-8). Trapping activities are supported by 21 trapper cabins, of which 18 are active;
- **Fishing:** There are six (6) WMUs, specifically WMU 4-1, 4-2, 4-22, 4-23, 4-24, and 4-25, overlapped by the RSA (Figure 4-8); and
- **Guided Outfitting:** Within the RSA, there are ten (10) guided outfitter tenures, covering a combined area of 280,749.94 hectares (Figure 4-9).

Hunting

In order to hunt in BC, BC residents must obtain a BC Fish and Wildlife ID, a hunting license, and, if required, a species license. Species licenses are required for most big game (e.g. elk, moose, deer, black bear, etc.). Non-resident hunters are permitted to hunt small game (e.g. game birds, fox, coyote, etc.) unaccompanied with a BC Fish and Wildlife ID and a non-resident hunting license. However, when hunting big game in BC, non-residents are required to be accompanied by either a licensed guide outfitter or a resident holding a Permit to Accompany (Province of BC, 2020a).

In BC, there are two types of hunting seasons available to licensed hunters. For the general open seasons, harvest quantities are managed through species-specific season, restrictions on class of animal and bag limits. The second type of hunting season is limited entry hunting, which is generally implemented when additional management and control is required. Limited entry hunting manages the number of hunters that can harvest a species, or class of species, in a specific area, during a specific time. Licensed hunters can apply for a limited entry hunting license through an annual draw (Province of BC, 2020a). Appendix A provides additional details on the general open hunting seasons for WMU 4-23.

The majority, or 66.5 percent, of the RSA is located within WMU 4-23 (Figure 4-8). Within WMU 4-23, an annual average of 1,199 hunters targeted elk between 2009 and 2019. This was followed by white-tailed deer (778 hunters per year), mule deer (626 hunters per year), and moose (269 hunters per year). Recently, hunting activity has been decreasing in WMU 4-23. Most notably when comparing a high activity year in 2015 to the most recent data available in 2019: the total number of hunters in WMU 4-23 decreased from 4,568 in 2015 to 3,258 in 2019, representing a 29 percent decline. Similarly, the total harvest decreased by 55 percent from 2,708 to 1,233 over the same time period. A decline is observed in the total number of elk hunters, white-tailed deer hunters and moose hunters as well as the total harvest of each of these species from 2015 to 2019 (Kootenay Wildlife, 2020a). The reason for the decline in hunting activity and harvest numbers is to be explored as part of the impact assessment work. Appendix A provides additional species-specific WMU 4-23 harvesting information.



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Wildlife Management Units and Trapline Tenures Figure 4-8

LEGEND

- | | |
|--|-------------------|
| Wildlife Management Units | Waterbody |
| Land Use and Access Regional Study Area (Electoral Area A) | Wetland |
| Land Use and Access Local Study Area | Watercourse |
| Project Footprint | Highways |
| Trapline Areas | Railway |
| National Park | BC/Alberta Border |
| Provincial Park/Protected Area | Cabin - Active |
| | Cabin - Inactive |

NOTE:
The information related to cabins is derived from several sources including: the Primary Data Collection Program, B.C. Stats, and Targeted Land Use Engagement Activities. As a result, it is possible that there are overlaps with the data points and this figure may portray additional cabins due to the timeliness of data collection. Primary data collection occurred between May 2020 and July 2020. Targeted engagement for the land use program occurred between March 2021 and April 2021.

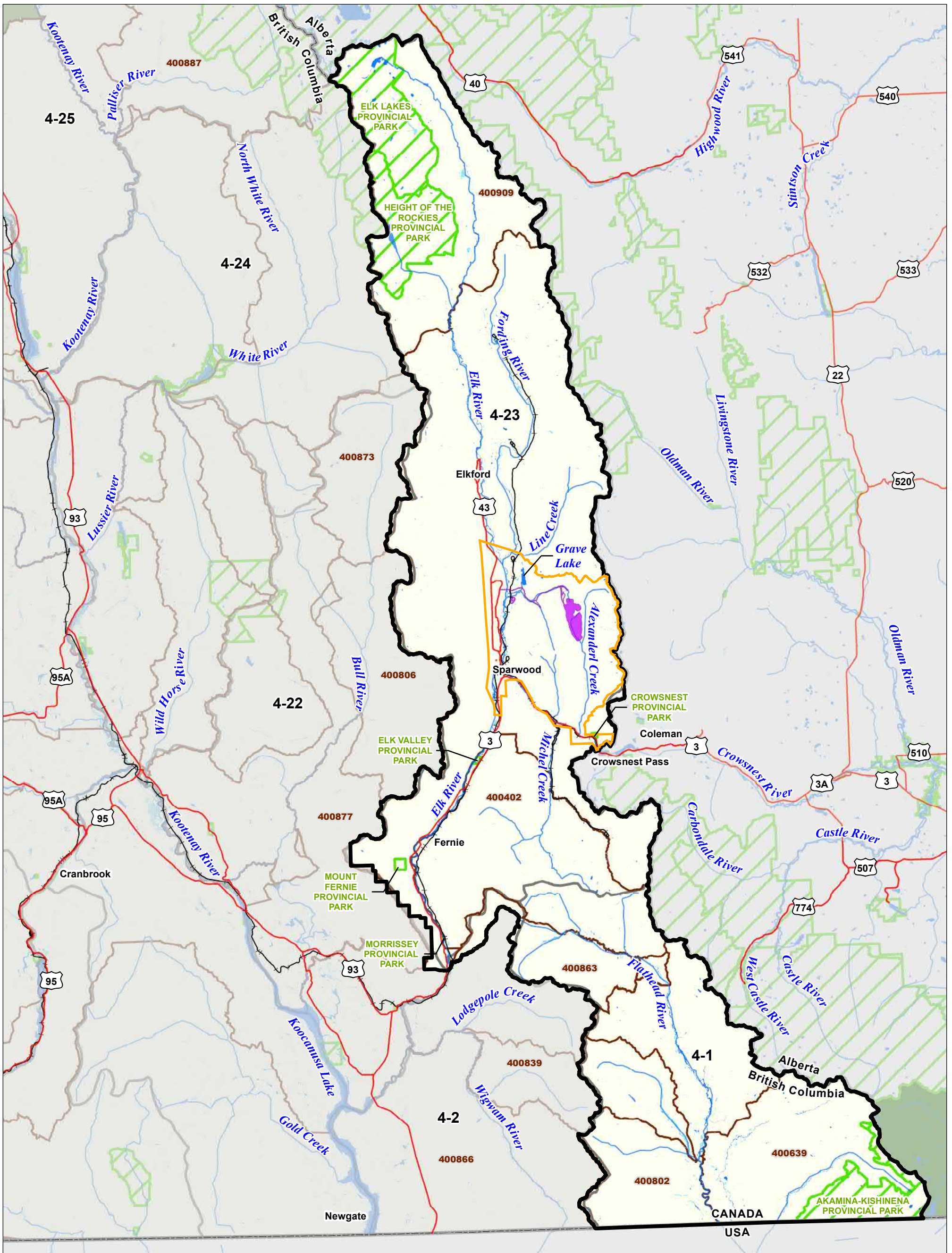
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Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Wildlife Management Units and Guide Outfitter Areas Figure 4-9

LEGEND

- | | |
|--|-------------------|
| Wildlife Management Units | Waterbody |
| Guide Outfitter Areas | Wetland |
| Land Use and Access Regional Study Area (Electoral Area A) | Watercourse |
| Land Use and Access Local Study Area | Highways |
| Project Footprint | Railway |
| National Park | BC/Alberta Border |
| Provincial Park/Protected Area | |

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Fish Harvesting

In Region 4, there is no fishing in any stream from April 1 to June 14. There are daily catch quotas for following fish species: trout/char, burbot, crayfish, kokanee, and whitefish. There is annual catch quota of ten per license year for rainbow trout larger than 50 centimeters. Fishing is permanently closed to bass, northern pike, walleye, white sturgeon, and yellow perch in Region 4. It is important to note that while these quotas and restrictions apply to Region 4, there are several exceptions to these regional regulations that apply to specific WMUs and waterbodies.

One-day, eight-day and annual freshwater fishing licences can be purchased for both BC residents and non-residents. However, licences for non-residents are slightly more expensive. Many East Kootenay rivers and their tributaries are Classified Waters, which are highly productive trout streams, and, therefore, require a supplemental Classified Waters License. Both the Elk River and its tributaries are Classified Waters (MFLNRO, 2019a).

The Elk River has been identified as a popular location for cutthroat trout, white fish and bull trout. In general, fly fishers access the river via boat or using a “walk and wade” approach. In 2002, it was estimate that there were 2,500 resident angling days on the Elk River (Golder Associates Ltd., 2015).

Trapping

In BC, approximately 3,500 trappers actively managed 17 different types of furbearing animals. It is estimated that half of these trappers are Indigenous (MFLNRO, 2020j). In general, trapping seasons in BC have been developed based on the consideration of a variety of criteria such as pelt quality, relative vulnerability of age and sex classes to harvesting, species abundance, and capture technology. The primary system for establishing harvest guidelines and managing furbearing animals continues to be the registered trapline system. Registered traplines are licensed tenures issued by the Province (Ministry of Sustainable Resources, 2003). Species management strategies guide harvest levels, with furbearing species divided into three classes:

- **Class 1 Species** – Managed on individual traplines. This class includes beaver, fox, marten, mink, muskrat, racoon, skunk, squirrel, and weasel;
- **Class 2 Species** – Move in and between traplines, and therefore, are not manageable via individual traplines. Instead, harvests are regulation regionally and in consultation with local trappers. This class includes bobcat, fisher, lynx, otter, and wolverine; and
- **Class 3 Species** – Move in and between traplines, however are generally not at risk of over-trapping. As a result, trappers are generally encourages to trap these species, particularly in areas of animal damage control issues. This class includes wolves and coyotes (MFLNRO, 2020j).

It is important to note that trappers must register their trapline cabins on Crown land. Trapping seasons begin in October and November. In WMU 4-23, the trapping season for bobcat, fox, lynx, marten, mink, skunk and weasel ends in February. While the trapping season for beaver, black bear, coyote, muskrat, racoon, river otter, squirrel, and wolf ends between March and May. Information related to species-specific trapping seasons for WMU 4-23 is provided in Appendix A.

In 2017, 101 martens, 26 coyotes, 12 beavers, 7 lynx, 6 wolves, 5 squirrels, 3 minks, 1 wolverine, and 1 bobcat registered harvests were reported in WMU 4-23 (Kootenay Wildlife, 2020b).

Guided Outfitters

Wildlife viewing and hunting opportunities exist within the East Kootenay region. The area has some of the richest diversity of wildlife in North America. Big game species include Grizzly and Black bear, elk, white-tailed and mule deer, caribou, cougar, moose, bighorn sheep, and mountain goat. Guide outfitting, sport fisheries, and associated businesses are a component of the region's economy (RDEK, 2014c). The guided outfitting industry in BC provides 2,000 jobs and generates approximately \$116 million in revenue annually (Province of BC, 2020). Guided outfitters are eligible, with the appropriate guiding license, to guide non-residents.

The RSA overlaps ten (10) guided outfitter operations, which were identified through spatial data (**Figure 4-9**) (MFLNRO, 2020k). These include:

- Bear Lakes Guides and Outfitters;
- Baldy Mountain Outfitters;
- Elk Valley Bighorn Outfitters;
- Grizzly Basin Outfitters;
- Flathead Wilderness Adventures;
- Packhorse Creek Outfitters;
- Ram Creek Outfitters;
- Robert Cutts;
- Total Outdoor Adventures; and
- Windwalker Safari.
- (Bear Lake Guided Outfitters, n.d.; Guided Outfitters Association of BC, 2020; Total Outdoor Adventures n.d.; Windwalker, n.d.)

The Elk River Guiding Company operates throughout the RSA, specializing in guided fly fishing trips on the Elk River, Michel Creek, Fording River, and Flathead River as well as other waterbodies throughout the area (Elk River Guiding Company, n.d). Other companies that operate on the Elk River include Fernie Wilderness Adventures, Kootenay Fly Shop and Guiding Company, Dave Brown Outfitters, Fly Fish the Elk, Freestone Fly Angler, St. Mary Angler Fishing, and Crowsnest Angler Fly Shop (Golder Associates Ltd., 2015; Tourism Fernie, 2020).

4.2.8.2 Local Study Area and Project Footprint

The Land Use and Access LSA and the Project footprint transect one WMU, WMU 4-23 (**Figure 4-8**). **Table 4-13** provides an overview of the WMU 4-23 area overlapped by the Project footprint and the LSA.

Table 4-13: Wildlife Management Unit

Wildlife Management Unit (WMU)	Project Footprint		Land Use and Access LSA	
	Area of WMU in the Project Footprint (ha)	% of Total WMU Area	Area of WMU (ha)	% of Total WMU Area
WMU 4-23	1283.0	0.38%	42,301.0	12.6%

Source: (MFLNO, 2019b)

Hunting

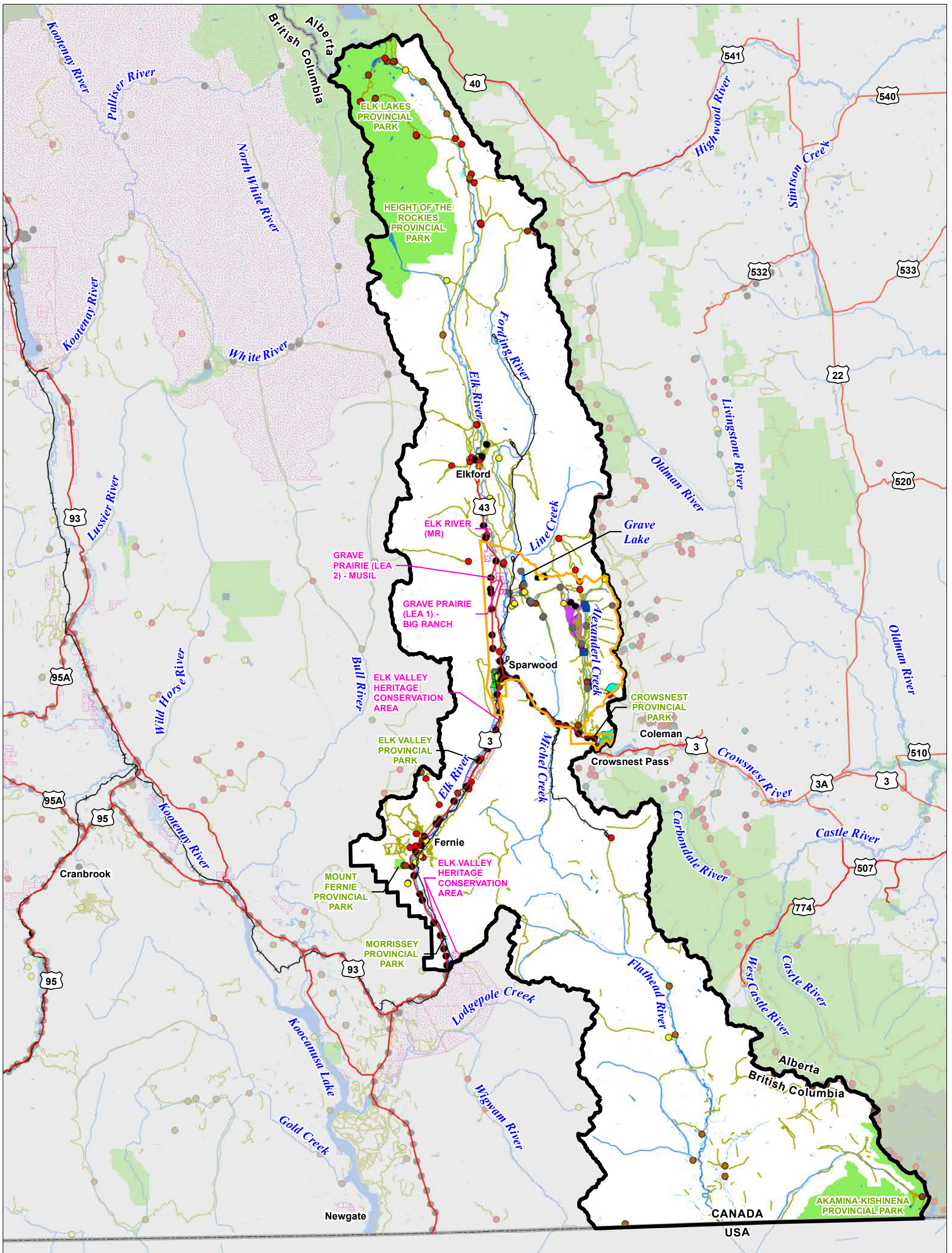
Based on information collected through the primary program (Section 3.2), key big games species hunted in this LSA include bighorn sheep, elk, mule deer mountain goat, and moose. Within the LSA, three popular and frequently used hunting areas were identified south of Grave Lake through primary data collection (**Figure 4-10**). The LSA is accessible for hunting activities via a variety of forestry roads and trails.

Within the LSA, previous technical land use studies completed by Golder Associates Ltd. in the area have identified two additional hunting areas: the area northeast of Harmer Creek and the area west of the Elk River (Golder Associates Ltd., 2015). It was noted that hunting is concentrated in the area northeast of Harmer Creek, with an estimated 1,000 to 2,000 hunter days for elk, white-tailed deer, and mule-deer and 200 to 300 hunter days for black bears (Golder Associates Ltd., 2015).

Limited Entry Hunting areas for mountain goat overlap with the LSA. In addition, within the LSA, there are “No unauthorized Entry”, “No Shooting” and “No Hunting” areas located on private property, including Teck’s Elkview operations, and require permission from property owners prior to entry (MFLNRO, 2020). Through the implementation of the Firearm Regulation Bylaw, the District of Sparwood has also established a “No Shooting Area” within its municipal boundaries (District of Sparwood, 2016).

Trapping

The LSA overlaps 11 trapline tenures, covering a combined overlap of 41,124 hectares, or 26.6%, of the total trapline tenure area. In addition, three trapline cabins are located within the LSA, two of which are active. Comparatively, the Project footprint transects four trapline tenures. Collectively, approximately 4.3 %, or 1,283.0 hectares, of the total trapline area is transected by the Project footprint. There are no trapper cabins located within the Project footprint.



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Outdoor Recreation Areas Figure 4-10

LEGEND

- | | | |
|---|---|--|
| ■ Cabin | Land Use and Access Regional Study Area (Electoral Area A) | — Highways |
| ● Campground | Land Use and Access Local Study Area | — Trail |
| ● Campsite | Project Footprint | — Railway |
| ▲ Historic Site | Conservation Land | BC/Alberta Border |
| ▲ Park | National Park | |
| ● Parking / Staging Area | Provincial Park/Protected Area | |
| ● Recreation | Waterbody | |
| ● Trail Point | Wetland | |
| ● Viewpoint | — Watercourse | |
| ● Other | | |

NOTE:
The information related to cabins is derived from several sources including: the Primary Data Collection Program, B.C. Stats, and Targeted Land Use Engagement Activities. As a result, it is possible that there are overlaps with the data points and this figure may portray additional cabins due to the timelines of data collection. Primary data collection occurred between May 2020 and July 2020. Targeted engagement for the land use program occurred between March 2021 and April 2021.

0 5 10 20 km
SCALE 1:525,000



MAP DRAWING INFORMATION:
Data Provided by NWP Coal Canada Ltd, Dillon Consulting Limited, Province of British Columbia GeoBC Open Data, Government of Alberta Open Data, Natural Resource Canada, Motor Vehicle Prohibition Regulation, OpenStreetMap, Consultation.

MAP CREATED BY: RBB
MAP CHECKED BY: DM
MAP PROJECTION: NAD 1983 UTM Zone 11N



PROJECT: 12-6231
STATUS: FINAL
DATE: 2021-12-14

Table 4-14 presents a summary of the trapline tenures transected by the LSA and Project Footprint.

Table 4-14: Trapline Tenure Areas Transected by the Project Footprint and LSA

Trapline	Project Footprint		Land Use and Access LSA	
	Area (ha)	% of Total Trapline Area	Area (ha)	% of Total Trapline Area
TR0423T005	n/a	n/a	3,573.0	8.9
TR0423T006	990.2	8.1	12,154.9	99.9
TR0423T009	n/a	n/a	354.8	2.8
TR0423T010	10.1	0.14	3,383.3	47.6
TR0423T011	n/a	n/a	964.8	10.3
TR0423T012	n/a	n/a	168.3	1.1
TR0423T018	n/a	n/a	383.2	1.6
TR0423T020	n/a	n/a	298.1	3.7
TR0423T021	231.9	2.5	9,258.9	99.6
TR0423T022	50.8	3.5	1,467.7	100
TR0423T023	n/a	n/a	9,117.5	58.8

Source: (MFLNRO, 2020m)

Within the LSA consistent trapping has been observed along Harmer Creek, Grave Creek, and the area north of Grave Lake. Typically, Grave Lake is not a heavily used area due to the number of recreational activities that occur near the lake (Golder Associates Ltd., 2015).

Within the traplines transected by the LSA, the most popular animal harvested between 2007 and 2017 were martens (180 reported harvests), accounting for more than half of all reported harvests. During this time, annual reported marten harvests marginally increased, with a peak of 29 reported harvests in 2010 and a low reported harvest of five (5) in 2012. Following martens, beavers (31), squirrels (29) and coyotes (29) accounted for approximately a third of all reported harvests. No reported harvests for beavers in 2008, 2014, and 2015. Similarly, squirrels had several years of no reported harvests, from 2010 to 2015 as well as 2017. Generally, the reported coyote harvests have been declining since 2011. Lynx (13), wolves (6), wolverines (3), minx (2), and muskrats (1) were also harvested in the LSA (Kootenay Wildlife, 2020b). Further trapping activity information by species in the LSA is provided in Appendix A.

The LSA overlaps with almost the entirety, over 99%, of the total trapline tenure area of three traplines (**Figure 4-8**): TR0423T006, TR0423T021, and TR0423T022. In addition, the LSA transects 58.8% of the total area of the TR0423T023 trapline and 47.6% of the total area of the TR0423T010 trapline. In the LSA, between 2007 and 2017 the most active trapline was TR0423T009 with 97 reported harvests. The LSA overlaps with less than 3% (354.8 hectares) of the total area of the TR0423T009 trapline.

The Project footprint overlaps with four registered traplines, including TR0423T006, TR0423T010, TR0423T021, and TR0423T022. The Project footprint transects 990.2 hectares, approximately 8.5 %, of TR0423T006. The TR0423T006 trapline reported 14 martens, 8 lynx, 4 beavers, 2 wolverines, and 2 minx between 2007 and 2017. Within the Project footprint, the most active trapline is TR0423T010 with 77 martens harvested between 2007 and 2017. The Project footprint overlaps less than 1%, approximately 10.1 hectares, of the total area of the TR0423T010 trapline. Comparatively, since 2008, TR0423T021 and TR0423T022 traplines have reported no harvesting activities. The Project footprint overlaps with 231.9 ha and 50.8 ha of the TR0423T021 and TR0423T022 traplines, respectively, which amounts to less than less than 4% of the total area of these registered traplines (MFLNRO, 2020m).

Fish Harvesting

The LSA overlaps with several notable rivers popular for fishing, including the Elk River, Michel Creek, Fording River, and other waterbodies such as Alexander Creek, Bodie Creek, Brûlé Creek, Cummings Creek, Dalzell Creek, Erickson Creek, Fir Creek, Grave Creek, Harmer Creek, Hollow Creek, Island Creek, Line Creek, Harmer Creek, Grave Lake, Harriet Lake, Summit Lake, and Philips Lake.

Michel Creek is a popular place for anglers to camp and easily accessible via Corbin Creek AMA (Golder Associates Ltd., 2015). Michel Creek is a small tributary of the Elk River and is known for its healthy population of large cutthroat (Elk River Guiding Company, n.d). In 2015, Michel Creek was established as its own classified water. Under this system, a set amount of non-resident, non-guided angler days are available through the existing online angling licensing system. Selections are made on a first-come, first-serve basis, and, once these days are sold, non-resident anglers have to book through a licensed guide to fish on Michel Creek (MFLNRO, 2015). Within the LSA, Summit Lake has also been identified as a popular fishing location. This lake is known for its Gerrard rainbow trout (District of Sparwood, 2016).

The Project footprint overlaps with sections of the Elk River, Grave Creek, and the West Alexander Creek (MFLNRO, 2020o). As previously noted, the Elk River has been identified as a popular location for cutthroat trout, white fish, and bull trout. It has been estimated that approximately 15 to 20 anglers use the Elk River in the area north of Sparwood daily during the summer and early fall (Golder Associates Ltd., 2015).

The Project footprint also overlaps with West Alexander Creek and Grave Creek. Based on input received through public stakeholder engagement, backcountry fishing activities occur in the Alexander Creek and Grave Creek. It is important to note that as of August 1, 2020, no fishing is permitted in Grave Creek and its tributaries. In Alexander Creek, including its tributaries upstream of Highway #3 crossing, catch and release for trout and char without bait is permitted from June 15 through August 31 (MFLNRO, 2019a).

The Freshwater Fisheries Society of BC stocks lakes throughout BC to promote recreational fishing. Within the LSA, the Freshwater Fisheries Society of BC stocked Grave Lake with Westslope Cutthroat in 2019 and Kokanee Salmon in 2020. Summit Lake was stocked with Westslope Cutthroat in 2019 and Rainbow Trout in 2020. Lastly, Mite and Barren Lakes were both last stocked with Westslope Cutthroat fry in the fall of 2012 (FFSBC, 2020).

Guided Outfitters

There are no active guide outfitter tenure areas within the Project footprint or the LSA.

4.2.9 Recreation and Tourism

The recreation and tourism sector has been on the rise in the Elk Valley over the last two decades (RDEK, 2014b). Opportunities for outdoor activities are abundant in the East Kootenay region. Winter and spring activities include downhill skiing, snowboarding, and cross-country skiing in the front country and heli-skiing, cat-skiing, ski touring, and snowmobile tours in the backcountry. Summer and fall activities include golf, hiking, backpacking, mountain biking, canoeing, kayaking, white-water rafting, boating, windsurfing, heli-touring, rock climbing, mountain climbing, hang gliding, paragliding, trail riding, hunting, and ATV riding (RDEK, 2014b).

In the Elk Valley, tourism is largely concentrated in Fernie, a renowned destination for winter activities. Visitor spending in Fernie was calculated to be over \$100 million in 2015 with an annual visitation of over 300,000 people (Tourism Fernie, 2020). Elkford and Sparwood have expressed an interest in increasing tourism opportunities in their communities.

4.2.9.1 Regional Study Area

Outdoor Recreation

All communities in the Land Use and Access RSA have local trails for use by hikers, bikers, horseback riders, snowshoers and cross-country skiers (**Figure 4-10**). Outdoor recreation is highly valued by local residents, and it is considered to be important component of their lifestyle. Based on public engagement, within the RSA, there is a high number of trail users, which can often results in interactions between different user groups (e.g. hikers and horseback riders, motorized and non-motorized users).

Elkford has 40 km of marked interpretive hiking and biking trails, including Josephine Falls, Lily Lake Trail, Lost Lake Trail, Bare Hill Lookout, and Boivin Creek Peace Trail. In addition, there are multiple forestry recreation sites along the Elk Valley Forestry Service Road, located north of Elkford (District of Elkford, 2010). These sites include Round Prairie, Blue Lake, Weary Creek, Riverside, and Upper Elk River.

Fernie is the gateway to over 300 km of multi-use trails (Fernie Trails Alliance, 2020). Popular hikes near Fernie include Fernie Ridge Trail, Mount Fernie Hiking Trail, Castle Mountain, Mount Hosmer, Three Sisters, Fairy Creek Falls, and Mount Proctor Ridge (Tourism Fernie, 2020a). In addition, Fernie has over 110 mountain bike trails located in seven different surrounding areas, the majority of which are single track and located a rideable distance from the town of Fernie (Tourism Fernie, 2020a). For information on trails in Sparwood, refer to **Section 4.2.9.2**.

Key regional trails overlapped by the RSA include:

- **The Elk Valley Trail** – The Elk Valley Trail connects the towns of Elko, Fernie, Sparwood, and Elkford, with a total length of 198.73 km. This multi-use, non-motorized trail also forms part of the Great Trail, also known as the Trans Canada Trail, which is a cross-Canada system of trails. The Elk Valley Trail is described as a rural wilderness dirt trail that includes section of natural trail, gravel trail, paved trail, and gravel road (Trans Canada Trail, 2020). The Elk Valley Trail also utilizes sections of the Coal Discovery Trail. The Elk Valley Trail passes through private properties, where owners have granted access to their land.
- **The Great Divide Trail** – The Great Divide Trail traverses the continental divide between Alberta and BC. This trail begins at the Canada-US border and ends 1,123 km to the north at the Kakwa Provincial Park. The Great Divide Trail is made of several different trail systems, including ATV tracks, roads, and wilderness routes (Great Divide Trail Association, 2020). The Great Divide Trail also intersects with the Deadman Pass.

Recreation Sites and Trails BC maintains and manages recreation sites and recreation trails located on Crown Land through service contracts and under partnership agreements with private and public organizations (MFLNRO, n.d.). The RSA transects the following forest recreation sites, recreation trails and viewpoints:

- 15 Forest Recreation Sites;
- 13 Forest Recreation Trails;
- 171 Active Forest Recreation Trail Segments; and
- 49 Forest Vegetation Viewpoints.

Within the RSA, the majority of these recreation sites and trails are located in remote areas surrounding Fernie and Elkford. Generally, access to these areas is via forestry roads. Camping, hunting, angling, horseback riding, and viewing are popular activities that occur in these areas. In general, recreational sites provide basic facilities, such as fire-rings, picnic tables, outhouses, and, where appropriate, boat-launching ramps. Potable water and electricity is not provided. Within the RSA, there are 49 defined campsites located near recreation sites (MFLNRO, 2020p).

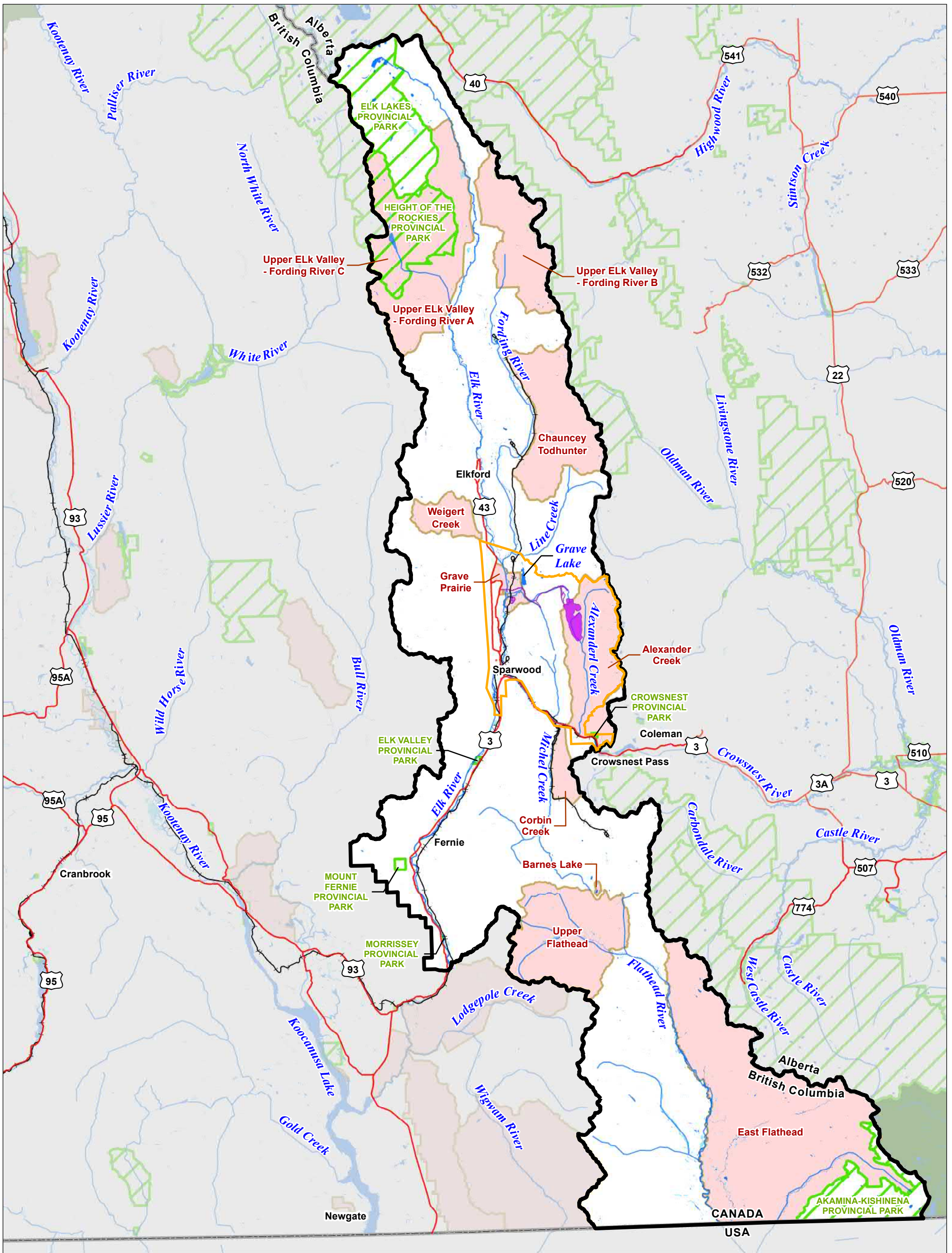
Located five kilometers from the town of Fernie, the Fernie Alpine Resort is the largest alpine ski area within the RSA. This ski resort has 142 ski runs, five legendary bowls, and a ski cross course (Tourism Fernie, 2020a). Fernie Alpine Resort also offers a small network of multi-use trails for cross-country skiing, snowshoeing, and fat biking/winter mountain biking. The second ski area within the RSA is Wapiti Skill Hill, which is a small, family-oriented, and volunteer-run skill hill located on the west side of Elkford.

The Fernie Nordic Society grooms and maintains 28 km of cross-country ski trails at three separate locations, including the Elk Valley Nordic Centre, Fernie Golf Course, and Montane Property. These trails are groomed and track set for both classic and skate skiing (Fernie Nordic Society, 2020). The Elkford Nordic Ski Club maintains over 14 km of cross-country ski trails and two warming huts at the Boivin Trail, which is located southwest of Elkford. The Boivin Trail is only groomed and track set for classic skiing. Information on cross-country skiing in Sparwood is provided in **Section 4.2.9.2**.

Motorized Recreation

Motorized recreation (i.e. ATV and snowmobile) is popular in the RSA. These activities occur on designated trails, gravel roads, access roads, and forestry roads. As a result of the rapid expansion of the resource road network and the increasing popularity of motorized recreation, there has been a dramatic growth in the public use of forests and forest lands in the Kootenay region. Access Management Areas (AMAs), regulated through the *Wildlife Act* (**Section 4.15.8**), are a mechanism through which the Ministry of the Environment manages access to sensitive areas and areas of high wildlife habitat values, including limiting hunting and fishing. In the Rocky Mountain Forest District, which includes the Cranbrook TSA, approximately eight percent of resource roads in the district have some degree of restrictions to public motorized access (Province of BC, 2020b). The RSA intersects with 13 AMAs, with a combined overlap of 175,510.6 hectares (**Figure 4-11**). These include:













- Grave Prairie AMA;
- East Flathead AMA;
- Chauncey Todhunter AMA;
- Upper Flathead AMA;
- Wigwam Flats AMA;
- Upper Elk Valley - Fording River A AMA;
- Upper Elk Valley - Fording River B AMA;
- Upper Elk Valley - Fording River C AMA;
- Corbin Creek AMA, Alexander Creek AMA;
- Weigert Creek AMA;
- Barnes Lake AMA; and
- Upper Wigwam AMA.



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Access Management Areas Figure 4-11

LEGEND

- | | | | |
|---|--|---|--------------------------------|
|  | Access Management Areas |  | National Park |
|  | Land Use and Access Regional Study Area (Electoral Area A) |  | Provincial Park/Protected Area |
|  | Land Use and Access Local Study Area |  | Railway |
|  | Project Footprint |  | BC/Alberta Border |
|  | Waterbody | | |
|  | Wetland | | |
|  | Watercourse | | |
|  | Highways | | |

0 5 10 20 km
SCALE 1:525,000

MAP DRAWING INFORMATION:
Data Provided By NWP Coal Canada Ltd, Dillon Consulting Limited,
Province of British Columbia GeoBC Open Data, Government of
Alberta Open Data, Natural Resource Canada

MAP CREATED BY: RBB
MAP CHECKED BY: DM
MAP PROJECTION: NAD 1983 UTM Zone 11N



PROJECT: 12-6231
STATUS: FINAL
DATE: 2021-12-15

Within the RSA, there are multiple active ATV and snowmobile clubs such as the Elkford ATV Club, Elkford Snowmobile Association, Elk Valley Mountaineers, Fernie Snowmobile Association (Elkford Trails, n.d.; Fernie Tourism, 2020a).

Other Recreational Infrastructure

The RSA includes additional forms of recreational infrastructure, including:

- **Campgrounds** - Elkford Municipal Campground, Mountain Shadows Campground, and Mount Fernie Provincial Park Campground. In addition, the RSA transects multiple unnamed and unofficial campsites identified during primary data collection; and
- **RV Parks** - Snowy Peaks RV, Whispering Winds Trailer Park, and Fernie RV Resort.

Tourism

In the Elk Valley, tourism is largely concentrated in Fernie, a renowned destination for winter activities. In 2020, the Fernie Tourism Master Plan was released to support the long-term success and sustainability of tourism in the community. This plan emphasizes the importance of maintaining and growing access to natural attractions and recreation amenities. Visitor spending in Fernie was calculated to be over \$100 million in 2015 with an annual visitation of over 300,000 people. Due to Fernie's proximity to the BC - Alberta border, more than half of these leisure visitors are Albertans (Tourism Fernie, 2020).

For over 50 years, winter ski tourism has been the largest source of leisure-based tourism in Fernie. Visitors are attracted to Fernie's core winter assets, including the Fernie Alpine Resort and Island Lodge and Catskiing. There has also been significant and recent growth in Nordic skiing and snowmobiling. More recently, summer tourism has experienced substantial tourism growth. Between 2010 and 2018, summer room revenue increased 86%, while winter room revenue increased 18% over the same period (Tourism Fernie, 2020b). During summer season, visitation is largely driven by interest in the local valley and mountain trails and parks, mountain biking, as well as activities on the Elk River such as fly fishing, rafting, and stand-up paddle boarding. As the official shoulder seasons, spring and fall continue to represent significant growth opportunities, specifically in April, May, October and November (Tourism Fernie, 2020b).

Fernie offers a variety of annual events and festivals many of which are focused on outdoor recreation. The TransRockies Classic is a seven stage mountain bike race, with stages from Elkford to Crowsnest Pass and Crowsnest Pass to Fernie, and covers a total length of 550 km. This race includes sections of gravel road, doubletrack (ATV trails) as well as paved sections. The TransRockies Race Series also includes single track-specific race and gravel-specific race. Other races in Fernie include: the Fernie Gravel Grind, Fernie Enduro, and the Fernie Half Marathon (Tourism Fernie, 2020). Fernie also hosts the Wapiti Music Festival, which features Canadian artists, and the Fernie Annual Reel Canadian Film Festivals.

As noted in **Section 4.2.8.1**, multiple guided outfitters operate in the RSA. In addition, a range of guided tours are offered throughout the RSA. Mountain High Adventures and Canyon Raft Company offer guided white-water rafting trips along the Elk River. Island Lake Catskiing offers guided backcountry ski tours, showcasing alpine bowls and spectacular peaks. The Elk Valley Snow Shepherds offers guided backcountry snowmobiling in the Fernie area. There are also opportunities for guided hikes, nature walks, mountain bike trips, and backcountry horseback riding trips (Fernie Toursim, 2020).

Sparwood and Elkford are interested in increasing tourism in their communities. Elkford, branded as “Wild at Heart”, is a popular destination for range of outdoor activities, including ATV touring, mountain biking, hunting, and world class fly-fishing. Elkford is also located in close proximity to Elks Lake Provincial Park and Height of the Rockies Provincial Park (District of Elkford, 2010). Information on Sparwood’s tourism industry is provided in **Section 4.2.9.2**.

The Ktunaxa Nation has also expressed interest in participating in the tourism economy through guiding activities such as sports fishing-based tourism and guided outfitters (Firelight Group et al., 2014).

4.2.9.2 Local Study Area and Project Footprint

Within the Land Use and Access LSA, recreation and tourism features focus largely on opportunities for nature-based, outdoor activities, which, as previously noted, are abundant.

Table 4-15 describes the recreational trails and trail points located within the LSA and the Project footprint. These trails are described in further detail in the following sections (i.e. motorized recreation, outdoor recreation, and additional recreation infrastructure).

Table 4-15: Recreational Trails and Trail Points Transected by the Project Footprint and Land Use and Access LSA

Recreational Trails	Source	Project Footprint		Land Use and Access LSA	
		Number of Segments	Total Length (km)	Number of Segments	Total Length (km)
ATV Trails	Primary Consultation	8	34.2	43	131.6
Forest Recreation Trails	Recreation Sites and Trails BC	n/a	n/a	2	1.84
Sparwood Fish and Wildlife Access Routes	Primary Consultation	3	12.1	6	33.4
Kootenay Trails	Kootenay Trails	3	86.3	12	250.5
Kootenay Trail Points	Kootenay Trails	n/a	n/a	15	n/a

Recreational Trails	Source	Project Footprint		Land Use and Access LSA	
		Number of Segments	Total Length (km)	Number of Segments	Total Length (km)
Canvec Trails	Canvec	n/a	0.39	24	48.0
Transportation Line – Trails	Digital Road Atlas	3	0.73	10	4.84

Sources: Canvec, 2020; Digital Atlas, n.d.; Trails BC, 2020; Great Divide Trail Association, 2020.

Notes: n/a = not applicable; As noted, data on recreation trails is from multiple sources. As a result, there is potential for overlap between these datasets.

Segment = Linear section of a trail feature with uniform characteristics

Outdoor Recreation

The LSA overlaps with two segments of the Great Divide Trail, including Coleman to Alexander Creek and Alexander Creek to South Line Road (Great Divide Trail Association, 2020; Trails BC, 2020). In the southeast corner of the LSA, the Great Divide trail follows the Deadman’s Pass to Alexander Creek, crossing the Alexander Creek Bridge (Figure 12). Within the RSA, the trail follows the Alexander Creek north, passing a backcountry campground, an additional creek crossing, the Crown Trail, and an ATV trail junction (**Figure 4-10**) (Great Divide Trail Association, 2020). These segments of the Great Divide Trail are largely on gravel trails and overlap with motorized recreation trail features.

In addition, the LSA overlaps with the Elk Valley Trail, which is a designated section of the Trans Canada Trail network. The following sections of the Elk Valley Trail are transected by the LSA: Ingram to Mountain Shadowing; Mountain Shadow to Sparwood; Sparwood to Fording; and Fording to Elkford. The Ingram to Mountain Shadow section of the trail is described as challenging due to the steep grades and considered best suited for mountain biking and hiking. The Mountain Shadow to Sparwood section of the route travels along a winding, forested dirt trail and ends in Sparwood. After travelling through Sparwood, the remaining sections of the Elk Valley Trail head north along the Elk Valley River (Trails BC, 2020).

The LSA also transects several alternative routes for the Elk Valley Trail, including Elk Valley Ranch alternate route, the Ingram to Mountain Shadow bypass route and the Fording to Elkford Highway route. The Elk Valley Ranch route is an interesting route that travels through the Elk Valley Ranch on land owned by the Nature Trust of BC. The Ingram to Mountain Shadow bypass route provides an easier route option, particularly for cycle touring, in comparison to the more challenging section on the Elk Valley Trail. The Fording to Elkford Highway route is highway route that bypass the Elk Valley (Trail Trails BC, 2020).

The LSA transects one recreation trail managed by the BC Recreation Trails and Sites. This trail is located on the west side of the Elk River and connects into Sparwood’s local trail system.

There is a large network of local trails and significant number of trail users in the community of Sparwood. The Sparwood Trails Alliance is committed to improving existing trails as well as constructing new mountain bike trails, hiking, and ski trails, with the ultimate objective of creating local opportunities to explore the outdoors. The association currently maintains approximately 35 km of trails, located within the LSA (Sparwood Trails Alliance, 2020). In addition to connections to the regional trail system, the local Sparwood trail network includes: Juniper Trail, Lilac Trail, Lions Trail, and Matevic Trail.

The Sunset Ridge Cross-Country Ski Trails is the closest and only ski area to the LSA. The Sunset Ridge Ski Society maintains over 10 km of groomed cross-country ski trails located in Sparwood (District of Sparwood, 2016). There are no alpine ski areas located within the LSA or Project footprint

Grave Lake is a popular weekend getaway for local residents (District of Sparwood, 2016). The southwest end of Grake Lake is currently managed by the Sparwood Fish and Wildlife Association. Grave Lake has been recognized as the only large, access lake in the Elk Valley, with opportunities for a variety of lake-oriented recreational activities (RDEK, 2014).

During primary data collection, the Sparwood Fish and Wildlife Association identified three access routes transected by the Project footprint. These include: main access to Harmer Creek; main access road through Rock Teepee trail into Soap Creek; and an unnamed access route that allows motorized access and is popular for mountain biking and hiking when the road is closed (**Figure 4-12**).

Motorized Recreation

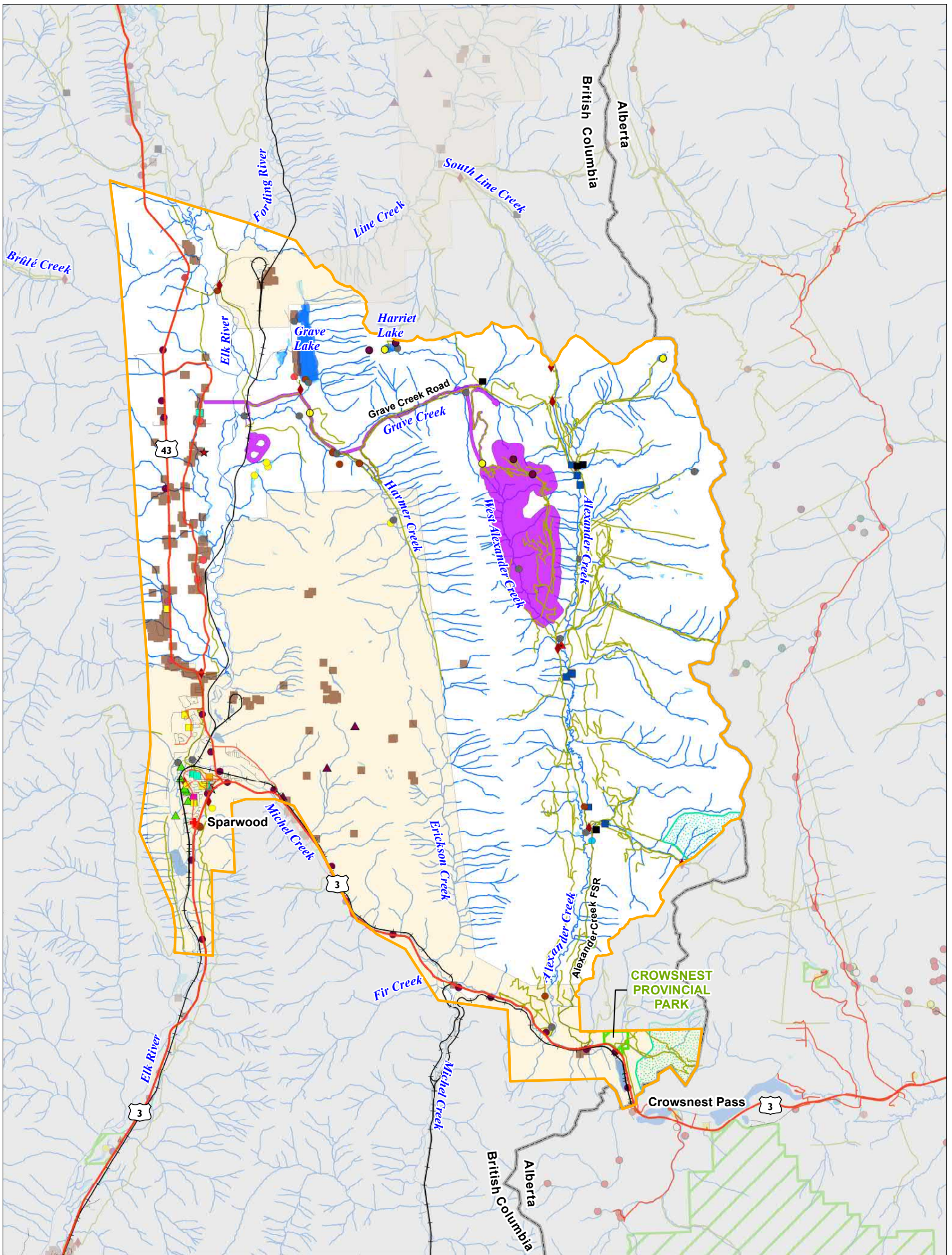
The LSA transects four (4) AMAs. These include: Alexander Creek AMA, Grave Prairie AMA, Corbin Creek AMA, and Weigert Creek AMA. The Project footprint transects two AMAs, Alexander Creek and Grave Prairie. **Table 4-16** summarizes the extent to which these AMA are transected by the LSA and Project footprint.

Table 4-16: Access Management Areas Transected by the Project Footprint and Land Use and Access LSA

Name	Project Footprint		Land Use and Access LSA	
	Ha	% total of AMA	Ha	% of total of AMA
Alexander Creek AMA	990.0	6.0%	15,027.8	92.3%
Corbin Creek AMA	n/a	n/a	20.8	0.07%
Grave Prairie AMA	99.48	5.0%	1,956.7	100.0%
Weigert Creek AMA	n/a	n/a	0.015	0.0003%

Source: (MFLNRO, 2019c)

Ha=hectares; AMA = Access Management Area; % = percent



Crown Mountain Coking Coal Project

Land Use and Access Baseline Report Built Features and Points of Interest Figure 4-12

LEGEND

- | | | | |
|---|--------------------------|---|------------------------|
| ★ Airport | ▲ Park | ● Viewpoint | — Highways |
| ■ Buildings (Residential, Commercial, Industrial) Outside of Sparwood Built-up Area | ● Parking / Staging Area | ● Other | — Arterial Roads |
| ■ Cabin | ■ Place of Worship | ■ Snowmobile Restricted Areas | — Local/Resource Roads |
| ● Campground | ● Recreation | ■ Sparwood Official Community Plan Area | — Trail |
| ● Commercial | ● Residence | ■ Land Use and Access Local Study Area | — BC/Alberta Border |
| ■ Day Care | ■ School | ■ Project Footprint | |
| ● Health Centre | ■ Senior Centre | ■ Provincial Park/Protected Area | |
| ○ Information Centre | ◆ Trail Point | ■ Waterbody | |
| ▲ Mine | ▲ Inactive Trapline | ■ Wetland | |
| ★ Museum | ■ Trapline Cabin | — Watercourse | |



SCALE 1:120,000

MAP DRAWING INFORMATION:
Data Provided By NWP Coal Canada Ltd, Dillon Consulting Limited, Province of British Columbia GeoBC Open Data, Government of Alberta Open Data, Natural Resource Canada, OpenStreetMap, Motor Vehicle Prohibition Regulation, Consultation.

MAP CREATED BY: RBB
MAP CHECKED BY: DM
MAP PROJECTION: NAD 1983 UTM Zone 11N

NOTE:
The information related to cabins is derived from several sources including: the Primary Data Collection Program, B.C. Stats, and Targeted Land Use Engagement Activities. As a result, it is possible that there are overlaps with the data points and this figure may portray additional cabins due to the timelines of data collection. Primary data collection occurred between May 2020 and July 2020. Targeted engagement for the land use program occurred between March 2021 and April 2021.



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STATUS: FINAL
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The LSA overlaps the entirety, 1,956.7 hectares, of the Grave Prairie AMA, and 15,027.8 hectares, or 92.3%, of the Alexander Creek AMA. Comparatively, less than one percent of both the Corbin Creek AMA, 20.8 hectares, and the Weigert Creek AMA, 0.015 hectares, are transected by the LSA. The Project Footprint transects 990.0 hectares, 6 percent, of the Alexander Creek AMA and 99.48 hectares, 5 percent, of the Grave Prairie AMA (**Figure 4-11**).

The LSA transects 43 ATV trail segments, ranging in length from less than half a kilometer to over 20 km. Within the LSA, these trails cover a combined total length of 132.0 km (Elkford Trails, 2010). Located on the west side of the LSA, Alexander Creek AMA has been identified as high use area for ATV riding and snowmobiling. ATV trails in this area include Crown Mountain, Alexander Creek Trail, Deadman's Pass, and Racehorse Pass. In addition to local residents, this area also attracts riders from Alberta who can access the area using Deadman's Pass and Racehorse Pass.

During the winter months, there are multiple snowmobile trails concentrated on the northern end of the Alexander Creek AMA. Within the Project footprint, one snowmobile cabin, owned by Elk Valley Mountaineers, is also situated on the north end of the Alexander Creek AMA (Elkford Trails, 2010). It is important to note that the Elk Valley Mountaineers have identified a land tenure at the base of Crown Mountain (BC Environmental Assessment Office, 2016).

Trails located on the north end of the Alexander Creek AMA connect into the Grave Prairie AMA via the Rock Teepee trail, a gravel trail that travels along Grave Creek. The Grave Prairie AMA is located in the northwest corner of the LSA. During primary data collection, trails connecting these two AMAs were identified as popular ATV and snowmobile trails. The Grave Prairie AMA is one of the busiest AMAs for recreationists, especially in earlier September during the elk and deer bow-only hunting seasons (RDEK, 2018).

It is important to note that other unmarked ATV trails exist within the LSA and possibly within the Project footprint. Based on information provided during primary data collection, there are informal passes located north from Deadman's pass that are used regularly.

Additional identified uses for these trails located within the Alexander Creek AMA and the Grave Prairie AMA include hiking, biking, and horseback riding.

The Project footprint overlaps with eight (8) segments of ATV trails, covering a total distance of 34.2 km. These segments include multiple sections of Crown and Deadman's Pass trails. The Project footprint also overlaps with two staging areas, one of which is specific to snowmobiles.

Located on the south side of Highway #3, Corbin Creek AMA provides access to Michel Creek, which, as previously mentioned in **Section 4.2.8.2**, is a popular place for anglers to camp.

Other Recreational Infrastructure

Other recreational features located within the LSA include the Sparwood Golf Club, the Parwood Disc Golf Course, and the Sparwood Rifle Range (District of Sparwood, 2016). In addition, recreational amenities identified in Sparwood through public stakeholder engagement include a dog park, bike park, and water spray park.

Within the LSA, three cabins were identified through primary data collection. Two of these cabins were identified as potential trapper cabins and one was identified as a snowmobile cabin. No identified cabins overlap with the Project footprint.

The LSA overlaps with nine campgrounds. These campgrounds were identified through primary data collection; seven of these campgrounds are unnamed or unofficial. One of these campgrounds is located at the southwest corner of Grave Lake. This campsite has a boat launch and picnic area, and it is leased to the Sparwood Fish and Wildlife Association. Located near Sparwood, the Mountain Shadows Campground is tenting and RV / trailer site that is popular in the summer months (Mountain Shadows, n.d.). This campground includes 63 serviced sites, picnic areas, water, power, and as well as a few other amenities. The Whispering Winds Trailer Park is also transected by the LSA.

The Sparwood Fish and Wildlife Association identified two viewpoints within the Project footprint (**Figure 4-12**).

Tourism

Within the LSA, there are several visitor attractions and amenities located in Sparwood. In addition to campsites previously mentioned, Sparwood also offers multiple different types of accommodations for visitors, including hotels and motels, cabins, and bed and breakfasts such as:

- Causeway Bay Hotel & Conference Centre, which offers 83 rooms;
- Valley Motel, which offers 29 rooms, 10 of which have kitchenettes;
- Summit Creek Cabins, which includes three cabins with capacity for four (4) to six (6) guests; and
- Holley Lane Bed and Breakfast, which includes three (3) guest rooms.

Located at the Sparwood Visitor Information Centre, the 1974 Terex Titan, which is one of the world's largest trucks, is a prominent tourist attraction. Sparwood actively celebrates their mining history and offers Mining History Walking Tours to showcase antique mining machinery. In addition, in July and August, the Sparwood Chamber of Commerce offers interpretive coal mine tours on Tuesdays, Wednesdays and Thursdays (District of Sparwood, 2016).

5.0

Summary of Land Use and Access Conditions

The Land Use and Access baseline report describes land use designations, plans, tenures, and activities that occur in the Elk Valley region. The Land Use and Access RSA includes the communities of Sparwood, Elkford, and Fernie and areas surrounding these communities (i.e. Hosmer). The Land Use and Access LSA overlaps with the District of Sparwood, the closest community to the Project.

The Project footprint is situated on both private and public lands. The majority of the Project footprint is located provincial public lands designated as Coal – Enhanced Resource Development Zone, which prioritizes coal mining and exploration. The Project footprint also overlaps with the Elk Valley Official Community Plan and is almost entirely zoned as Rural Resource Zone, which recognizes resource extraction as a permitted land use.

The East Kootenay region is characterized by resource extraction industries such as mining and forestry as well as nature-based tourism and recreation features and opportunities. Mining is the predominate income generating land use activity in the region, and as described in further detail in the Socio-economic Baseline Report, the mining industry represents the largest component of the regional economy in the RDEK. More specifically, in the Elk Valley, coal is the leading mineral resource product. In addition to NWP's proposed Crown Mountain Coking Coal Project, the Land Use and Access LSA overlaps with one active coal mining operation, Teck's Elkview Operation. The Project footprint overlaps with several mineral claims held by Fertoz International Inc. and Summit Natural Rock.

Canfor is the primary forestry operator on Crown land in the RSA and the only forestry operator on Crown land in the Project footprint. The only active forest tenure transected by the Project footprint is NWP's Occupant License to Cut.

The Elk Valley offers an abundance of opportunities for outdoor recreation, which is highly valued by local residents and visitors to the area. There are many provincial and regional parks and protected areas transected by RSA. However, within the LSA, parks and protected areas are limited to Crownst Provincial Park and Grave Prairie and Elk River Conservation Lands. The Project footprint overlaps with a small portion of the Grave Prairie conservation lands.

Wildlife and fish harvesting are prevalent activities throughout the RSA and LSA. Hunting for big game species (i.e. elk, white-tailed deer, mule deer, moose, and black bear) commonly occurs in forested areas in both the RSA and LSA. Guided outfitters also operate within the RSA. Within the LSA, hunting areas have been identified south of Grave Lake, northeast of Harmer Creek, and west of the Elk River. It is also expected that the Project footprint may be subject to hunting activity. Trapping activity, particularly for martens, also occurs within the LSA and Project footprint. The Project footprint overlaps with four traplines; two of these traplines have not reported harvests since 2008.

Within the LSA, the Elk River, Michel Creek and Alexander Creek are popular fishing areas for both public use and guided fishing trips. Key sought after species include cutthroat trout, white fish, and bull trout. The Project footprint overlaps with the Elk River, Grave Creek, and West Alexander Creek. Grave Creek and Alexander Creek have been previously been identified as popular backcountry fishing areas. Grave Lake has been recognized as the only large, access lake in the Elk Valley, with opportunities for a variety of lake-oriented recreational activities.

Within the RSA and LSA, there is an extensive and interconnected network of local and regional trails used for hiking, running, cross country skiing and mountain biking. The LSA transects multiple sections of the Elk Valley Trail and the Great Divide Trail. The Project footprint also overlaps with three main recreational access routes and two viewpoints, which were identified by the Sparwood Fish and Wildlife Association.

Motorized recreation (i.e. ATV and snowmobile) activities also occur on designated trails, gravel roads, access roads, and forestry roads that are located in the RSA and LSA. Additional identified uses for motorized trails within the LSA include hiking, biking, and horseback riding. The Project footprint overlaps with sections of ATV trails, including sections of Crown, Deadman's Pass trails and possibly informal trails. The Project footprint also overlaps with two staging areas for motorized recreation.

Tourism in the Elk Valley is largely concentrated in Fernie, a renowned destination for winter activities including downhill skiing with a growing summer visitor base. Sparwood and Elkford have expressed interest in enhancing tourism opportunities in their communities.

6.0

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Glossary

Indirect Effects are defined by CEEA as secondary environmental effects once removed from the cause-effect pathway that occurs as a result of the project.

Appendix A

Primary Data Collection Program Materials

1.0 Introduction

This interview guide is designed to act as both a script and guide for interviews conducted by the Project team. The introductory text will be provided to participants by email and/or over the phone.

Participants will not be asked all questions presented in the guide, but rather information in specific subsections relevant to each participant's particular specialty area will be presented to each participant. For example, a guide outfitter may be provided with the outdoor tourism and recreation section and specific questions from the visual quality section; while an economic development officer may be presented with questions in sections on regional economy, economic development, municipal finances and labour force. All participants will be provided with the information outlined in the introductory and concluding sections. No participants will be provided with questions from more than six sections: most questions will be taken from four or fewer sections.

2.0 Email and In-Person Interviews

Interviewer collected the following information at the start of each interview.

Name of Interviewee:

Organization, Position:

Confidentiality: Yes/No – if confidentiality is requested, your information will be included as a representative of your organization.

Date of Interview:

3.0 Stakeholder Questions

3.1 Population and Demographics

Example Target Groups: City of Fernie, Manager - Planning and District of Elkford CAO

1. How does mining impact human migration in and out of your community? What is your attitude towards this migration? Population growth in general?
2. What is the demographic profile (e.g., age groups, families, etc.) of those who normally migrate into your community? Migrate out of your community?
3. How many seasonal residents do you estimate your community has? What season(s) do these residents typically come to the community?

4. Are there / have you noticed any trends or changes in population - shifts or fluctuations in overall numbers, as well as demographics, etc.?
5. Does your organization have any priorities related to population and demographics such as population growth or targeted population growth?
6. Have you completed any recent studies that may highlight population trends, which could be provided?

3.2 Regional Economy

Example Target Groups: District of Elkford, Director - Financial Services and District of Sparwood CAO

1. How does mining impact the demand for goods and services in the community?
2. What other sectors do you view as important to your community's economy? What is the approximate percent spread for contributions to the regional economy per sector?
3. Are there any economic trends you feel are influencing your community's economy?
4. Have you completed any studies that may inform the regional economy?

3.3 Economic Development

Example Target Groups: District of Elkford CAO and District of Sparwood CAO

1. What role does mining play in your economic development strategy?
2. What businesses in your community currently support the mining sector?
3. What economic development challenges is your community currently facing?
4. How does economic leakage (money leaving the local economy from workers) play a role in your community?

3.4 Government Finance

Example Target Groups: District of Elkford, Director - Financial Services and District of Sparwood, Director - Financial Services

1. How do mining activities, royalties, and tax revenues impact your community's fiscal position? Is there increased spending or revenues in your organization (beyond taxes paid by the mines) associated with the presence of these operations?
2. Are your tax revenues sufficient for your government to execute the spending it would like to undertake?

3.5 Labour Force and Income

Example Target Groups: City of Fernie CAO and District of Elkford CAO

1. What labour force challenges are currently faced by your organization? What types of labour are over supplied? Under supplied?
2. Does your community have any issues with unemployment? Income inequality?

3. Are there issues attracting labour to other sectors in your community due to the presence of mining jobs?
4. Is there an interest in mining related training opportunities and workforce development? Are there any existing programs?

3.6 Housing

Example Target Groups: Real Estate Agent and District of Sparwood, Director - Planning

1. Is your community facing any housing challenges such as supply or affordability in both ownership and renting?
2. Do you anticipate any changes to housing supply and demand within your community?
3. Municipal: Has your community completed any recent housing studies that could be provided?
4. Hot-bedding is a practice, often in rental accommodations, whereby multiple tenants share bed(room)s in shifts. Is “hot-bedding” common within your community?
5. Are there any trends in your community related to housing availability or price? What factors contribute to those trends?
6. What proportion of your community are seasonal residents and have seasonal residences (including camps and cabins) within your community?
7. What seasons are rental properties and temporary accommodation in the highest demand? How much capacity is available during these peak seasons?
8. Does your community have any past experience with construction camps?

3.7 Community Services

Example Target Groups: Fernie Child Care Society Manager and East Kootenay Addiction Services Counsellor

1. What health services does your organization provide? What is your service area, and/or what is your criteria for service? Are health services within your community sufficient? What health services challenges does your community face? Are there any plans on expanding services, and if so, which ones? Who are the most frequent users (demographically) of the hospital/health services? Are hours of service sufficient for local health care facilities? Are there any challenges with hours of operation?
2. What types of emergency services (including fire and ambulance) are provided in your community? What is your emergency service area, and/or what is your criteria for emergency service? Are emergency services within your community sufficient? What challenges does your community face? Do you have any plans on expanding services? What is/are your service area(s)?
3. What policing services do you provide? What is your policing service area? Are policing services within your community sufficient? What challenges does your community face? Do you have any plans on expanding services? What types of crime are most prevalent in your community, and are there any notable trends?
4. Are child care services within your community sufficient for current demand? What challenges does your community face related to child care services? Does your community have any plans on expanding child care services?

5. Is the availability of recreation spaces such as recreation centres and sports fields within your community sufficient for current demand? What challenges does your community face? Do you have any plans on expanding services?

3.8 Community Well-Being

Example Target Groups: Fernie Women's Resource Centre and East Kootenay Addiction Services Counsellor

1. How would you describe the general feeling about the community? Do people generally enjoy living in the community?
2. What social and political organizations (community, recreational, health, governance, industry, labour, arts and cultural) are active in your community?
3. Are there any social or health issues prevalent within your community?
4. Are there currently sufficient services to support any issues apparent within the community?

3.9 Community Infrastructure

Example Target Groups: Municipality of Crowsnest Pass CAO and Regional District of East Kootenay Director

1. What is the capacity of your community infrastructure (i.e., waste, waste water, storm water, water, etc.)?
2. How much of the capacity is utilized by existing demand?
3. Is your community planning any infrastructure improvements? If so, when and what infrastructure?
4. Are roadways sufficient within your community? Is congestion an issue? Highway safety?
5. Have you completed any recent community infrastructure capacity studies that could be provided?

3.10 Outdoor Tourism and Recreation

Example Target Groups: Packhorse Creek Outfitters and Quad Squad Association President

1. Can you identify areas you and your group utilize in the yellow and orange coloured areas on the map provided (both formal and informal)? What are the types of use?
2. Can you please identify any trails (e.g. hiking, atv, snowmobile, etc.) utilized by outdoor recreationists within the yellow and orange coloured areas of the map provided (for guide outfitters/tourism operators: identify any roads/trails you use to access your operational areas)? Are there challenges with access to these areas?
3. How long have you been utilizing the yellow and orange coloured areas? how many trips do you host per year? What seasons/months do you use these areas in (and which ones are the most popular)? What are the common activities undertaken (e.g., hunting, hiking, backcountry skiing, etc.)?
4. If relevant (hunting, trapping, fishing): What are common target species?

5. If relevant (hunting, trapping, fishing): have you noticed any trends / changes over time in species composition, goals (i.e., trophy, food, hides, etc.) of hunters, and harvest results?
6. What are some of the challenges and opportunities you encounter when using the area? Can you describe any conflicting uses of the lands/tenure areas/recreation areas, and identify where these may occur in the yellow and orange coloured areas on the attached map?
7. How would you describe the character of the region?
8. Has there been a notable effect on outdoor recreation areas/guide outfitter areas from other industries operating in and around the yellow and orange areas, and if so, can you describe these effects?

3.11 Visual Aesthetics

Example Target Groups: Packhorse Creek Outfitters and Quad Squad Association President

1. Can you describe the visual character of the region?
2. Are there any formal/informal viewpoints you are aware of in the orange area or within the yellow coloured area?
3. Are there any sensitive locations that you can identify in the orange area or within the yellow coloured area? For example, formal/informal campsites, cabins, staging areas, viewpoints/lookouts, etc.

3.12 Closure

1. Is there any information you have not provided that you think would be relevant to the Project?
2. Do you have any suggestions on others we may want to connect with regarding this research program?
3. Do you have any questions about the Project I can help you with at this time?

Thank you for taking the time to complete this interview! We appreciate your contributions. If you have any questions, please do not hesitate to contact me.

Appendix B

Hunting and Trapping Seasons and Species Specific Harvesting Data for Wildlife Management Unit 4-23

Table B-1: Trapping Seasons for Wildlife Management Unit 4-34

Species	Season
Beaver	October 1 to April 30
Black Bear	October 1 to May 31
Bobcat	November 15 to February 15
Coyote	October 15 to March 31
Fisher	N / A
Fox	October 15 to February 28
Lynx	November 15 to February 15
Marten	November 15 to February 15
Mink	November 15 to February 15
Muskrat	October 15 to April 30
Raccoon	October 1 to March 31
River otter	October 15 to April 30
Skunk	October 15 to February 28
Squirrel	November 1 to March 15
Weasel	November 1 to February 15
Wolverine	N / A
Wolf	October 15 to March 31

Table B-2: Hunting Seasons for Wildlife Management Unit 4-34

Species	Class	Season Dates	Bag Limit
Mule Deer	4 Point bucks	Sept. 10 to Nov. 10	1
	Bucks	Sept. 1 to Sept. 9 (bow only season and youth only season ^a)	1
White-tailed Deer	Bucks	Sept. 10 to Nov. 30	1
		Sept. 1 to Sept. 9 (bow only season and youth only season ^a)	1
	Antlerless	Oct. 21 to Oct. 31	1
	Either Sex	Nov. 1 to Nov. 30 (youth only season ^b)	2
Dec. 1 to Dec. 20 (bow only season ^b)		2	
Elk	6 Point Bulls	Sept. 10 to Oct. 20	1
	Bulls	Sept 1 to Sept 9 (bow only season)	1
	Antlerless	Sept. 1 to Sept. 9 (bow only season ^c)	1
Moose	Spike-form Bulls	Oct. 15 to Oct. 30	1
		Sept. 1 to Oct. 14 (bow only)	1
Bighorn Mountain Sheep	Full Curl Bighorn Rams	Sept. 10 to Oct. 25	1
Black Bear	n/a	Sept. 10 to Nov. 30 April 1 to June 30 Aug. 1 to Aug. 31 Sept. 1 to Sept. 9 (bow only)	2
Wolf	n/a	Sept. 10 to Jun. 15	3
Coyote	n/a	Sept. 10 to Mar. 31	No Bag Limit
Lynx	n/a	Nov. 15 to Dec. 31	1
Bobcat	n/a	Nov. 15 to Feb. 15	1
Cougar	n/a	Sept. 10 to Feb. 28	1
Columbian Ground Squirrel	n/a	No Closed Season ^d	No Bag Limit
Snowshoe Hare	n/a	Aug. 1 to Apr. 30	10 (daily)
Raccoon	n/a	Sept. 10 to Mar. 31	NBL
Skunk	n/a	Aug. 1 to Apr. 30	NBL
Grouse: Dusky (Blue), Ruffed and Spruce	n/a	Sept. 1 to Nov. 30	5 ^e (15 possession limit)
Ptarmigan	n/a	Sept. 10 to Nov. 30	10 (30 possession limit)

Species	Class	Season Dates	Bag Limit
Raven	n/a	No Closed Season	5
Turkey	Bearded	Apr. 15 to May 15 Sept. 1 to Sept. 30 (bow only)	2 ^f
	Any turkey	Oct. 1 to Oct. 15	
Mourning Dove	n/a	Sept. 1 to Sept 30	5 (15 possession limit)
Coots, Common Snipe	n/a	Sept. 10, 2020 to Dec. 23, 2020	10 (30 possession limit)
Ducks	n/a	Sept. 10, 2020 to Dec. 23, 2020	8 (24 possession limit)
Geese: Snow and Ross's and White-Fronted	n/a	Sept. 10, 2020 to Dec. 23, 2020	5 (15 possession limit)
Geese: Canada and Cackling	n/a	Sept. 10, 2020 to Dec. 23, 2020	10 (30 possession limit)

Source: MFLNRO, 2020

Notes:

n/a = not applicable

a. restricted to hunters under the age of 18.

b. the bag limit for white tailed deer is 2; one may be antlerless and one may be a buck;

(c) restricted to specific areas in WMU 4-23;

d. hunting for Columbian Ground Squirrels is restricted to private land;

e. the daily aggregate bag limit is 5 and the aggregate possession limit is 15.

f. the aggregate limit for turkey is 3, one may be taken in the spring and two in the fall.

g. Restricted daily bag limits of 4 pintails; 4 Canvabacks; 2 Goldeneye and 2 Harlequins.

Table B-3: Species-Specific Hunting Data for Wildlife Management Unit 4-23

Species	Measurement	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average per Year
Elk	Number of hunters	1,180	1,163	1,191	1,236	1,314	1,381	1,387	1,304	1,016	1,041	973	1,199
	Total hunter days	12,498	12,425	13,615	12,799	13,283	14,723	14,419	13,801	10,764	12,888	11,529	12,977
	Total kills	247	251	186	249	262	195	226	198	103	90	135	195
	Days per kill	50.6	49.5	73.2	51.4	50.7	75.5	63.8	69.7	104.5	143.2	85.4	74.3
	Hunter success rate (%)	21%	22%	16%	20%	20%	14%	16%	15%	10%	9%	14%	16%
Moose	Number of hunters	395	317	223	316	305	213	297	259	235	250	151	269
	Total hunter days	3,102	2,785	3,024	3,286	3,415	2,464	3,014	3,108	2,959	3,952	2,282	3,036
	Total kills	81	38	48	52	37	18	51	28	26	37	16	39
	Days per kill	38.3	73.3	63	63.2	92.3	136.9	59.1	111	113.8	106.8	142.6	90.9
	Hunter success rate (%)	21%	12%	22%	16%	12%	8%	17%	11%	11%	15%	11%	14%
White-tailed Deer	Number of hunters	523	826	745	857	779	788	908	981	777	745	634	778
	Total hunter days	6,599	10,752	7,703	10,959	9,807	8,527	10,256	10,128	8,719	8,858	8,330	9,149
	Total kills	159	256	237	314	210	264	333	279	223	171	137	235
	Days per kill	41.5	42	32.5	34.9	46.7	32.3	30.8	36.3	39.1	51.8	60.8	40.8
	Hunter success rate (%)	30%	31%	32%	37%	27%	34%	37%	28%	29%	23%	22%	30%
Mule Deer	Number of hunters	597	618	672	693	600	551	753	775	703	460	464	626
	Total hunter days	6,520	6,999	6,948	7,446	5,491	5,963	7,980	6,946	6,448	4,508	4,860	6,374
	Total kills	36	104	61	34	38	45	40	48	36	34	58	49
	Days per kill	181.1	67.3	113.9	219	144.5	132.5	199.5	144.7	179.1	132.6	83.8	145.3
	Hunter success rate (%)	6%	17%	9%	5%	6%	8%	5%	6%	5%	7%	12%	8%

Species	Measurement	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average per Year
Mountain Goat	Number of hunters	68	119	119	101	60	81	86	107	42	86	88	87
	Total hunter days	450	639	512	610	334	620	510	950	302	623	549	554
	Total kills	12	45	40	18	16	25	25	33	10	13	28	24
	Days per kill	37.5	14.2	12.8	33.9	20.9	24.8	20.4	28.8	30.2	47.9	19.6	26.5
	Hunter success rate (%)	18%	38%	34%	18%	27%	31%	29%	31%	24%	15%	32%	27%
Sheep	Number of hunters	169	150	168	131	178	171	176	174	162	191	145	165
	Total hunter days	1,832	1,350	1,856	1,757	2,246	2,028	2,062	1,987	1,942	2,620	1,856	1,958
	Total kills	2	6	12	16	8	5	16	12	6	9	10	9
	Days per kill	916	225	154.7	109.8	280.8	405.6	128.9	165.6	323.7	291.1	185.6	289.7
	Hunter success rate (%)	1%	4%	7%	12%	4%	3%	9%	7%	4%	5%	7%	6%
Wolf	Number of hunters	140	91	126	128	185	236	222	158	186	151	181	164
	Total hunter days	N/A	N/A	N/A	1970.8	N/A	3776	N/A	N/A	N/A	N/A	2286.4	730
	Total kills	0	0	0	13	0	10	0	0	0	0	8	3
	Days per kill	N/A	N/A	N/A	151.6	N/A	377.6	N/A	N/A	N/A	N/A	285.8	74.1
	Hunter success rate (%)	0%	0%	0%	10%	0%	4%	0%	0%	0%	0%	4%	2%
Black Bear	Number of hunters	216	169	179	139	216	224	258	261	194	213	213	207
	Total hunter days	2,317	2,291	2,019	2,134	2,479	3,868	3,540	2,969	2,178	2,819	3,101	2,701
	Total kills	22	9	6	14	18	44	30	6	11	12	6	16
	Days per kill	105.3	254.6	336.5	152.4	137.7	87.9	118	494.8	198	234.9	516.9	239.7
	Hunter success rate (%)	10%	5%	3%	10%	8%	20%	12%	2%	6%	6%	3%	8%

Species	Measurement	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average per Year
Grizzly Bear	Number of hunters	16	13	4	7	2	7	0	5	2	0	0	5
	Total hunter days	297	221	40	126	N/A	105	N/A	150	N/A	N/A	N/A	85
	Total kills	7	8	2	2	0	7	0	5	0	0	0	3
	Days per kill	42.4	27.6	20	63	N/A	15	N/A	30	N/A	N/A	N/A	18
	Hunter success rate (%)	44%	62%	50%	29%	0%	100%	N/A	100%	0%	N/A	N/A	35%
Cougar	Number of hunters	34	19	31	33	33	21	28	38	32	41	31	31
	Total hunter days	397	214	N/A	334.5	N/A	459	415	456	N/A	N/A	N/A	207
	Total kills	8	3	0	15	0	6	5	3	0	0	0	4
	Days per kill	49.6	71.3	N/A	22.3	N/A	76.5	83	152	N/A	N/A	N/A	41.3
	Hunter success rate (%)	24%	16%	0	45 %	0	29%	18%	8%	0	0	0	13%
Ruffed Grouse	Number of hunters	93	193	135	157	130	182	186	140	186	187	173	160
	Total hunter days	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total kills	124	785	417	340	343	627	1124	325	521	494	365	497
	Days per kill	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Hunter success rate (%)	133%	407%	309%	217%	264%	345%	604%	232%	280%	263%	211%	297%
Spruced Grouse	Number of hunters	94	165	125	105	73	132	169	89	102	144	110	119
	Total hunter days	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total kills	152	427	345	222	220	324	661	159	266	394	238	310
	Days per kill	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Hunter success rate (%)	162 %	259 %	276 %	211%	301%	245%	391%	179%	261%	274%	216%	252%

Species	Measurement	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average per Year
Blue Grouse	Number of hunters	63	91	52	78	49	40	71	61	70	53	55	62
	Total hunter days	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total kills	0	121	115	65	42	121	125	44	172	53	23	80
	Days per kill	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Hunter success rate (%)	0%	133%	221%	83%	86%	302%	176%	72%	246%	100%	42%	133%

Source: Kootenay Wildlife, 2020a

Table B-4: Species-Specific Trapping Harvesting Data in Wildlife Management Unit 4-23

Trapline Tenure	Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
TR0423T005	Marten	-	-	-	-	-	-	7	-	-	-	-	7
	Lynx	-	-	-	-	1	-	-	-	-	-	-	1
	Wolf	-	-	-	-	-	6	-	-	-	-	-	6
TR0423T006	Marten	-	-	-	-	1	2	-	4	3	1	3	14
	Lynx	1	-	1	-	2	-	-	1	1	1	1	8
	Beaver	-	-	-	-	-	-	-	-	-	-	4	4
	Wolverine	1	-	1	-	-	-	-	-	-	-	-	2
TR0423T009	Mink	-	-	-	-	-	-	-	-	-	2	-	2
	Marten	8	8	5	17	-	-	-	7	7	4	9	65
	Lynx	1	-	-	-	-	1	-	-	-	-	-	2
	Squirrel	2	8	15	-	-	-	-	-	-	1	-	26
	Beaver	1	-	-	-	-	-	-	-	-	1	-	2
	Wolverine	-	-	-	-	-	-	1	-	-	-	-	1
TR0423T010	Muskrat	-	-	1	-	-	-	-	-	-	-	-	1
TR0423T010	Marten	5	7	8	12	10	3	7	8	3	12	2	77
TR0423T011	Lynx	-	-	-	-	-	-	-	-	1	-	-	1
TR0423T012	Marten	-	1	1	-	-	-	-	-	-	-	7	9
	Beaver	-	-	4	3	9	1	2	-	-	-	-	19
	Coyote	1	3	2	10	1	4	3	-	-	-	2	26
TR0423T018	Marten	-	-	-	-	-	-	1	-	-	9	3	13
	Beaver	-	-	-	-	-	-	-	-	-	5	1	6
	Squirrel	-	-	-	-	-	-	-	-	-	3	-	3

Trapline Tenure	Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
TR0423T020	-	-	-	-	-	-	-	-	-	-	-	-	-
	Marten	2	-	-	-	-	-	-	-	-	-	-	2
TR0423T021	Lynx	1	-	-	-	-	-	-	-	-	-	-	1
	Coyote	3	-	-	-	-	-	-	-	-	-	-	3
TR0423T022	-	-	-	-	-	-	-	-	-	-	-	-	-
	Marten	-	-	-	3	-	-	-	-	1	-	-	4
TR0423T023	Beaver	-	-	-	5	-	-	-	-	1	-	-	6
	Coyote	-	-	-	1	-	-	-	-	-	-	-	1
	Lynx	-	-	-	-	-	-	-	-	1	-	-	1

Source: Kootenay Wildlife, 2020b

- = no data available