Cold Lake

Sub-regional Plan

APRIL 2022

Alberta

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Contents

Figures

Tables

Part I: Introduction

The Government of Alberta (GoA) is committed to maintaining jobs, building local economies, and supporting strong communities, while conserving and wisely managing our public lands. An important part of the government's approach to managing public lands is the involvement of local Albertans—those who live, work, and recreate on the landscape. This was key to informing the Cold Lake Sub-regional Plan.

As part of its 2019 commitment to achieving and maintaining naturally self-sustaining woodland caribou populations, the GoA established the Northeast Caribou Sub-regional Task Force (Task Force). The GoA initiated a sub-regional approach to caribou recovery because it ensures we consider and balance a broad range of interests and activities. The Task Force provided recommendations to inform the development of this sub-regional plan. It included people and organizations familiar with the Cold Lake Sub-region, including local municipalities, Indigenous peoples and organizations, the energy and forestry sectors, trappers, recreational users, environmental non-government organizations, and other local stakeholders and knowledge holders. The Task Force recommendations were important for developing management approaches that support naturally functioning ecosystems that will benefit a wide range of species. In line with Task Force recommendations and commitments under the Alberta-Canada Section 11 Conservation Agreement for Boreal Caribou under the *Species at Risk Act*, the plan includes a focus on conserving and recovering boreal woodland caribou habitat[1] and population.

Alberta's land and resources support our economy, our vibrant communities, and many subsistence, recreational, and cultural opportunities. This includes Indigenous[2] traditional use and culture, activities associated with First Nations' Treaty rights, and harvesting by recognized Métis harvesters. This sub-regional plan is meant to build on Alberta's environmental leadership by providing clear guidance to regulators and enabling a working landscape that supports economic opportunities now and into the future. This plan gives the regulatory system clarity to enable efficient and transparent decisions. It also demonstrates Alberta's commitment to develop our resources while supporting other land uses, wildlife, and ecosystems across the sub-region. This holistic approach to land and resource management will maintain ecosystems capable of supporting Alberta's economic, social, and environmental objectives for the Cold Lake Sub-region.

Purpose

Albertans understand that stewardship of the province's natural resources will help maintain a way of life today and for future generations. The Cold Lake Sub-region supports local, Indigenous, and provincial economies by providing opportunities for forestry, mineral resources, tourism and recreation, hunting, fishing, trapping, and other activities. Some of these activities alter the landscape and contribute to the change, disturbance, and fragmentation of habitats and ecosystems.

This plan provides certainty for Albertans in maintaining future economic opportunities and healthy landscapes capable of maintaining species diversity by outlining a series of management approaches and requirements for development and human footprint restoration. These aim to maintain or re-establish ecological processes, including landscape and habitat intactness. In doing so, this plan enables our public lands to support the interests of all Albertans, including Indigenous peoples, for the present and into the future.

Strategic Management Outcomes

Approaches and requirements in this plan focus on achieving three strategic outcomes:

Outcome 1: Support economic opportunities that provide benefits to local municipalities, Indigenous peoples, and all Albertans.

Outcome 2: Consolidate and manage development over time to support landscape intactness and naturally self-sustaining plant and wildlife populations with a focus on species at risk.

Outcome 3: Support recreational, cultural, and traditional uses, including the practice of constitutionally recognized rights in the sub-region, for the benefit of local people and all Albertans.

[1] For the purposes of this sub-regional plan, caribou habitat refers to all habitat (biophysical and/or undisturbed as defined by the Recovery Strategy for the Woodland Caribou, Boreal population [2020]) occurring throughout the caribou range.

[2] For the purposes of this sub-regional plan, the term Indigenous means one or both of First Nation or Metis. The Government of Alberta will continue to consult with Indigenous peoples when government decisions may potentially adversely affect the continued exercise of their constitutionally protected rights.

Part II: Legislative and Policy Context for Sub-regional Planning

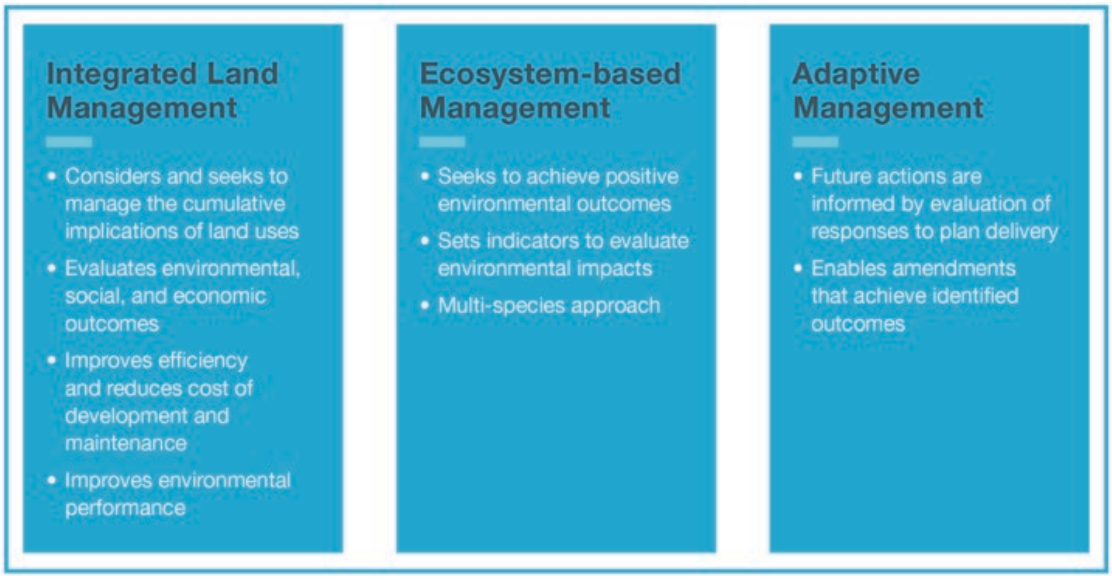
The GoA intends to implement most of Part V through regulation, which will direct and guide decision-makers and project proponents. In some cases, this may include government commitments to complete additional work to support the implementation of this sub-regional plan.

Contents under Part V that will be incorporated into regulation and will become binding legal requirements are included in the requirements outlined in each section. This content is currently reflected as concepts and will be subject to further drafting as part of finalizing these requirements.

Part III: A Balanced Approach

The sub-regional plan must consider and balance multiple values across the landscape to achieve its outcomes. To do this, the plan uses three management approaches: Integrated Land Management, Ecosystem Based Management, and Adaptive Management (Figure 1). This balanced approach ensures achievement of the plan's outcomes.

FIGURE 1. Management approaches used in the sub-regional plan.



Integrated Land Management

Integrated Land Management (ILM) brings key land and resource users together. It promotes coordinated land use and thereby improves land and resource stewardship. To achieve this, ILM:

- must be applied during all phases of land use and resource development
- aims to coordinate access for resource extraction developments, reduce human footprint, and conserve or improve habitat conditions for various species
- considers how activities interact with the landscape they occur on, including how developments individually and cumulatively affect the landscape and ecosystems

Ecosystem-based Management

Ecosystem-based management (EBM) considers ecological values and natural systems as key values when making resource development and management decisions. This structured approach helps identify and achieve environmental goals and objectives.

Adaptive Management

To achieve environmental goals and objectives, approaches to managing resources may need to adjust over time. This is particularly true if events such as wildfires change the landscape.

Adaptive management enables the sub-regional plan to be adjusted based on how well it is achieving its outcomes. Assessing this relies on identifying and monitoring key indicators that show how effective management approaches are. These indicators will guide various components of the sub-regional plan, such as road locations in the Access Management Plan (AMP) and time and location of forest harvesting. Section 17.0 (Monitoring, Evaluating, and Reporting) describes these indicators and how they will be used.

Boreal Woodland Caribou Recovery

The Government of Alberta is responsible for ensuring public land management maintains the diversity of species that call these areas home. The lands also provide the foundation for our resource economy, community well-being, and traditional use. When a species is at risk of disappearing, it indicates the landscape is changing and that natural systems that support us are being challenged. A primary concern for this plan is the decline of caribou in the Cold Lake and Christina caribou ranges.

Woodland caribou in Alberta are listed as Threatened under both Alberta's *Wildlife Act* and Canada's *Species at Risk Act*. To create greater certainty around the future wellbeing of the sub-region's natural systems, this plan includes actions to support caribou conservation and recovery. This plan describes how woodland caribou critical habitat will be conserved, managed, and recovered as identified in the provincial woodland caribou recovery plan[3] and policy, and the federal boreal woodland caribou recovery strategy[4].

The objective of this plan in relation to caribou is to meet or exceed the provisions contained within the federal recovery strategy and Alberta's woodland caribou policy by ensuring habitat conditions for caribou improve over time and that each caribou population can persist while their habitat is conserved and recovered. The expected outcome of the plan is to enable habitat to consistently recover towards a minimum level of 65% undisturbed critical habitat within 50–100 years while ensuring there is sufficient biophysical critical habitat required by caribou to carry out life processes necessary for their survival and recovery. Ongoing monitoring of caribou and caribou habitat will be required. Land-use decisions will enable caribou populations to be successful over the entire 100-year period.

Working towards recovering a species at risk is about more than just that species. When a landscape can support species at risk, it's a sign that the landscape and natural systems are functioning well and will be able to support Albertans into the future.

Managing Multi-species

The sub-regional plan supports broader species conservation and management in its various landscape management tools. The plan will reduce footprint and disturbance and aims to ensure the various habitats within the sub-region will be available at any given time to support species diversity. This habitat approach for multispecies conservation will be used with species-specific management tools to ensure populations recover and are conserved. This habitat approach aligns with the Pan-Canadian approach to transforming species at risk conservation in Canada[5].

This approach is reflected in several elements of the sub-regional plan:

- the diversity of habitats in the sub-region are mapped
- road planning in the Access Management Plan (Section 2) seeks to avoid habitat difficult to reclaim, such as wetland habitats, when defining the road network
- long-term development footprint is considerate of impacts to major rivers and permanent waterbodies to support habitat conservation and wildlife movements
- habitat fragmentation, conservation, and restoration will be monitored across the sub-region
- habitat availability for species-of-interest will be assessed to understand whether the habitats needed to maintain these species are increasing or decreasing

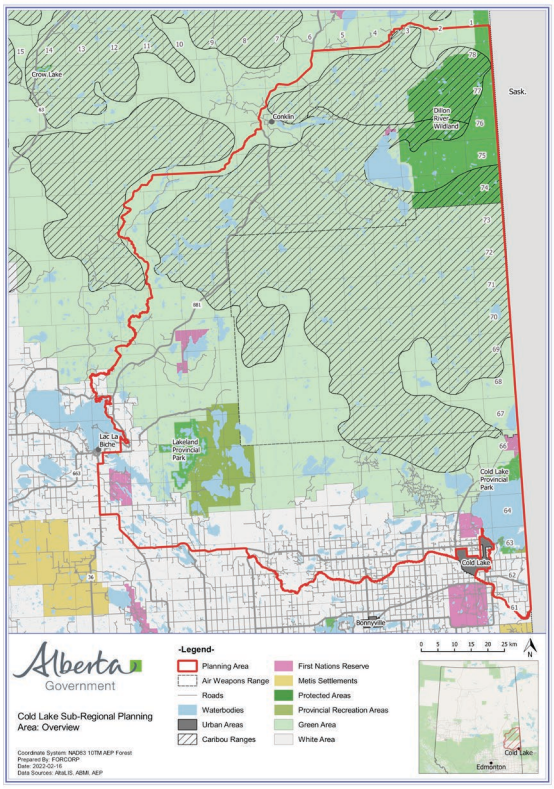
[3] Alberta woodland caribou recovery plan
[4] Recovery Strategy for the Woodland Caribou, Boreal population (Rangifer tarandus caribou) in Canada
[5] https://www.canada.ca/content/dam/eccc/documents/pdf/species-risk/pan-canadian-approach-transforming-species-risk-conservation-canada.pdf

Part IV: The Sub-region

The Cold Lake Sub-region is in the south-east part of the LARP area and covers 16,659 square kilometres (km) (Figure 2). Since time immemorial, First Nations peoples have lived in the area, which overlaps the geographic area of Treaties 6, 8, and 10. Métis peoples also share a deep history with this land.

Approximately 17% of the sub-region is designated as White Area, which is mostly privately owned lands. Public lands in the White Area are managed for agriculture, energy and timber production, recreation, soil and water conservation, fish and wildlife habitat, and other uses. The remaining 83% of the sub-region is designated as Green Area, which is managed for energy and timber production, watershed health, fish and wildlife habitat, recreation, and other uses. The Alberta portion of the Cold Lake Air Weapons Range is also in this sub-region.

FIGURE 2. The Cold Lake Sub-region.



Vision for the Sub-region

The vision for the Cold Lake Sub-region is consistent with the Land-use Framework's[6] vision of Albertans working together to respect and care for the land and resources as the foundation of our economic, environmental, and social well-being.

"Our vision for the Cold Lake Sub-region is one where our working landscape, recognized for its valuable natural resource development, national defense priorities, communities, and tourism opportunities, continues to support the diversity of fish, wildlife, and cultures that call these lands home. A sub-region where no new species or cultures become at risk of survival, and where economic, recreational, and Indigenous opportunities are available now and in the future."

[6] The Land-use Framework (LUF) sets out an approach to managing our province's land and natural resources to achieve Alberta's long-term economic, environmental, and social goals. It provides a blueprint for land-use management and decision-making that addresses Alberta's growth pressures. (Land-use Framework, 2008)

Part V: Cold Lake Sub-regional Plan

1.0 Indigenous Land Uses

The sub-regional plan focuses on improving how we manage the human footprint on the landscape over the near- and long-term. This will result in a more intact landscape that can maintain and enhance opportunities for traditional land use.

The GoA has been engaging with Indigenous peoples in the Cold Lake Sub-region through the Task Force's work and through engagement on the draft plans. While the scope and interests are varied, the Cold Lake Task Force identified three main objectives the plan should speak to:

- Indigenous-led initiatives
- long-term opportunities for traditional land use and intact habitat for wildlife
- ongoing opportunities for Indigenous participation in land-use planning

1.1 Indigenous-led Initiatives

The GoA will work with Indigenous peoples to identify opportunities to collaborate resulting from implementing this plan, including:

- habitat restoration activities
- Indigenous-led tourism opportunities
- community-based monitoring programs

Supporting Indigenous participation can range from developing land-use plans using data and information Indigenous peoples share to opportunities for community participation in programs to monitor indicators and restore seismic lines.

Additionally, a Cooperative Management Board was established in 2019 that supports collaboration with Indigenous peoples in managing the Dillon River Wildland Provincial Park, part of which is in the Cold Lake Sub-region.

1.2 Long-term Opportunities for Traditional Use

The Task Force recommended the sub-regional plan manage the landscape to provide greater certainty about where, when, and what activities can take place across the sub-region. One of the main interests of this recommendation was to ensure Indigenous peoples have ongoing access to preferred areas for traditional land uses and cultural practices.

The measures described throughout the remaining sections of this plan work together to manage different activities and their associated footprint on the landscape. Implementing the plan is expected to improve outcomes for landscape and habitat intactness and opportunities for practicing traditional land uses across the sub-region. Achieving these outcomes will be supported by:

- implementing the Access Management Plan (AMP) (Section 2) to ensure intact areas for biodiversity and traditional use will be present on the landscape over time
- enhanced requirements for restoring and reducing footprint across multiple industries, which reduces landscape and habitat fragmentation and improves environmental outcomes

1.3 Indigenous Participation in Land-use Planning

Working with Indigenous knowledge holders and wisdom keepers is an important part of implementing this plan. Indigenous peoples have highlighted to government the importance of ongoing Indigenous participation in land-use planning. The GoA will continue to work with Indigenous peoples to gather traditional-use information and consider how it can inform the sub-regional plan. Examples of how this information could be applied are outlined in Table 1.

TABLE 1. Examples of how Traditional Knowledge may inform land-use planning

Traditional Land use or Traditional Knowledge	What it would inform in the sub-regional plan
Identifying an existing trail network (for example, off-highway vehicle and foot access)	• where trails are placed as part of a recreation management plan • seismic line restoration to avoid or minimize impacts to trails • road planning to avoid potentially impacting trails by considering alignment with known trail networks
Identifying sites that are historically significant, culturally significant, or important for traditional land uses	• seismic line restoration to avoid or minimize impacts to these sites • road planning to avoid potentially impacting these sites • the Recreation Management Plan to avoid or carefully manage sensitive areas and improve opportunities for traditional land uses
Identifying important factors for traditional land uses (for example, vegetation, terrain, and distance from roads)	• the Access Management Plan (see Section 2) during implementation and ongoing adjustments • the sub-regional plan review and resulting changes to the plan

Several areas have already been identified as important for communities through engagement on this plan. Future discussions can expand on this initial input to explore areas important for prioritizing traditional land uses and how this intent may be incorporated into the sub-regional plan during plan review.

1.4 Approaches to Include Indigenous Perspectives and Values

Through the Cold Lake Sub-regional Plan, Alberta will:

1.4.1 Provide opportunities for Indigenous peoples to participate in ongoing land-use planning through an implementation committee (Section 16.0).

1.4.2 Seek guidance from local Indigenous peoples on how to best gather and include Indigenous knowledge in a respectful way as part of implementing the sub-regional plan.

1.4.3 Work with Indigenous peoples to gather traditional land-use information for the purpose of incorporating the information into land-use plans. For example, the GoA will work with communities to identify important trails in areas marked for restoration work to ensure restoration treatment plans support continued access to the area.

1.4.4 Work with Indigenous peoples to identify opportunities to be involved in sub-regional-plan monitoring.

a) Consider data from Indigenous-led community-based monitoring programs supported by the Government of Alberta's Oil Sands monitoring program.

1.4.5 Work with Indigenous peoples to identify areas of importance for traditional land uses and opportunities for Indigenous-led tourism.

2.0 Access Management Plan

The Cold Lake Sub-region has approximately 4,600 kilometres of paved, gravel, and seasonal roads and trails that provide access for resource development, traditional use, or recreation activities. Proponents seeking access to resources build the majority of roads across the sub-region.

The existing road network (number, location, and scale of roads and trails) within the sub-region has not been coordinated at a landscape scale, resulting in redundant roads and occasionally higher costs for industry. The abundance of access routes in the Cold Lake Sub-region has led to some undesired landscape outcomes, impacting wildlife populations and habitats, and traditional land-use values.

An Access Management Plan (AMP) has been developed that proactively plans the sub-region road network over the long-term. It coordinates road development so that over time roads will be placed more efficiently to reduce footprint and support desired outcomes for the sub-region and its various land users. Some benefits of the AMP include:

- increased certainty of access to resources
- reduced costs to construct and maintain roads or trails
- expedited approval for new road applications that comply with the AMP
- reduced impacts on wildlife, biodiversity, recreation, and traditional values

The AMP outlines an approach to manage roads, including developing new roads, phasing out unnecessary roads, and restoring the landscape where roads are removed. The AMP:

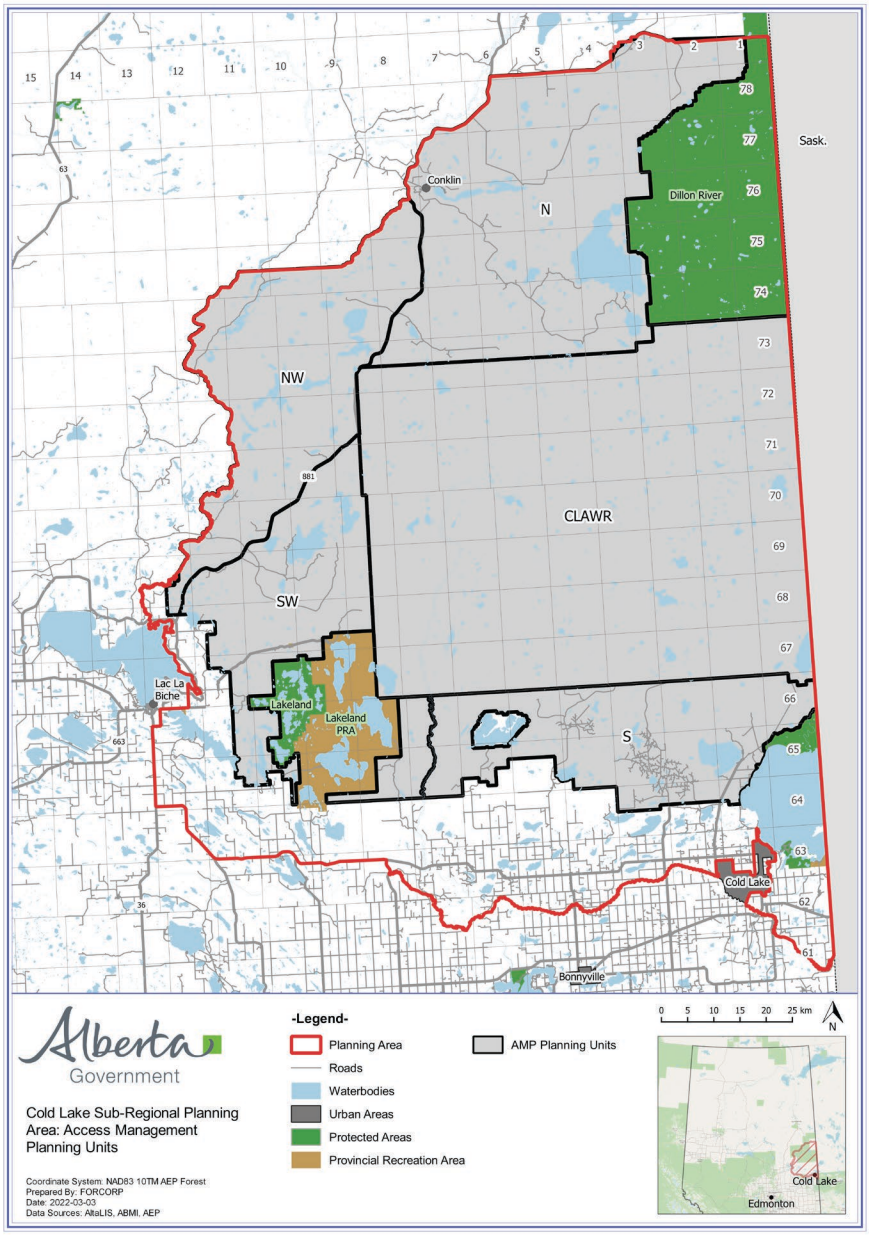
- is guided by technical and outcome-based criteria
- is informed by sub-regional stakeholders and Indigenous peoples
- considers access required to develop resources
- considers environmental parameters including wetlands, caribou habitat, and other sensitive wildlife habitats
- may be amended if amendments support the outcomes of the sub-regional plan

The AMP does not apply to roads within the defined boundaries of municipal settlements, such as cities, towns, villages, or hamlets. Implementing the AMP is a shared responsibility of regulators, industry stakeholders, and other land users.

2.1 Technical Design of the Access Management Plan

The Cold Lake Sub-region AMP is separated into five planning units based on operational boundaries, including rivers, highways, and the Cold Lake Air Weapons Range (CLAWR) (Figure 3). Applications to construct or change roads will be evaluated based on the planning unit using defined criteria. The AMP does not encompass the White Area in the sub-region because there is a large amount of private land and municipal and provincial long-term access roads.

FIGURE 3. Planning units for the Cold Lake Access Management Plan.



Access Route Development

When determining access routes, the AMP:

- focuses on roads that require formal dispositions under the *Public Lands Act* and are outside the White Area, protected areas, and active oil sands in-situ project areas (except when access routes travel through these areas)
- minimizes stream crossings, linear density, and overlap with wetlands
- classifies roads as primary or transitional to account for the time required to shift to a more efficient and coordinated access system
- assesses requests to change planned roads using set criteria (Section 2.2) to ensure the desired outcomes for the sub-region are achieved
- does not cover temporary access routes, such as roads approved under a temporary field authorization or for forest harvest under annual operating plans

2.1.1 Road Categories

2.1.1.1 Primary roads—roads that will be used for long time periods.

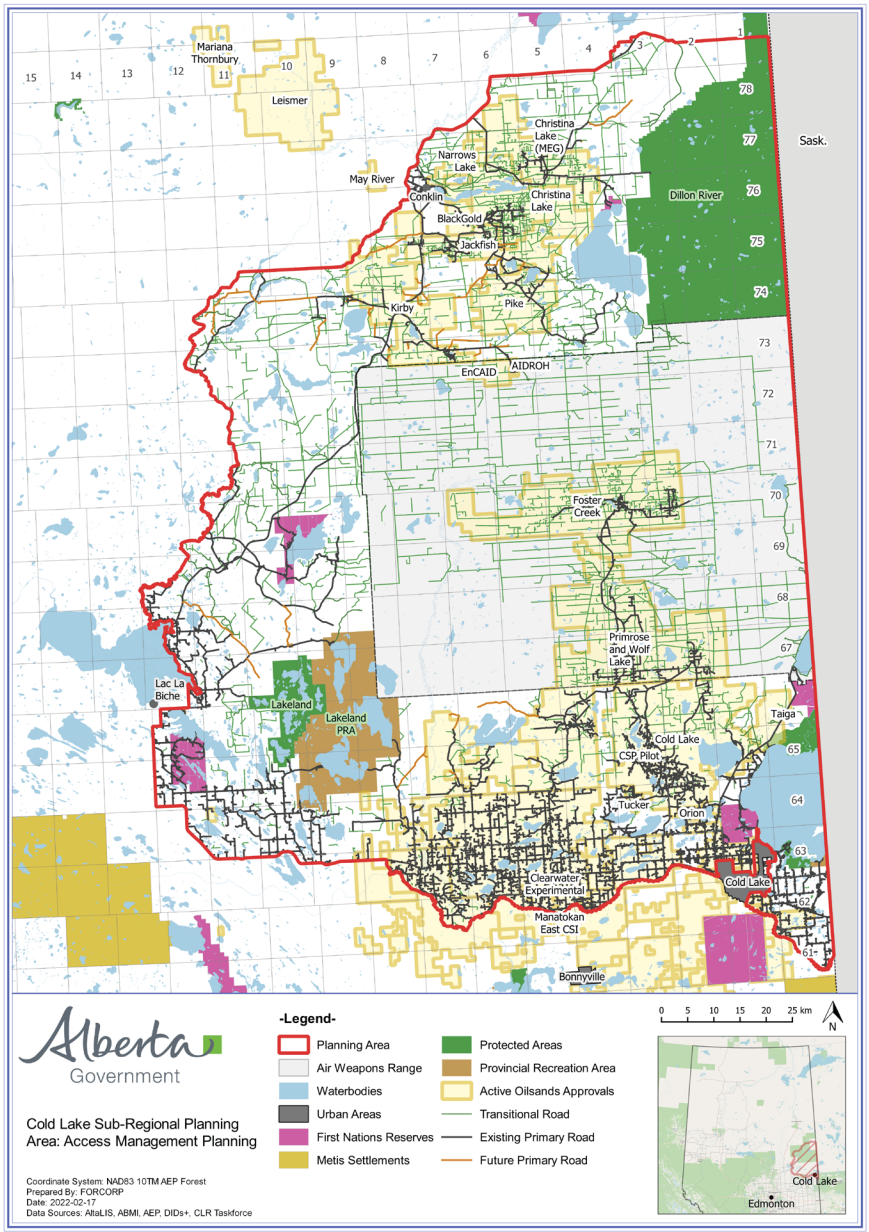
a) Ongoing appended development is permitted.

2.1.1.2 Transitional roads—existing formal disposition roads that will remain on the landscape to accommodate existing resource development infrastructure.

a) The road or portions of the road that are no longer required to access development infrastructure must be reclaimed at the same time as the associated infrastructure.

b) As the intent of transitional roads is to maintain access to existing resource development infrastructure until it is no longer required, new appended development will not be allowed using transitional roads. New appended development will occur on primary roads only.

FIGURE 4. Road categories in the Cold Lake Access Management Plan.



2.2 Developing New Access

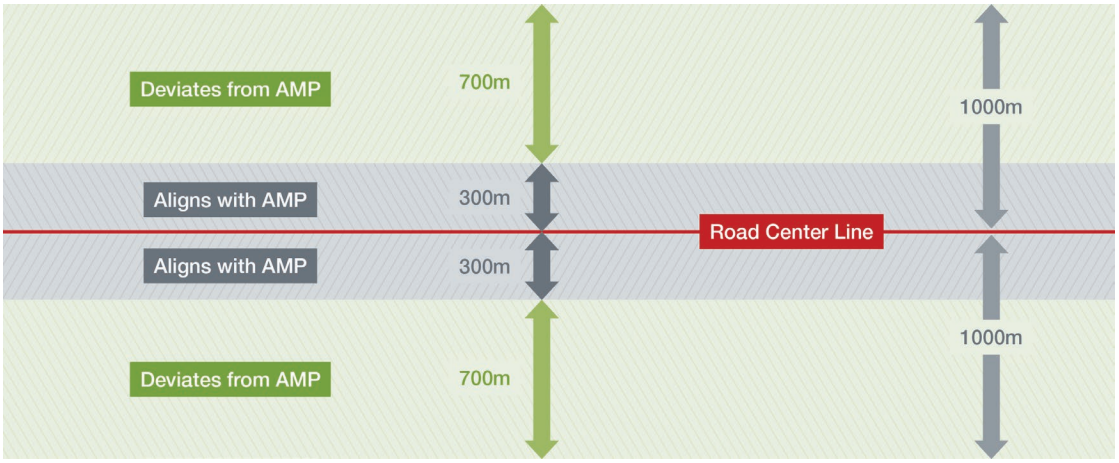
The AMP will identify a network of long-term roads and associated access corridors (300 metres on either side of a road centerline). However, operational planning for each proposed road has not been completed. The AMP will be a living plan that can be amended as long as its technical and outcome criteria are met. This allows the AMP to adjust to newly identified features, technological advancement, new best practices, and development constraints, such as historical or cultural sites and sensitive environmental features.

Road applications will be evaluated against identified criteria and categorized (Figure 5) as one of the following:

- Aligns with the AMP
- Deviates from the AMP
- Addition to the AMP

Engagement with Indigenous peoples regarding road applications will continue, following the GoA policy that applies at the time.

FIGURE 5. Road application evaluation categories.



2.2.1 Aligns with the AMP Requirements

A road application located entirely within 300 metres of a corresponding primary access route will be considered aligned with the AMP (Figure 4, Figure 5). It is subject to the regulatory requirements in place at the time of application and must meet the following:

2.2.1.1 The proposed road must be lesser or equal to a class II road. Road class I is higher than road class VI.

2.2.1.2 Road grade (slope) must be less than 8%.

2.2.1.3 Upon approval, the proposed road will replace the planned road in the AMP.

2.2.1.4 When applying the Alberta Wetland Policy in caribou ranges, the relative abundance value for wetlands will become net zero (0) modifier. Relative wetland value assessment shall include consideration of caribou pre-disturbance occurrence and caribou biophysical habitat.

2.2.2 Deviates from the AMP Requirements

A road application located more than 300 metres from either side of the corresponding primary access route but within 1,000 metres of either side of the corresponding primary access route (Figure 4, Figure 5) is subject to the regulatory requirements in place at the time of application and must meet the following:

2.2.2.1 The proposed road must be lesser or equal to a class II road. Road class of I is higher than road class of VI.

2.2.2.2 Road grade (slope) must be less than 8%.

2.2.2.3 The proposed road must demonstrate an ability to connect with the remaining primary road segment outlined in the AMP to avoid isolating parts of the sub-region and stranding resources.

2.2.2.4 The addition of the proposed route does not result in the primary road network exceeding the desired road density in any of the AMP's five planning units (Table 2).

2.2.2.5 The addition of the proposed route does not result in the primary road network exceeding the desired wetland disturbance level in any of the AMP's five planning units (Table 2).

2.2.2.6 Upon approval, the proposed road will replace the corresponding planned road in the AMP.

2.2.2.7 When applying the Alberta Wetland Policy in caribou ranges, the relative abundance value for wetlands will become net zero (0) modifier. Relative wetland value assessment shall include consideration of caribou pre-disturbance occurrence and caribou biophysical habitat.

2.2.3 Addition to the AMP Requirements

A road application located more than 1,000 metres from the corresponding primary access route is subject to the regulatory requirements in place at the time of application and must meet the following:

2.2.3.1 The proposed road must be lesser or equal to a class II road. Road class of I is higher than road class of VI.

2.2.3.2 Road grade (slope) must be less than 8%.

2.2.3.3 The proposed road must demonstrate alignment with other primary road segments outlined in the AMP to avoid isolating parts of the sub-region and stranding resources.

2.2.3.4 The addition of the proposed route does not result in the primary road network exceeding the desired road density in any of the AMP's five planning units (Table 2).

2.2.3.5 The addition of the proposed route does not result in the primary road network exceeding the desired wetland disturbance level in any of the AMP's five planning units (Table 2).

2.2.3.6 At minimum, located six kilometres from an existing or planned primary road identified in the AMP.

2.2.3.7 When applying the Alberta Wetland Policy in caribou ranges, the relative abundance value for wetlands will become net zero (0) modifier. Relative wetland value assessment shall include consideration of caribou pre-disturbance occurrence and caribou biophysical habitat.

TABLE 2. Road density and wetland disturbance limits for road development in the Cold Lake Sub-region

Planning unit	Density excluding oil sands project area (km/km²)	Wetland area disturbed (ha)
North (N)	0.15	390
Northwest (NW)	0.14	250
South (S)	0.09	120
Southwest (SW)	0.17	102
Cold Lake Air Weapons Range (CLAWR)	0.01	220

2.3 Watercourse Crossings

Roads can directly and indirectly impact fish and other aquatic life. Poorly constructed or maintained watercourse crossings can fragment or degrade habitat and impede fish passage.

To improve local and provincial watercourse outcomes, the GoA developed the Watercourse Crossing Management Directive and a tracking system to be used by land users in crown land areas beyond the Foothills Region. This directive provides consistent monitoring and centralizes data management. To align with this directive, roads that include watercourse crossing(s) and require a formal disposition must meet the following:

2.3.1 The crossing owner must monitor all watercourse crossings and report all findings as per the Roadway Watercourse Crossing Inspection Manual,[7] as amended from time to time.

2.3.2 The crossing owner must report all watercourse crossing remediation or maintenance efforts at the time of work beginning and at the completion of work.

2.4 Access to the Cold Lake Air Weapons Range

The Cold Lake Sub-region contains the Alberta portion of the Cold Lake Air Weapons Range (CLAWR), which is available to the Government of Canada for defence purposes under a Memorandum of Agreement with the Province. Land use in this area must be compatible with the needs and requirements of the Department of National Defence (DND). All road planning in the CLAWR is led by DND, which coordinates with the provincial land and resource managers, AEP, and Alberta Energy.

3.0 Energy and Mineral Activity

Alberta is uniquely positioned to meet demands for oil, natural gas, coal, and minerals that are ethically sourced and developed responsibly. Alberta's environmental standards, which are partially achieved by integrated planning, are a main driver of the province's environmental, social, and governance performance. This sub-regional plan will ensure Alberta remains attractive to investors by outlining actions that allow natural resources to be developed while minimizing footprint and landscape fragmentation.

3.1 Sales of New Crown Mineral Agreements

In September 2016, the sale of Crown mineral rights in all Alberta caribou ranges was restricted. This was done to minimize landscape disturbance while Alberta developed strategies to conserve and recover caribou habitat and populations. This sub-regional plan lays out those strategies for the Cold Lake caribou range and the Christina sub-range portion of the East Side Athabasca River (ESAR) caribou range.

[7] Road Water Crossing Manual. Government of Alberta (2015).

Once this sub-regional plan is adopted as part of LARP, the sales restriction for new Crown mineral agreements may be removed in the Cold Lake caribou range and the Christina caribou sub-range of the ESAR range. This plan does not affect any other sales restrictions that may be in effect in the sub-region.

All new Crown mineral agreements in the sub-region must align with the outcomes and relevant requirements outlined in this plan. Under the *Mines and Minerals Act*, the Minister of Energy may add or remove restrictions when issuing Crown mineral agreements.

3.2 Oil Sands

The Cold Lake Sub-region includes areas provincially significant in bitumen production from oil sands. Production mostly occurs using thermal in-situ production methods. Oil sands operations are large developments that are approved under the Environmental Protection and Enhancement Act (EPEA). This process for successful applicants involves four regulatory steps:

1. Environmental assessment—the project is examined to determine the environmental, social, economic, and health implications
2. Public interest decision—the applicable board or minister decides whether it is in the public interest to let the project go ahead
3. Approval with conditions—regulators give formal approval to the project and set specific conditions for building and operating
4. Compliance—ensures the project is operating in the specified approval conditions

It is difficult to forecast the timing of new projects and how they will affect sub-regional plan objectives because:

- many different companies hold oil sands leases
- the presence of oil sands leases does not mean that development will occur
- the number of developments will change over time as new developments work through the regulatory process
- proposed and approved projects will likely not begin producing at the same time
- economic and technical factors that influence business strategies and decisions change over time

Alberta has worked with the energy industry to develop scenarios for the sub-region. When combined with restoration and reclamation activities, these scenarios align with the provincial caribou objectives and federal woodland caribou recovery requirements over the long term.

Oil sands developments cover large areas and can require significant footprint, so it is important that activities related to their development take place within the project area (scheme approval area) wherever possible. This will ensure footprint is concentrated, reducing fragmentation and other impacts to the landscape. As new projects are constructed, the permissible footprint associated with oil sands projects will decline. This reflects Alberta's desire to be a world-leading supplier of responsible energy and its commitment to enhanced management of industrial activities as outlined in the Alberta-Canada Section 11 Conservation Agreement for Boreal Caribou.

3.2.1 Restoring Exploration and Evaluation Activities in In-Situ Oil Sands

In 2020, the Oil Sands Tenure Regulation, enacted under the *Mines and Minerals Act* (Alberta), was revised. The minimum level of evaluation (MLE) requirement was removed to simplify the application process to convert or continue oil sands leases. The MLE obligated rights holders to drill exploratory wells in a prescribed fashion to obtain data about the resource.

Although the MLE requirement was removed, evaluating and exploring oil sands resources will continue through exploration wells and geophysical exploration. Restoring footprint associated with oil sands development, particularly in caribou range, will help achieve desired outcomes of the sub-regional plan. This includes footprint associated with exploration wells and associated access.

To obtain a reclamation certificate, the holder of a formal disposition for oil sands exploration (OSE) must reclaim the lands to achieve the following:

3.2.1.1 Any portion of the disposition within a caribou range that occurs within an ecosite capable of producing caribou biophysical habitat must be recovered back to an ecosite capable of producing caribou biophysical habitat.

3.2.1.2 Any portion of the disposition that occurs within an upland ecosite phase must be recovered to a plant community representative of the pre-disturbance ecosite phase.

3.2.1.3 The portion of the disposition that occurs within a wetland must be recovered to a plant community representative of the pre-disturbance wetland class (for example, bog, fen, or marsh).

3.2.1.4 If trees were on the site prior to construction, tree species must be re-established.

3.2.2 Requirements for Oil Sands Development in the Cold Lake Sub-region

Within project areas, oil sands operators will take actions to increase the amount of undisturbed habitat (as calculated using the federal recovery strategy methods). To demonstrate continuous improvement, targets have been set to achieve required undisturbed habitat. As part of the targets, development of reclamation treatment plans and treatment timelines are outlined below.

Existing approved project areas will be required to meet the following planning and treatment targets where project areas overlap caribou range to demonstrate required activities are completed to meet future undisturbed habitat targets. The undisturbed habitat targets apply to the portion of the project area that overlaps with caribou range. Lands added to a project area will have to follow the original schedule for undisturbed targets based on the new total project area.

3.2.2.1 New applications for scheme approval areas will be evaluated for alignment with outcomes of the sub-regional plan and the cumulative disturbance forecast as per Table 3.

3.2.2.2 Existing oil sands Scheme approval areas will achieve the undisturbed habitat targets in Table 4 for the portion of a project area that overlaps caribou range.

- **a)** Operators are required to develop and submit recovery treatment plans that will achieve the required undisturbed habitat for each defined timeline in Table 4.
- **b)** Operators are required to complete the recovery treatments that will achieve the undisturbed habitat in the timelines outlined in Table 4.
- **c)** Disturbed habitat is calculated using all anthropogenic footprint except for forest harvest activities authorized by a forest harvest annual operating plan.

3.2.2.3 New oil sands project areas (scheme approval) shall achieve the following undisturbed habitat targets outlined in Table 5 for the portion of a project area that overlaps a caribou range.

- **a)** Operators are required to develop and submit recovery treatment plans that will achieve the required undisturbed habitat for each defined timeline in Table 5.
- **b)** Operators are required to complete the recovery treatments that will achieve the undisturbed habitat in the timelines in Table 5.
- **c)** Disturbed habitat is calculated using all anthropogenic footprint except for forest harvest activities authorized by a forest harvest annual operating plan.

3.2.2.4 Companies with approved in-situ project areas (scheme approval) will complete all related activities within an in-situ project area, with the following exceptions:

a) Access roads required to reach the project area:
Access road must comply with the Access Management Plan (AMP).

b) Disposal wells, water wells, water intakes, and water outfalls:
- Wells will be appended within 100 metres of primary roads as identified in the AMP.
- Recovery treatments for the surface of the associated pipeline right of ways must be completed within three years of pipeline construction.

c) Monitoring wells required by the Alberta Energy Regulator (AER):
Roads associated with monitoring wells will be appended within 100 metres of a primary road identified in the AMP.

d) Carbon sequestration facilities:
These facilities will be appended within 100 metres of a long-term road identified in the AMP.

e) Other developments addressed specifically in this plan (for example, below ground pipelines, transmission lines, and geophysical exploration) will be permitted outside of an approved project area.

f) Those segments of above-ground pipelines required to connect one project area to a pre-existing central processing facility of another project area.

3.2.2.6 **Not part of regulatory details** Environment and Parks will engage with oil sands operators and the AER to review existing wildlife mitigation and monitoring plans and other wildlife programs to identify opportunities for alignment and development of a coordinated monitoring and mitigation program for the Cold Lake Sub-region.

TABLE 3. In-situ project area cumulative disturbance forecast (limits) by 10-year time interval

	Cumulative disturbance in the oil sands project area[8], [9]	
Time period (year)	**Cold Lake caribou range**	**Christina Lake caribou range**
2072–2081	26%	16%
2082–2091	26%	14%
2092–2101	26%	15%
2102–2111	25%	16%
2112–2121	24%	16%

[8] Undisturbed habitat will be calculated using the federal recovery strategy methods

[9] Undisturbed habitat calculations will use all footprint occurring within the in-situ project area, except forest harvest blocks and forest Annual-Operating-Plan-approved roads

TABLE 4. Undisturbed habitat target and treatment timeline for current in-situ project areas

Required % undisturbed habitat[8] within project area	Year recovery treatment plan is required[10]	Year recovery treatments are to be completed	Year considered undisturbed
5	2026	2031	2071
15	2036	2041	2081
30	2046	2051	2091

TABLE 5. Treatment plan schedule for newly approved in-situ area

Required % undisturbed habitat[8] within project area	Year[11] recovery treatment plan is required	Year[12] recovery treatment is to be completed	Years after treatment completion to consider lands undisturbed habitat
15	4	9	50
30	14	19	60

3.3 Petroleum and Natural Gas

Natural gas production in the Cold Lake Sub-region is less significant than bitumen production in the provincial context, as most gas production is now a by-product of bitumen production. Gas is either vented, flared, or collected for utility heating and steam generation.

Petroleum and natural gas (PNG) activities within the sub-region will be managed to reduce footprint and increase undisturbed habitat to ensure future development can occur while aligning with the plan, as outlined below:

3.3.1 Future PNG surface disturbance will be appended within 100 metres of a primary road identified in the AMP.

a) Appended access will not exceed the lesser of class 4 or the class of the associated primary access road.

3.3.2 All licensees will be required to meet closure quotas established under the Inventory Reduction Program as part of the Liability Management Framework in accordance with the Oil and Gas Conservation Rules.

3.3.3 The closure quotas are expected to reduce footprint of inactive and abandoned wells based on 2021 footprint within the sub-region as follows:

a) A decrease of 5% before 2028

b) A decrease of 15% before 2033

c) A decrease of 50% before 2038

d) A decrease of 80% before 2043

3.3.4 A review of the progress will be initiated in 2026, 2031, 2036, and 2041. The review will determine if the targets in 3.3.3 are likely to be achieved and if additional actions are required to meet the closure.

3.3.5 New tenure in a caribou range must be issued with a no-surface-disturbance restriction.

[10] Plan must be received by the end of the calendar year
[11] Year of project area (scheme) approval is considered year 0
[12] Year of project area (scheme) approval is considered year 0

3.4 Coal and Metallic and Industrial Minerals

Metallic and industrial mineral (MIM) permits grant the right to explore for metallic and industrial minerals. In the Cold Lake Sub-region, MIM agreements that occur by caribou ranges include subsurface reservoir leases that grant the right to use salt formations for subsurface storage caverns. In the oil sands context, these are often used for waste materials from in-situ operations.

There are no known coal deposits in the Cold Lake Sub-region and no coal agreements. As the GoA undertakes a renewed minerals strategy, the sub-regional plan will enable further exploration and development that reduces the footprint of these activities. Any future land use related to metallic and industrial minerals in the sub-region must follow these requirements:

3.4.1 Roads associated with new projects must align with the requirements outlined under the AMP.

3.4.2 Proposed activities related to metallic and industrial minerals in caribou ranges of the Cold Lake Sub-region will be subject to an evaluation of projected footprint against current disturbance forecasts for the sub-region to ensure the activity does not conflict with caribou recovery objectives (as defined by the Recovery Strategy for Boreal Woodland Caribou [2012]).

4.0 Pipeline Development and Maintenance

Pipelines are essential to the oil and gas industry and for moving Alberta products to markets. While important, the large amount of pipeline infrastructure across the sub-region makes up a significant portion of the sub-region footprint. Because the infrastructure itself is located mostly underground, pipelines provide an opportunity to reduce surface footprint. Reducing pipeline footprint in the sub-region will improve habitat for species and create opportunities to develop and invest in the sub-region.

Reducing the surface footprint of below-ground pipelines in the caribou ranges contributes directly to achieving caribou habitat recovery objectives. Pipeline companies can contribute to improving caribou critical habitat by retaining vegetation during construction and revegetating portions of pipeline corridors in caribou ranges. As part of this process, it is necessary that pipeline operators can still access their pipelines for emergency response and routine maintenance.

During planning for new pipeline infrastructure, operators should seek to employ the following:

- route pipelines to be parallel and/or overlap existing primary roads identified in the AMP as much as possible
- minimize the number of initial clearings
- route around portions of habitat within caribou ranges that are considered important for reasons such as being currently intact, identified as an upcoming restoration area, or an area of high caribou occupancy
- plan above ground facility and/or valve locations to occur at primary roads identified in the AMP

4.1 Requirements for Pipeline Construction and Operations

Requirements for belowground pipelines within caribou ranges:

4.1.1 Revegetation of pipeline disposition and all temporary disturbances must meet the following:

a) Any portion of the disposition within a caribou range that occurs within an ecosite capable of producing caribou biophysical habitat must be recovered back to an ecosite phase capable of producing caribou biophysical habitat.

b) Any portion of the disposition that occurs within an upland ecosite phase must be recovered to a plant community representative of the pre-disturbance ecosite phase.

c) The portion of the disposition that occurs within a wetland must be recovered to a plant community representative of the pre-disturbance wetland class (for example, bog, fen, or marsh).

d) If trees were on the site prior to construction, tree species must be re-established.

4.1.2 Residual linear corridors in the pipeline disposition must not exceed four metres in width.

a) Where there are more than one adjacent pipeline dispositions, the four-metre vegetation control area must be at least three metres away from the edge of the disposition.

4.1.3 Vegetation Control of four metres along the perimeter is permitted for above-ground installations and infrastructure not approved under a separate disposition to allow for safe ongoing operations. This includes, but is not limited to, valve sites, remote metering stations (i.e., fly-in only), helicopter pads, cathodic protection, and thermal electric generators.

4.1.4 Vegetation control within the pipeline disposition greater than four metres is permitted within approved oil sands project areas.

4.1.5 Clearings are permitted for integrity dig sites (of a temporary nature and subsequently restored) and monitoring sites (for example, geotechnical hazard locations that require a clearing) or where conditions that may lead to failure exist.

4.1.6 Unauthorized human access must be effectively limited on pipeline corridors occurring further than 100 metres from primary roads identified in the AMP, using strategies determined collaboratively by Alberta Environment and Parks, the Alberta Energy Regulator, and the disposition holder. Implementation of measures to limit human access must occur concurrently with delivery of actions to revegetate corridors.

4.1.7 Revegetation programs for existing pipeline right of ways will include inventory of pre-existing site conditions, planning treatments, and implementation of revegetation treatments (where required). In recognition of the effort required, pipeline operators will have 20 years following the approval date of this sub-regional plan to re-establish vegetation on existing right of ways.

a) To achieve this, operators will submit a plan with a schedule within five years of the plan approval outlining how the operator will complete 50% of the required treatments within 10 years and the remaining areas within the next five years.

4.1.8 Revegetation of new pipeline projects must be completed in five years of pipeline installation.

4.2 Pipeline Access Allowances

These allowances account for the requirements listed in section 4.1:

4.2.1 Emergency Access - During a pipeline emergency, immediate access to the right of ways is permitted from the nearest practical access point to the location of the emergency.

a) **Not part of regulatory details** New vegetation clearing is permitted to enable access to the emergency site.

b) **Not part of regulatory details** The new vegetation clearing must be reported as required by the regulator.

c) Recovery treatments of the access must commence in three years of the emergency being remedied and be completed in five years as per 4.1.1.

4.2.2 Maintenance Access - When the least impactful way of accessing a section of pipeline or associated infrastructure for maintenance is to develop new temporary access from a nearby road instead of disturbing a long section of pipeline disposition.

a) **Not part of regulatory details** When access is required outside of an existing pipeline corridor, authorization from the regulator is required.

b) **Not part of regulatory details** New temporary vegetation clearing (outside and in the right of way) is permitted to enable access to the site.

c) **Not part of regulatory details** Application must include a spatial file of the access route.

d) **Not part of regulatory details** The pipeline operator must develop an access plan that outlines environmental considerations, historical resource considerations, and mitigation plans as required.

e) **Not part of regulatory details** The pipeline operator must provide the plan to the regulator for review.

f) Recovery treatments of the access must commence in three years of the maintenance activity ending and be completed in five years.

5.0 Geophysical Exploration

Geophysical exploration determines the type and location of sub-surface resources. This has been used extensively across the sub-region to identify oil, gas, and oil sands deposits. Linear footprint associated with geophysical exploration activities can leave the landscape fragmented, in some cases indefinitely, because of slow or no vegetation regrowth.

Geophysical exploration techniques and technology continue to improve and offer an opportunity to reduce footprint associated with seismic lines. To reduce geophysical footprint and increase undisturbed habitat, it will be important to ensure new, low-impact techniques and technologies are deployed across the sub-region. An evaluation of innovative practices will occur at plan renewal to ensure the plan incorporates best practices as they are developed.

5.1 Requirements for Geophysical Exploration

Geophysical approaches vary across the sub-region and change over time as needs evolve from exploration to monitoring. To account for the differences, geophysical exploration requirements differ if they are part of an approved oil sands project. New technology may reduce or eliminate the need to clear receiver lines.

5.1.1 Vegetation clearing must meet the following requirements:

a) Receiver lines must be meandering and use tree avoidance techniques.

b) Receiver lines shall not exceed 1.75 metres in width.

e) Source lines must not exceed 2.75 metres in width, must employ tree avoidance techniques, and must meander to limit line of sight to less than 100 metres.

f) Access lines in the program area (lines specifically used for access into and within the program area and not source or receiver lines), including use of existing linear features, must not exceed three metres in width.

g) Turn-around clearings at the end of the source lines and access lines are permitted.

h) Doglegs must be employed at all intersections with linear features that are greater than 3.5 metres in width.

5.1.2 Helipads must be constructed in natural open areas or existing clearings where they exist. If required, prepared helipads must not result in clearings that exceed 35 metres in diameter.

5.1.3 Shot holes drop zones used in heli-portable programs must not exceed 16 square metres.

5.1.4 Outside of approved oil sands in-situ project area, access control must be established and extended for 100 metres from all intersections with linear features greater than 3.5 metres. Access control must effectively deter off highway vehicle use. Access control options may include, but are not limited to:

a) debris roll back

b) tree felling or bending across the line

c) reforestation site preparation

6.0 Forestry

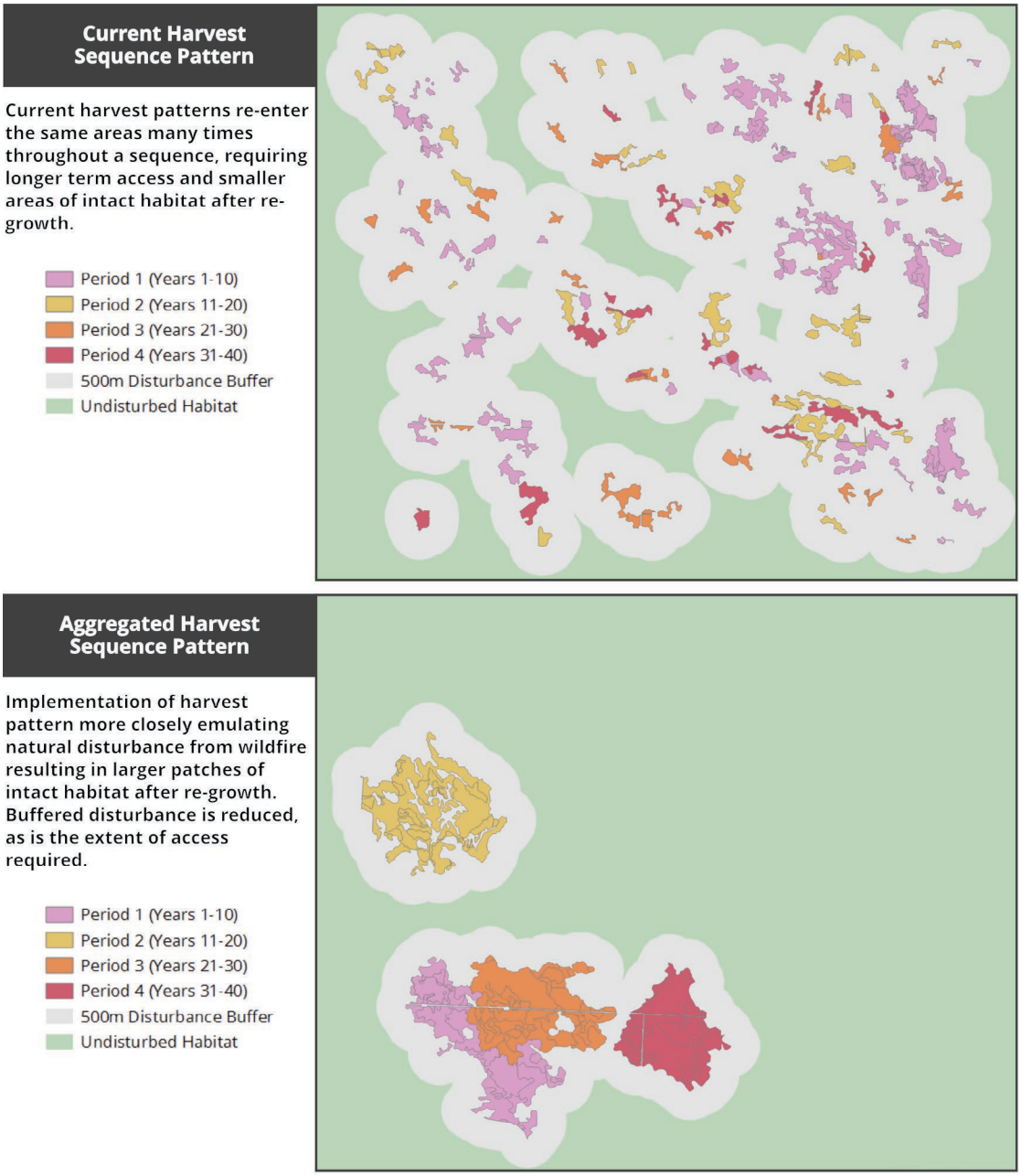
Forest management in Alberta has evolved over time. Historically, multiple pass harvesting systems have been used, which are designed to minimize opening size and disperse disturbance across the landscape over many decades. Current practices often strive to emulate natural disturbance patterns. There is increasing consideration of when, where, and how much harvesting can occur over time.

Harvesting plans continue to reflect other interests and values. Current forest management considers non-timber values, such as biodiversity, wildlife habitat, water integrity, and soil productivity. It continues to evolve towards Ecosystem Based Management (EBM). Using adaptive management, forestry practices in the sub-region will continue to work towards EBM by adjusting to changes from both anthropogenic and natural disturbance.

As part of the EBM approach, forest harvesting strategies in caribou ranges have been adapted after considering caribou require large areas of undisturbed habitat of mostly mature and old coniferous forest. Future forest harvesting within caribou ranges will focus on aggregating (Figure 6) forestry activities to minimize forestry-related disturbance and create larger patches of intact habitat as the forest regrows.

There are two community timber programs in Forest Management Unit (FMU) LO1 within the sub-regional planning area. These programs will not be required to follow the aggregated harvest approach.

FIGURE 6. Standard spatial harvest sequence approach to forest harvest (a) compared to an aggregated forest harvest pattern after 40 years (b). Colour blocks in the diagram represent areas available for harvest.



Aggregating harvest areas will:

- reduce the amount of access required and therefore slow and reduce habitat disturbance over time
- potentially reduce construction and maintenance costs for the forest sector
- enable regrowth of neighbouring forest patches in areas fragmented by legacy seismic lines
- reduce potential large-scale wildfires by reducing large areas of connected landscape fuel

Key components of adaptive forest management are the location, extent, timing, and rate of forest harvesting. It will be important to monitor and adjust these factors to provide and recover adequate habitat for caribou and other wildlife. Harvest location considers both patterns of caribou occupancy and biophysical habitat within a caribou range. During the first decades, harvesting plans seek to limit harvest in areas of caribou occupancy.

6.1 Requirements for Forest Harvesting

6.1.1 Appended development requiring a disposition will have a road that is no further than 100 metres from an approved primary road identified in Section 2 of this plan.

6.1.2 Temporary roads, landings, storage sites, camp locations, and other temporary footprint authorized by an annual operating plan approval or temporary field authorization, including roads that follow pre-existing disturbance not currently under disposition, shall be restored in addition to any requirements listed in operating ground rules.

a) Within caribou ranges, restoration treatment must be completed within three years of a Harvest Timing Series (HTS) closing.

b) Outside of caribou ranges, restoration must be completed within three years.

Forest harvesting in caribou ranges will follow an aggregated harvesting approach (excluding FMU LO1 community timber program compartment) that requires the following:

6.1.3 Harvest areas in caribou ranges are broken into Harvest Timing Series (HTS) and shall be applied as illustrated in Figure 7.

6.1.4 The HTS available for harvesting will become available for harvest during the predetermined period (Figure 7).

6.1.5 There will be no further harvesting in the completed HTS until the following rotation.

6.1.6 HTS (Figure 7) does not apply for timber salvage of trees killed by a natural disturbance.

a) **Not part of regulatory details** Approval of timber salvage will follow existing department policy and in consideration of the sub-regional plan outcomes.

6.1.7 HTS (Figure 7) does not apply where harvest is required to address public safety or ecological concerns as determined by the minister responsible for implementing the *Forests Act*.

a) **Not part of regulatory details** Approval of timber salvage will follow existing department policy and in consideration of the sub-regional plan outcomes.

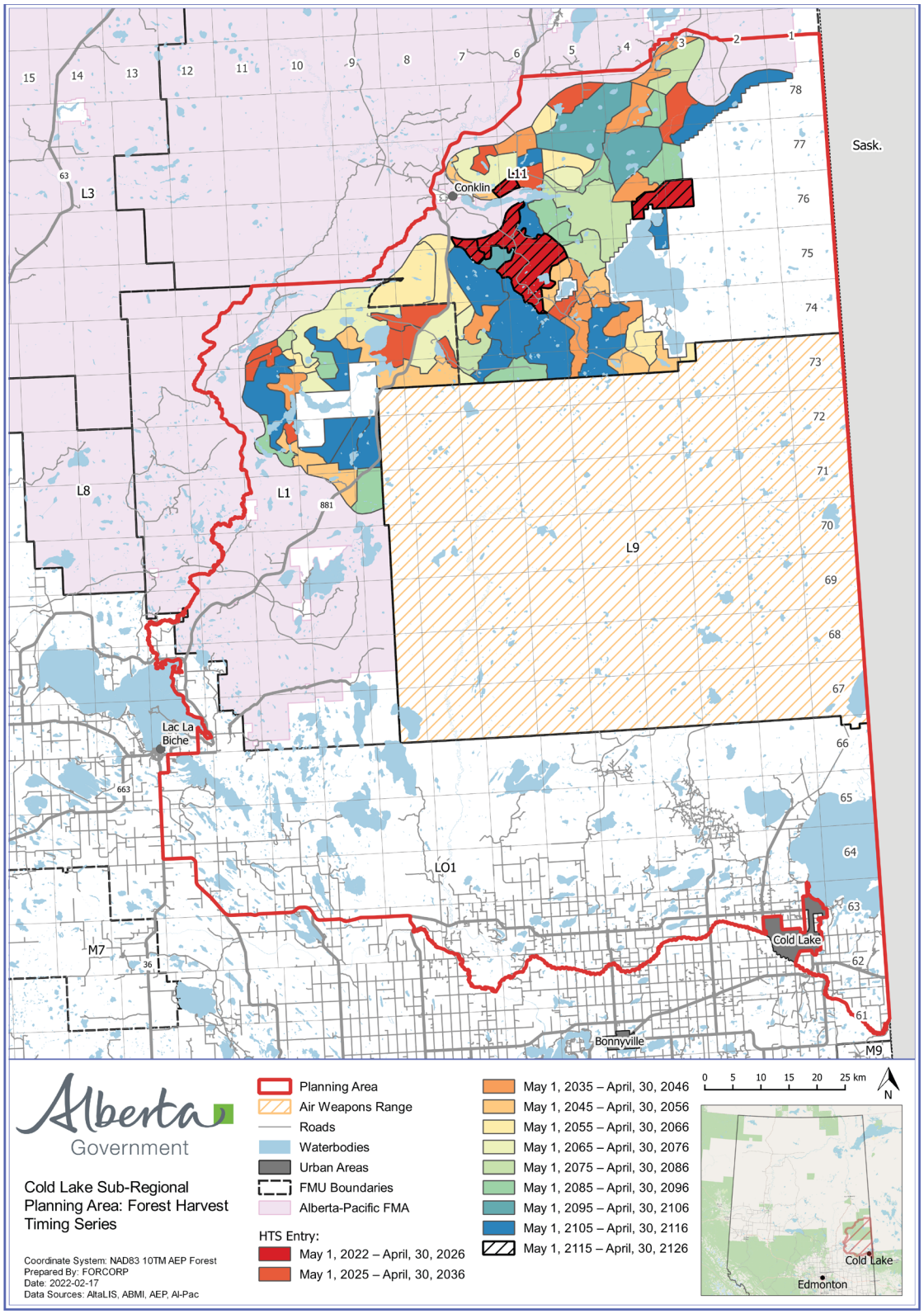
6.1.8 Legacy seismic footprint in new harvest blocks will be reforested to the same standard as the surrounding harvest block.

a) Ongoing access along specified legacy seismic lines following reforestation (chosen for Indigenous traditional use, trapper access, or other purposes) shall not exceed two metres in width and will require approval as part of the annual operating plan.

b) Exemption may be provided for seismic lines that are part of the provincial recreation trail plan.

6.1.9 HTS will take effect within two timber-years following approval of the plan.

FIGURE 7. Forest Harvest Timing Series (HTS) in the caribou ranges. Each HTS represents a 10-year period.



7.0 Surface Material Extraction (sand, gravel, and borrow)

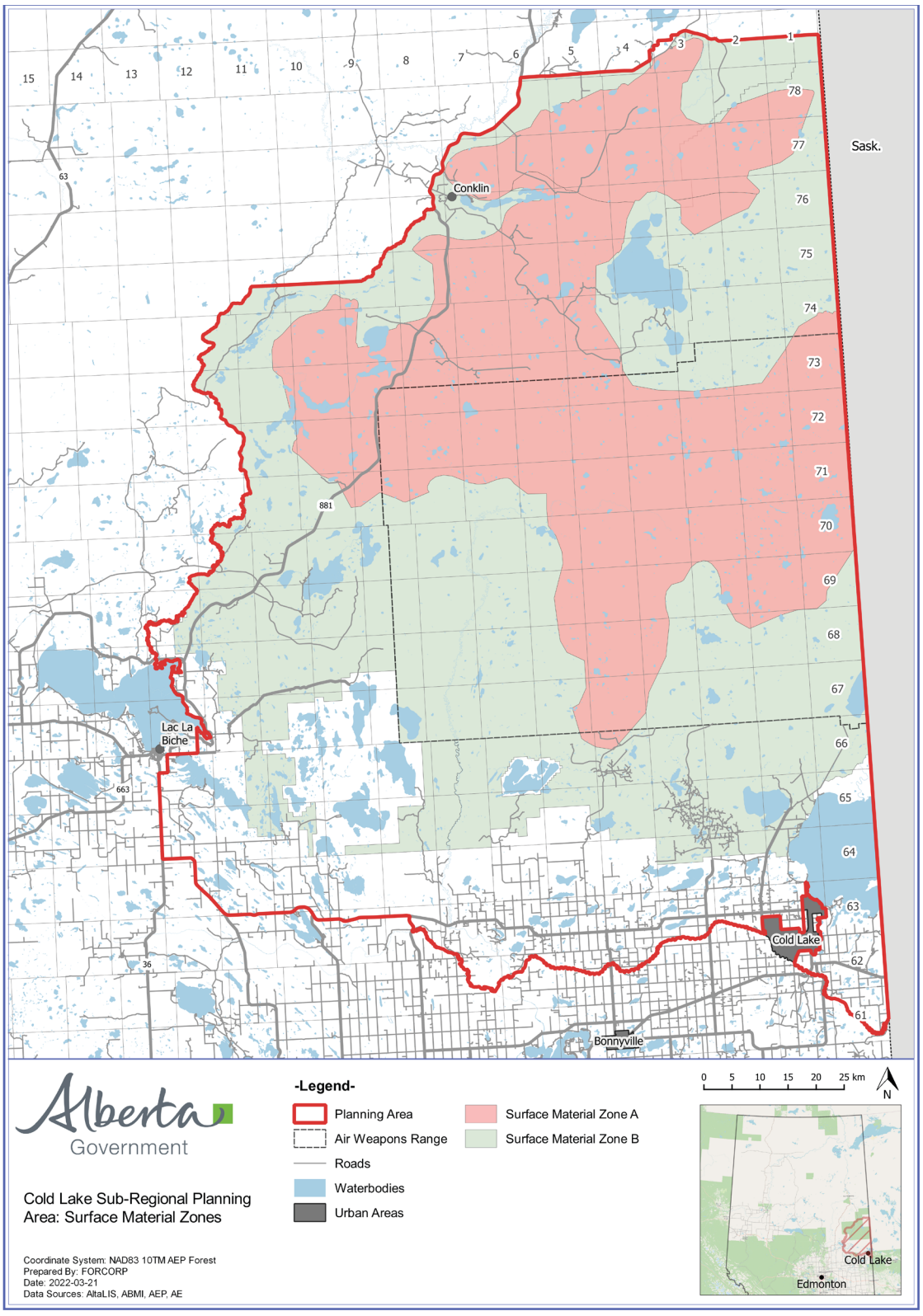
Surface material such as sand, gravel, and borrow are important for building roads and infrastructure, which are critical for industrial and municipality development. This resource is important in the Cold Lake Sub-region as it supports development of the rich oil sands resources.

In the Cold Lake Sub-region, surface material operations, including sand, gravel, and borrow, have a relatively small disturbance footprint compared to other industrial land uses. Deposits are often found along rivers within riparian areas. Riparian areas are important in soil conservation, habitat biodiversity, aquatic ecosystem stability, recreational and tourism opportunities, and as ecological corridors. To balance the need for aggregate development while supporting other values, aggregate activities will be managed as follows:

7.1 Requirements for Surface Material Extraction (sand, gravel, and borrow)

7.1.1 Access associated with surface material extraction must be no more than 100 metres in length from the edge of roads approved in the AMP in Zone A, and no more than 1,000 metres in length from the edge of roads approved in the AMP in Zone B (Figure 8).

FIGURE 8. Surface material extraction zones in the sub-region.



8.0 Peat

Alberta's existing directive, Allocation and Sustainable Management of Peat Resources on Public Land (2016), establishes two land sensitivity classes on public lands outlined in Table 6.

TABLE 6. Land sensitivity classes for management of peat resources on public lands

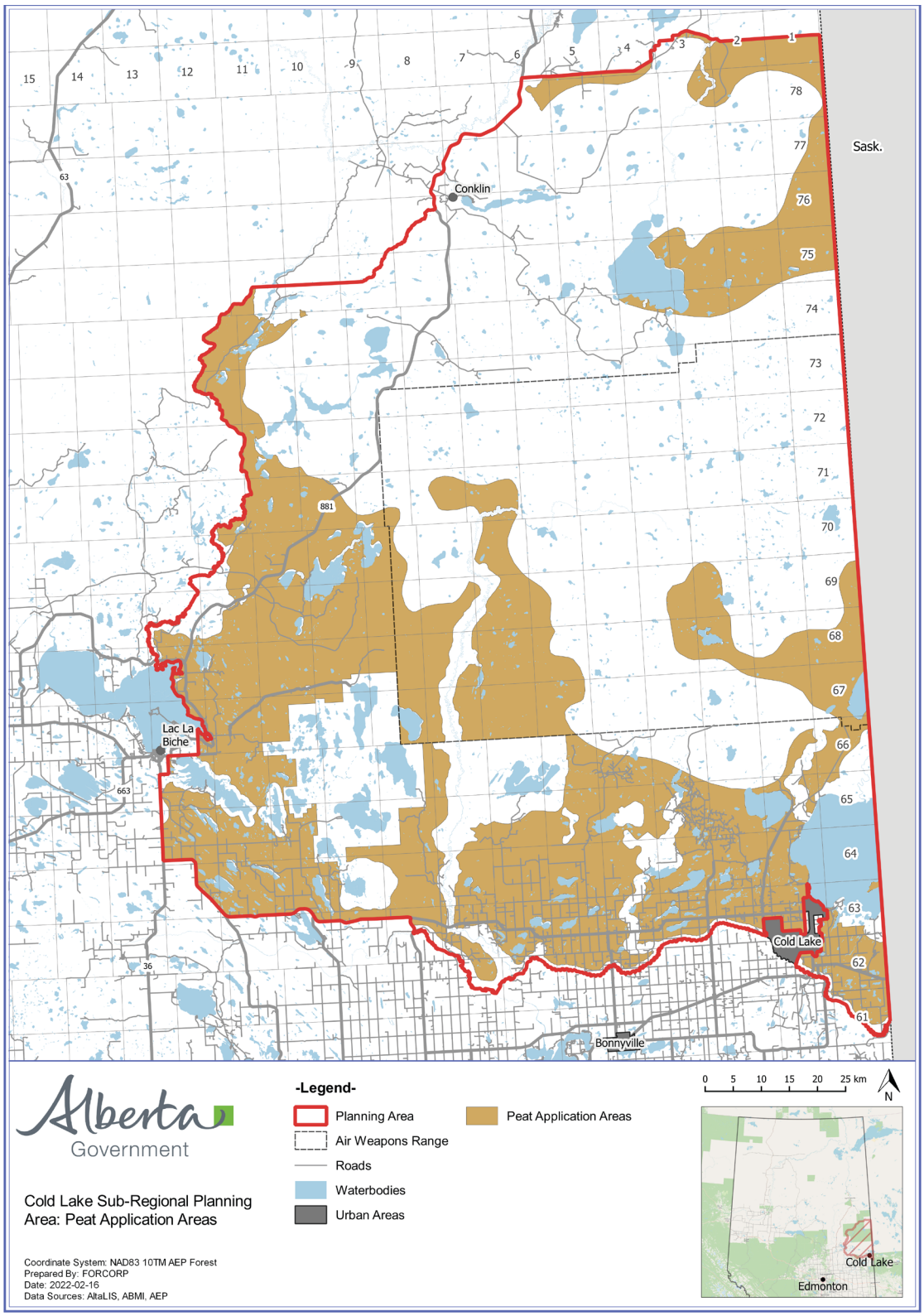
Sensitivity class	Constraints to peat operations	Peat availability
Low sensitivity (peat application areas in Figure 9)	Generally available	Generally available
High sensitivity	Sensitive or critical habitats where cumulative land use poses significant challenges to the viability of sustaining fish or wildlife populations	Excluded Not available

8.1 Requirements for Peat Extraction

8.1.1 Proposed peat applications must fall completely within the peat application areas identified in Figure 9.

8.1.2 Access must be compliant with the Access Management Plan for the Cold Lake Sub-region.

FIGURE 9. Peat application areas in the Cold Lake Sub-region.



9.0 Transmission Lines

Transmission lines are important infrastructure for all Albertans. These lines carry electricity over long distances to bring power to homes, businesses and industries. As electricity moves through the wires, some of it dissipates as heat. Historically, vegetation below transmission lines (>25 kilovolts) has been cleared as a safety measure. This vegetation clearing contributes to disturbance and fragments habitat in the sub-region.

As the transmission lines themselves are located high above ground, an opportunity is presented, similar to below-ground pipelines, where footprint on the landscape can be reduced without significantly impacting the infrastructure. By retaining or restoring vegetation along transmission line corridors, landscape fragmentation and its impacts to a variety of species on the landscape are reduced while allowing transmission lines to remain active and economically viable.

The sub-regional plan outlines new requirements for vegetation below transmission lines:

- Vegetation will be retained or recovered. The preferred approach is retaining vegetation underneath transmission lines during construction. However, vegetation can also be re-established.
- A minimum number of access routes will be maintained in transmission line right of ways for maintenance and inspections. This is important to ensure vegetation heights are monitored and controlled to prevent arc flash, which could lead to forest fires.
- Mitigation strategies will be used to reduce residual effects from predation and human access. This includes breaking line of sight and controlling access.

Re-establishing native vegetation below transmission lines is a change to typical business practices and may present unique challenges for transmission line operators. The sub-regional plan recognizes the technical and safety challenges associated with revegetating the area beneath transmisson lines.

9.1 Requirements for Transmission Line Activities

9.1.1 Revegetation of transmission line right of ways to maintain a minimum level of vegetative cover to reduce negative implications for wildlife. Vegetative cover will be indicative of pre-disturbance ecosite phase.

a) On new lines, vegetation cover is required to be a minimum of two metres high across the right of way for forest ecosites.

b) On existing lines where possible, vegetation should be maintained to a minimum of two metres high and cover the entire right-of-way width where it is safe to do so.

c) A linear travel corridor should be no more than four metres wide.

9.1.2 Human access must be effectively limited on transmission line corridors using strategies as determined by the GoA and the proponent. Implementation will occur in the same timelines as restoration.

9.1.3 Restoration treatments for new transmission projects must be completed in five years of transmission line installation.

10.0 Lands Prioritized for Non-industrial Uses

The sub-regional lands support many values and interests. To ensure land-use activities balance environmental, economic, and social needs, the sub-regional plan outlines land resources that will be prioritized for non-industrial activities.

10.1 Riparian Areas

Riparian lands are transitional areas between upland and aquatic ecosystems. They include both above and below ground lands, are variable in width, and include the uplands adjacent to aquatic ecosites. These areas are important for supporting soil conservation, fish and wildlife habitat, biodiversity conservation, recreation opportunities, and traditional uses. The sub-regional plan prioritizes these areas for ecological values, traditional values, and compatible recreation values.

10.1.1 Requirements for Riparian areas

10.1.1.1 New permanent footprint is not permitted within 250 metres of the valley break of a watercourse or the bed and shore of a waterbody identified in Figure 10.

a) Exempt activities include water intake and outflows, road crossings, electrical powerline crossings, telecommunication crossings, and pipeline crossings.

10.1.1.2 New linear footprint (including pipelines, transmission lines, and roads) is not permitted to parallel a watercourse identified in Figure 10 within 250 metres of the valley break of a watercourse.

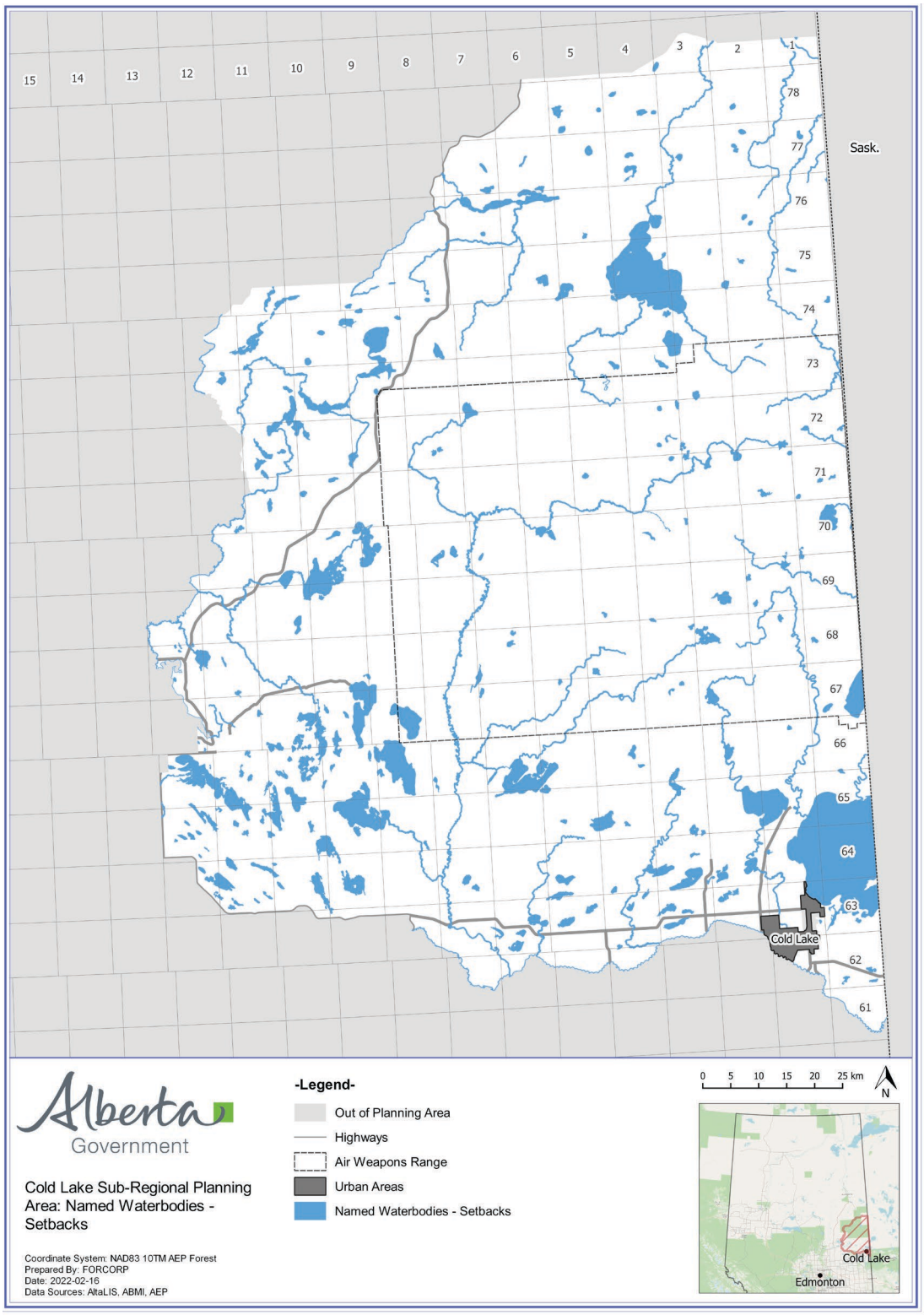
a) Exempt activities include water intake and outflows, road crossings, electrical powerline crossings, telecommunication crossings, and pipeline crossings.

10.1.1.3 Notwithstanding requirements 10.1.1.1 and 10.1.1.2, a total of 0.5% of the watercourse and waterbody buffer will be available as a development reserve to accommodate projects that demonstrate reduction in environmental risk by having the project within the riparian buffer versus outside of the buffer area.

a) For pipelines and transmission lines, the area of the dispositions that are revegetated will not count towards the footprint in the development reserve

10.1.1.4 Notwithstanding requirements 10.1.1.1 and 10.1.1.2, sand and gravel extraction operations, including road access to the extraction area along the Beaver River, will be permitted according to existing approval processes.

FIGURE 10. Watercourses and waterbodies with 250-metre riparian setbacks (includes the Beaver River).



10.2 Recreation and Tourism Areas

Many areas of Crown land support outdoor recreation activities like fishing, hunting, bird watching, hiking, camping, and off-highway vehicle use. These areas often have high scenic value, occur in natural settings, and are associated with rivers or lakes and their surrounding riparian areas and terrestrial uplands.

Existing tourism operators on public lands have dispositions enabled through the tourism and commercial recreation lease process. To grow tourism, benefit the economy, and create employment in the province, the sub-regional plan supports new and expanded tourism development in ecologically suitable areas. A recreation management plan will be developed that will:

- identify areas to prioritize for outdoor recreation and tourism development opportunities
- maintain high-quality, natural areas on the landscape that will support outdoor recreation activities and tourism development opportunities
- ensure recreation management areas support outdoor recreation activities and tourism development opportunities that are compatible with the ecological values of the area
- consider and manage land uses to ensure they do not compromise the cultural and historical values that also attract users to these areas

The recreation management plan will be developed with input from stakeholders, the private sector, and Indigenous peoples interested in ecologically sustainable recreation and tourism development opportunities.

10.2.1 Requirements for Recreation and Tourism

As a prominent area for lake recreation and tourism opportunities, until there is an approved recreation management plan, the sub-regional plan's recreation and tourism outcome will be supported by:

- bringing forward recreation management areas identified in existing plans that are now encompassed within the sub-region's boundaries (see Figure 11)
- identifying recreation and tourism as the priority land use for select areas identified through the Significant Tourism and Recreation Areas of the Lower Athabasca Region (STReAM)[13] analysis (see Figure 11)

10.2.2.1 Land use in recreation management areas identified in Figure 11 will be prioritized for recreation and tourism outcomes.

a) **Not part of regulatory details** For recreation management areas identified in existing planning documents, relevant management intent, objectives, and provisions continue to apply (see Appendix E).

b) **Not part of regulatory details** For recreation management areas identified by the STReAM, proposed developments will follow existing application processes by being assessed for compatibility with recreation and tourism outcomes.

10.2.2.2 **Not part of regulatory details** A recreation management plan (excluding the Cold Lake Air Weapons Range) will be created and implemented for the Cold Lake Sub-region.

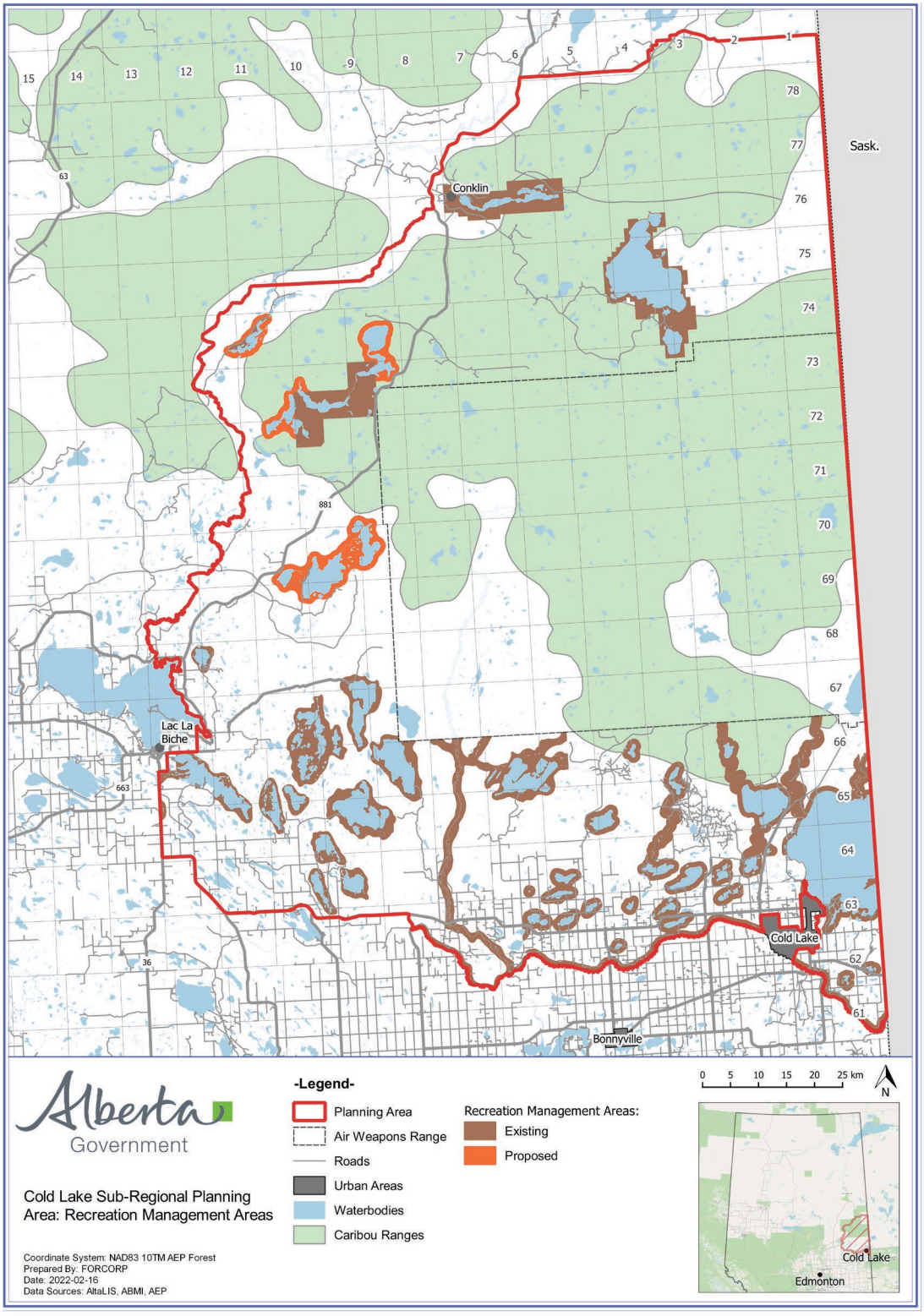
a) **Not part of regulatory details** An inventory of tourism and commercial recreation opportunities will be completed for the Cold Lake Sub-region (excluding the Cold Lake Air Weapons Range).

10.2.2.3 **Not part of regulatory details** A recreational trail system network will be created for the Cold Lake Sub-region to connect important tourism and recreation features, scenery, and settings.

a) **Not part of regulatory details** The trail system network will consider motorized and non-motorized opportunities compatible with the recreational desires and ecological sensitivities of an area.

[13] The STReAM analysis was conducted to support Task Force direction to increase the supply of recreation opportunities and grow the region's tourism sector to diversify the economy.

FIGURE 11. Recreation management areas in the Cold Lake Sub-region.



11.0 Other Anthropogenic Disturbance

Development opportunities, such as carbon capture, utilization, and storage (CCUS) or wind and solar farms, may become more prevalent on public lands in the sub-region in the future. For project types this plan does not explicitly identify (for example, yet-to-be-discovered resource types and renewable energy projects), proposals will be based on provincial policy, including the following requirements:

11.0.1 Roads associated with new projects must align with the requirements outlined under the AMP.

11.0.2 Proposed activities in caribou range of the Cold Lake Sub-region will be subject to an evaluation of projected footprint against current disturbance forecasts for the sub-region to make sure the activity does not conflict with caribou recovery objectives.

11.0.3 Proposed developments will not be permitted within 250 metres of the valley break of a watercourse or the bed and shore of a waterbody identified in Figure 10 and must be compatible with the objectives and outcomes identified for a recreation management area (Figure 11).

12.0 Natural Disturbance

Natural disturbances continually influence the sub-region. Wildfire, insect outbreaks, and forest disease are the most common disturbances that alter vegetation and associated habitat. Although natural, these disturbances can negatively impact some species and economic opportunities throughout the sub-region. To ensure the plan continues to achieve its outcomes, it will be important to monitor natural disturbances as they occur and when regularly reviewing the sub-regional plan.

12.1 Wildfire

Alberta Wildfire, the wildfire management branch in Agriculture and Forestry, primarily manages wildfire on Alberta public land. It commits to reducing the number and impact of human- and natural-caused wildfires by implementing wildfire prevention and FireSmart programs, detecting wildfires rapidly, and responding effectively.

Alberta Wildfire develops risk-based wildfire management plans for each forested area based on protecting five key priorities that largely impact public safety or the local economy: human life, communities, watersheds and sensitive soils, natural resources, and infrastructure. These plans involve engaging stakeholders and Indigenous peoples to identify fundamental economic, social, and environmental values and objectives. Wildfire management plans are reviewed every five years or if a large disturbance occurs and are updated to incorporate new policies or align with regional and sub-regional plans. To support landscape resilience and protect our critical values, strategies continue to be researched and adopted. This is essential to ensure wildfire management programs succeed in the future.

A significant portion of the wildfires across Alberta have been identified as human caused. In 2020, human causes were connected to well over 50% of all wildfires. It is anticipated that the actions contained within the plan, primarily those related to the restoration and/or coordination of forest harvest areas, roads, and other linear features, will significantly reduce the risk of human-caused wildfires throughout the sub-region.

12.2 Insects and Pathogens (not including Pine Beetle)

Managing forest pests requires systematic approaches to limit pest damage to levels that are socially and economically acceptable. The GoA is committed to sustaining the health of our forests and does this by surveying, monitoring, assessing risk, and implementing various management programs.

12.3 Mountain Pine Beetle

Mountain pine beetle infestations and their effects on pine forests can impact hydrological function, ecosystem function, sensitive sites, wildlife habitat, and levels of sustainable forest harvest. Pine stands in Alberta have been assessed for susceptibility to damage from mountain pine beetle. Due to the lack of pine, approximately 75% of the sub-region has low or no susceptibility. About 20% of the sub-region has a moderate susceptibility. The GoA will continue prioritizing Level 1 control treatments (removing single trees at high-risk mountain pine beetle sites) in the sub-region where it is most effective and approving Level 2 treatments (block or patch harvesting of infestations) that align with Section 6.

13.0 Livestock Grazing in the Green Area

The GoA manages livestock grazing, which is an allocated resource on public lands. Those with grazing dispositions must demonstrate sustainable grazing that supports environmental, economic, and social benefits. The sub-region does not currently present significant opportunity for livestock grazing, and there are no current grazing dispositions within the caribou ranges in the sub-region. The sub-regional plan outlines requirements for grazing dispositions in the Green Area as follows:

13.1 Requirements for Grazing Dispositions in the Green Area

13.1.1 Within the Green Area, new permanent footprint associated with the grazing disposition is not permitted within 250 metres of the valley break of watercourse identified in Figure 10 or in 250 metres of the bed and shore of a waterbody identified in Figure 10.

13.1.2 Livestock grazing applications within areas identified in Figure 11 must be compatible with the recreation management objectives and outcomes for these areas.

13.1.3 No new grazing dispositions will be allocated on lands in caribou ranges.

13.1.4 **Not part of regulatory details** Grazing dispositions may be issued for areas outside caribou ranges, subject to an assessment of livestock grazing suitability and compatibility with other land uses.

14.0 Restoring Legacy Seismic Lines

The sub-regional plan cannot achieve its outcomes of supporting new development and increasing undisturbed habitat over the landscape without restoring historical seismic lines, known as legacy seismic lines. Seismic lines in Alberta are primarily used when assessing sub-surface oil, gas, and mineral resources. Modern seismic practices and technology have reduced the residual disturbance associated with seismic operations. However, many legacy seismic lines are not demonstrating forest regrowth and remain on the landscape decades after they were constructed.

The challenge with legacy seismic lines is not reserved to the Cold Lake Sub-region. There are approximately 250,000 kilometres of legacy seismic lines in caribou ranges across Alberta. It is estimated that 150,000 kilometres of those legacy seismic lines are not fully capable of re-establishing natural woody vegetation and require treatment to enable restoration.

Restoring these lines presents an adaptive management opportunity that supports long-term working landscapes while maintaining ecological integrity. By minimzing landscape fragmentation from historical footprint, we make space for new development while limiting impacts on biodiversity.

Ongoing partnerships, including funding arrangements with industry and the federal government, are important and will benefit from a coordinated effort. To coordinate this work, AEP will lead a provincial restoration program with assistance from a third-party restoration agency. This program will direct restoration priorities, guide operations, and continue to involve local and Indigenous peoples.

While some legacy seismic lines provide access routes for Indigenous peoples, hunters, trappers, recreationists, and commercial users of wildlife, the vast majority of these areas are not used for access. Before restoring legacy seismic lines, the GoA will seek input from Indigenous peoples and other land users to identify areas of use and coordinate restoration, development, and land-use practices and rights in the area.

To address the future impacts of seismic operations, the sub-regional plan outlines requirements for geophysical exploration that will help ensure future seismic lines have low long-term impacts across the landscape (Section 5.0).

14.1 Requirements for Restoration of Legacy Seismic Lines

Alberta will lead the restoration of seismic lines over the next 40 years. Seismic line restoration within the Cold Lake Sub-region will be completed according to the following schedule in Table 7. The restoration schedule is based on the existing legacy seismic lines in the caribou range within the sub-region, as of 2018.

TABLE 7. Legacy Seismic line restoration schedule

Time period (years)	Per cent treated (or verified as sufficiently stocked)
0–5	10%
5–10	15%
10–20	25%
20–30	25%
30–40	25%

15.0 Disposition Revegetation

Alberta's public lands are both a shared resource and a shared responsibility. Activities occurring on public lands are managed to support the economic, environmental, and social well-being of all Albertans. Recovering areas impacted by human use is critical in ensuring land uses are sustainable over time and that this shared resource can be passed down to future generations.

15.1 Requirements for Revegetation of Dispositions

To support this outcome, the following standards are required for temporary dispositions (i.e., temporary field authorizations), disturbances approved within forest annual operating plans (excluding forest harvest), and revegetation of pipeline right of ways:

15.1.1 Any portion of the disposition within a caribou range that occurs within an ecosite capable of producing caribou biophysical habitat must be recovered back to an ecosite capable of producing caribou biophysical habitat.

15.1.2 Any portion of the disposition that occurs within an upland ecosite phase must be recovered to a plant community representative of the pre-disturbance ecosite phase.

15.1.3 The portion of the disposition that occurs within a wetland must be recovered to a plant community representative of the pre-disturbance wetland class (for example, bog, fen, or marsh).

15.1.4 If trees were on the site prior to construction, tree species must be re-established.

To obtain a reclamation certificate for formal dispositions (except surface material dispositions), the following will apply:

15.1.5 Any upland portion of the disposition within a caribou range that occurs within an ecosite capable of producing caribou biophysical habitat must be recovered back to an ecosite capable of producing caribou biophysical habitat.

15.1.6 Any portion of the disposition that occurs within an upland ecosite must be recovered to a plant community representative of the pre-disturbance ecosite.

15.1.7 The portion of the disposition that occurs within a wetland must be recovered to equivalent land capability.

15.1.8 When applying the Alberta Wetlands Policy in caribou ranges, a regional abundance factor of zero will be applied . Relative wetland value assessment shall include consideration of caribou pre-disturbance occurrence and caribou biophysical habitat.

15.1.9 If trees were on the site prior to construction, tree species must be re-established.

To obtain a reclamation certificate for surface material extraction dispositions, the following will apply:

15.1.10 Any portion of the disposition within a caribou range that was originally considered caribou biophysical habitat and has not been authorized for an end pit waterbody must be recovered back to caribou biophysical habitat.

15.1.11 If trees were on the site prior to construction, tree species must be re-established on areas not occupied by an end pit waterbody.

15.1.12 End pit waterbodies are permitted.

16.0 Cold Lake Implementation Committee

The Cold Lake Implementation Committee (CLIC) will be an informal committee to support the implementation of the Cold Lake Sub-regional Plan. It will be convened and chaired by the GoA and have representation from Indigenous peoples, local municipalities, energy and forestry sectors, and others as appropriate. The CLIC will not have a regulatory or auditing function and will serve as a mechanism to bring in local perspectives on plan implementation.

17.0 Monitoring, Evaluating, and Reporting

As a key element of adaptive management, the GoA will complete five-year stewardship reports. AEP is accountable for reporting on the items committed to in this plan in collaboration with Alberta Agriculture, Forestry and Rural Economic Development, Alberta Energy, the Alberta Energy Regulator, and other relevant departments and agencies.

17.1 Performance Indicators

Tracking and reporting on indicators is a valuable source of information for land managers, Indigenous peoples, stakeholders, and the public. It provides information needed to evaluate how effective the sub-regional plan's requirements are at achieving the desired outcomes in the sub-region and helps land managers determine if the plan needs to be adjusted.

For this purpose, the sub-regional plan will track and report on a combination of environmental indicators (Table 8) and socio-economic indicators (Table 9). Indicators will be reported on at least every five years.

17.1.1 Environmental Performance Indicators

TABLE 8. Environmental performance indicators

Indicator	Description	Purpose
Anthropogenic (human-caused) footprint	The area of anthropogenic disturbance features, classified by originating activity	Evaluate landscape change over time Inform future re-openings or revisions of the sub-regional plan
Barred owl	Assessment of available habitat and population metrics based on habitat availability modeling	Evaluate landscape-change impact on species of interest
Caribou biophysical habitat	Amount, forest cover type, and trend of biophysical habitat attributes	Assess caribou recovery
Caribou occurrence and movement patterns	Identified habitat areas under active use	Inform planning and focus of restoration efforts
Caribou population demographic rates and growth (lambda)	Estimated trend in population size	Assess caribou recovery
Caribou population size	Estimated number of caribou	Assess caribou recovery, specifically minimum population requirements
Disturbed/undisturbed caribou habitat	Amount and trend of undisturbed habitat as defined by the Recovery Strategy for Boreal Woodland Caribou (2012)	Assess caribou recovery
Forest cover age class	Area within each seral stage by major forest cover type will be monitored within forest management units of the sub-region	Evaluate landscape change over time Inform future re-openings or revisions of the sub-regional plan
Moose population size	Estimated number of moose	Inform management strategies, such as sustainable harvest levels
Natural disturbances	Size and location as monitored by Alberta Agriculture and Forestry	Evaluate landscape change over time Inform future re-openings or revisions of the sub-regional plan
Restoration of legacy seismic lines	Kilometres of line restored, either through active restoration or by field-confirmed natural recovery	Assess trajectory to desired level of undisturbed habitat for the sub-region
Songbirds	Assessment of available habitat and population metrics based on habitat availability modeling	Evaluate landscape change impact on multi-species
Spatial caribou habitat parameters	Spatial pattern and landscape scale occurrence of caribou habitat	Assess caribou recovery (federal)
Wetlands	Amount of area directly impacted by anthropogenic footprint	Evaluate landscape change over time Inform future re-openings or revisions of the sub-regional plan

17.1.2 Socio-Economic Monitoring and Performance Indicators

Socio-economic indicators are used to track, monitor, and project land-use changes within a given region to evaluate the economic and social benefit of the plan.

These indicators will be monitored and considered during the socio-economic assessment accompanying the sub-regional plan and assessments that follow scheduled reviews.

TABLE 9. Socio-economic performance indicators

Indicator	Description	Purpose
Economic conditions	Assessment of local economies (for example, employment)	Understand local economic conditions
Fiscal conditions	Assessment of provincial and federal economies	Understand local economies in the context of provincial and federal economic conditions
Demographics	State and trends in sub-regional demographics (population size and composition)	Inform future planning opportunities
Community infrastructure	Community support structures (programs and facilities) in the sub-region (for example, health and social services and programs, housing conditions)	Inform future planning opportunities and focus
Recreation	Recreational infrastructure in the sub-region (programs, trails, facilities, opportunities)	Inform future planning opportunities and focus

18.0 Plan Review

Building on strong monitoring and reporting, regular review cycles are important to ensure plans support positive environmental, economic, and social outcomes that will benefit current and future generations of Albertans. Sub-regional plans are iterative land management tools that can be adapted over time. This is key to ensuring land-use plans remain relevant over time. The plan will be reviewed five years after its approval and every 10 years after this first review.

These reviews are important, as the socio-economic and environmental context changes over time. As economic conditions change or new technological improvements present themselves (for example, carbon capture, utilization, and storage), it will be important to ensure the management approaches in the plan continue to align with the plan objectives. Similarly, as the landscape changes over time, reviews will help ensure management approaches continue to be aligned with broader plan objectives. Engagement with stakeholders and Indigenous peoples will be an important part of this process and help to inform where potential adjustments may be required.

A plan review may also be triggered under the following scenarios:

18.0.1 If the annual total natural disturbance within the caribou range exceeds 1%.

18.0.2 If within eight years of the plan coming into force the cumulative new natural disturbance area exceeds 4% of all caribou range within the sub-region.

18.0.3 If within 10 years of the plan coming into force the cumulative new natural disturbance area exceeds 4% of the entire sub-region.

19.0 Glossary

Term	Definition
Access Corridor	A linear corridor identified for human movement where roads or trails are planned and developed.
Adaptive Management	A management approach that involves monitoring and performance evaluation followed by adjusting management actions to achieve the intended outcome. Adaptive management also allows information to be fed back into the project planning and design process so that future reclaimed project areas will meet the intended objectives. A tenet of ecological management in which human resource users are flexible to change the way they interact with the environment based upon need and the availability of new information.
Aggregated Harvest	Harvest planning that concentrates forestry activities in space and time. This results in large, generally contiguous patches of young forest that should better imitate large natural disturbance patterns created by fire.
Anthropogenic (human-caused) Footprint	The visible alteration or conversion of native ecosystems to temporary or permanent residential, recreational, agricultural, or industrial landscapes. This definition includes all areas under human use that have lost their natural cover for extended periods of time, such as cities, roads, agricultural fields, and surface mines. It also includes land that is periodically reset to earlier successional conditions by industrial activities, such as forestry cut blocks and seismic lines.
Annual Operating Plan (AOP)	A plan prepared and submitted by a forest operator every year. An AOP approved by government provides the authorization to harvest.
Appended Development	Development that occurs within 100 metres from the edge of the lands contained in the formal disposition for a primary road.
Bed and Shore	Public lands which form the definable channel of a river, stream, or watercourse; or the basin of a lake of other permanent and naturally occurring body of water that is bound by a bank as defined in section 17 of the *Surveys Act* which may or may not be fully covered by water. The shore is the exposed bed when not fully covered by water.
Caribou Biophysical Habitat	Habitat containing characteristics required by woodland caribou (*Rangifer tarandus caribou*) to carry out their life processes necessary for survival and recovery within caribou ranges in Alberta, as identified through the methodology and classification system developed by Alberta Government and outlined in "Methods for Refining Federal Classification of Woodland Caribou Biophysical Critical Habitat for Alberta".
Caribou Range	The geographic area occupied by a group of individuals that are subject to similar factors affecting their demography and used to satisfy their life history processes (for example, calving, rutting, wintering) over a defined time frame.
Chronic Wasting Disease (CWD)	A disease that kills members of the deer family (i.e., white-tailed deer, elk, and moose). Transmission occurs from individual to individual and in certain situations may involve environmental contamination.
Commercial Recreation	Instructing/guiding/outfitting activities (for example, commercial trail riding, dog sled tours, heli-ski tours, fishing, game hunting, off-highway vehicle tours, etc.) or developments that offer facility-oriented recreational, tourism, or accommodation services or programs to the general public on public land for which a consumer pays a fee and which the operator requires a permit or disposition.

Term	Definition
Community Timber Permit Program (CTPP)	The CTPP provides access to timber for a specified number of small operators at specified dues rate.
Compartments	A sub-section of a given area for which operational plans are developed.
Disposition Holder	The holder of a disposition according to the records of a regulatory body. (Public Lands Administration Regulation)
Disposition Roads	Roadways associated with holder of a formal disposition according to the records of a regulatory body.
Disturbance	In respect of public land, means human activity that moves or removes one or more of the following features of the public land or that alters or results in the alteration of the state in which it existed before the human activity occurred, and includes any change in the intensity, frequency, or nature of the human activity: (i) vegetation (ii) soil (iii) subsoil (iv) bedrock (v) landform (vi) wetland (vii) waterbody or watercourse (viii) air flow or wind currents (ix) ambient sound volumes (x) light or shade
Disturbed Habitat	Habitat showing: i) human-caused disturbance visible on Landsat at a scale of 1:50,000, including habitat in a 500-metre buffer of the human-caused disturbance; and/or ii) fire disturbance in the last 40 years, as identified in data from each provincial jurisdiction (without buffer).
Ecosystem Based Management (EBM)	Ecosystem-based management (EBM) is an integrated, science-based approach to the management of natural resources that aims to sustain the health, resilience, and diversity of ecosystems while allowing for sustainable use by humans of the goods and services they provide.
Footprint	The impact or extent of a disturbance on public land. This includes the intensity, frequency, and nature of any uses or activities related to the disturbance.
Forest Harvest Plan or Timber Harvest Plan	Standards for operating and planning field practices that must be measurable and auditable and based on forest-management-plan objectives.
Forest Harvest Timing Units (Harvest Compartment)	Compartments which define the sequence in which forest harvest is accessed within a given area of a Forest Management Area.
Forest Management Agreement (FMA)	A renewable 20-year agreement between the government and a company that grants the company the rights and obligations to manage, grow, and harvest timber on a specific area in a manner designed to provide a yield consistent with sustainable forest management principles and practices.
Forest Management Unit (FMU)	An administrative land unit established under the authority of the *Forests Act* for which a coniferous and deciduous annual allowable cut (AAC) may be calculated and managed. (Note: not all FMU's have AACs.)

Term	Definition
Formal Disposition	A disposition issued under the *Public Lands Act* before or after the coming into force of the *Public Lands Administration Regulation* and bearing a title and number assigned by the Department for the purposes of identifying the disposition in the records of the Department. This includes numbered instruments bearing the title: (i) commercial trail riding permit, (ii) repealed AR 57/2017 s2, (iii) easement, (iv) farm development lease, (v) grazing lease, (vi) grazing licence, (vii) licence of occupation, (viii) mineral surface lease, (ix) miscellaneous lease, (x) pipeline agreement, (xi) pipeline installation lease, (xii) surface material lease, (xiii), (xiv) repealed AR 57/2017 s2, (xv) lease for tourism and commercial recreation purposes, or any other instrument issued in a form prescribed under section 6 of the Act.
Green Area	Comprises most of northern Alberta as well as the mountain and foothill areas along the province's western boundary and is managed for timber production, watershed, wildlife and fisheries, recreation, and other uses.
Habitat	The sum of the environmental conditions in which an organism lives, or the physical and biological environment that provides essential food, water, and shelter for an organism.
Habitat Restoration	The practice, process, or result of active human intervention and treatments to renew and restore degraded, damaged, or destroyed ecosystems and habitats. Habitat restoration aims to protect and restore critical "services" that the environment provides.
Historical (Legacy) Footprint	Footprint as of 2014, deemed unnecessary to support continued human activity, that is not initially restored and does not have a legally responsible party to deal with the restoration work (for example, historical seismic lines that have not been returned, either naturally or through management action, to a successional pathway towards effective caribou habitat).
Holistic Approach	Consideration of the whole, including many inputs, perspectives, and parts of a system. Often referred to as taking a holistic approach.
Indigenous Peoples	"Indigenous peoples" includes "aboriginal peoples of Canada" within the meaning of Section 35 of the Constitution Act, 1982.
Indigenous Knowledge	For the purposes of this plan, the knowledge regarding the subject-matter of this plan that Indigenous peoples or their members share outside their community.
In-situ Development Area	The boundaries in the project area approved for the specific placement of drainage patterns for the recovery of bitumen.
In-situ Project Area	The boundaries in which bitumen recovery may occur over the life of the project.
Integrated Land Management (ILM)	A strategic, planned approach to managing and reducing the human-caused footprint on the land. The goals of ILM are to reduce land-use disturbance relative to what would occur in the absence of integration efforts, and to foster a stewardship ethic in all land users.

Term	Definition
Land Conversion	An actual, observable land-use change from an agricultural use to a non-agricultural use (or vice versa), such as agricultural to urban development. Conversion can be temporary (for example, upstream oil and gas development) or permanent (for example, urban development). Conversion may be positive or negative (i.e., a gain or loss of agricultural land, respectively).
Land Use	All uses of land, such as agriculture, forestry, conservation, recreation, tourism, oil and gas, mining, utility corridors, transportation, cities and towns, industrial development, etc.
Land-use Framework	In 2008, the GoA implemented Cabinet-approved, provincial-scale policy to develop a new land-use planning system for the province. The Land-use Framework sets out an approach to manage Crown and private lands and natural resources to achieve Alberta's long-term economic, environmental, and social goals. The framework is designed to ensure good stewardship of Alberta's lands and resources so that future generations of Albertans benefit from the province's natural beauty and prosperity, just as we do today. The Land-use Framework was developed through extensive consultation with Albertans, and their collective feedback formed the guidance from which a provincial vision and a set of desired provincial outcomes and principles were created. (Planning System Overview.)
Limit	A transition point beyond which an unacceptable risk to a desired objective (or outcome) occurs. The limit is the value of an indicator which represents the point, if exceeded, that the system moves to an undesirable state and management action must be taken.
Local Population (caribou)	A group of caribou occupying a defined area distinguished spatially from areas occupied by other groups of caribou. Local population dynamics are driven primarily by local factors affecting birth and death rates rather than immigration or emigration among groups.
Multiple Use	Management of a land area to support integrated use, including timber and non-timber interests such as water, grazing, industrial development, recreation, and wildlife.
Natural Disturbance	Term used to describe a type of disturbance to the landscape that is not human caused. These disturbances can include fire, wind, insects, floods, and landslides.
Natural Range of Variation	The spectrum of natural conditions possible in ecosystem structure, composition, and function when considering both temporal and spatial scales.
Natural Resource(s)	Occur in nature, including non-renewable resources, such as timber, fish, wildlife, soil, water, coal, and minerals.
Nature-based Tourism	Tourism that is undertaken largely or solely for the purpose of enjoying natural attractions and engaging in outdoor activities, whether for relaxation, discovery, or adventure (for example, camping, birdwatching, downhill skiing, hunting, mountain biking, motorized recreation, etc.).
Non-renewable Resource(s)	Natural resources that are in fixed supply, such as coal, oil, and minerals.
Objective	The desired result or goal in well-defined, measurable terms achievable in a certain timeframe. Translates the broad outcomes into more specific, quantifiable statements and guides content and direction of policy.
Operating Ground Rules	Standards for operating and planning field practices that must be measurable and auditable and based on forest management plan objectives.

Term	Definition
Outcome	An event, occurrence, or condition that results from an activity or program and has an actual effect on resources, the environment, or Albertans. For planning purposes, outcomes are the desired/expected endpoint or state and should guide the development and implementation of related programs. An outcome can be expressed as a business result or a resource/environmental result. A program may have multiple outcomes for different timeframes and scales.
Outdoor Recreation	The experience that results from freely chosen participation in physical, social, intellectual, creative, and spiritual pursuits in an outdoor, nature-based setting that enhances individual and community wellbeing.
Progressive Reclamation	Interim or concurrent reclamation undertaken during, following, or in connection with construction, development, and ongoing operations associated with an active disposition where there is no expectation of re-disturbance and where the final approved plant community is establishing. For well sites, minor re-disturbance may be required to replace reclamation material over the operational area (tear drop) at final reclamation.
Project Area	See in-situ project area.
Protected Area(s)	Areas, such as provincial parks, national parks, wilderness areas, ecological reserves, and some recreation areas, that have protected designations according to federal and provincial statutes. Protected areas are land and freshwater or marine areas set aside to protect diverse natural and cultural heritage.
Public Lands	Land of the Crown in right of Alberta.
Reclamation	Any or all of the following: (i) the removal of equipment or buildings or other structures or appurtenances; (ii) the decontamination of buildings or other structures or other appurtenances, or land or water; (iii) the stabilization, contouring, maintenance, conditioning, or reconstruction of the surface of land; (iv) any other procedure, operation, or requirement specified in the regulations.
Recreation Opportunity	The availability for an individual to engage in a chosen recreation activity within a preferred recreation setting to achieve a desired experience.
Restoration	The process of restoring site conditions as they were before the land disturbance.
Restored Habitat	Habitat that was disturbed in the past but has since returned to a state that is no longer considered by Alberta to be disturbed.
Right of Way (ROW)	A cleared area facilitating linear activities which contains an access road and its associated features (such as shoulders, ditches, cut and fill slopes) or the area cleared for passage of utility corridors containing power lines or over- or under-ground pipelines. Typically, the ROW is a specially designated area of land having very specific rights of usage attached.
Section 35 Rights	Rights recognized and affirmed in section 35 of the Constitution Act, 1982, which pertains to aboriginal and treaty rights of the aboriginal peoples of Canada.
Self-sustaining Local Population	A local population of caribou that on average demonstrated stable or positive population growth over the short-term (≤20 years) and is large enough to withstand random events and persist over the long-term (≥50 years) without the need for ongoing, active management intervention.

Term	Definition
Seral Stage	A stage of forest succession. A series of plant community conditions that develop during ecological succession following a major disturbance to the climax stage. Most common characteristics/classifications include tree species and age.
Spatial Harvest Sequence (SHS)	A stand level map depicting forest stands scheduled for timber harvesting that are feasible to be operated by the organization. SHSs are generally prepared for 20 years.
Stand or Stand Type	A community of trees sufficiently uniform in species, age, arrangement, or condition as to be distinguishable as a group in the forest.
Sub-regional Plan	Sub-regional plans address location-specific issues through the integration of higher-level plans, policy, and operational requirements. Plans are outcome based, provide clear operational direction, and must be considered when making decisions in the planning area. Enabled through the *Alberta Land Stewardship Act* and ministry legislation (for example, *Public Lands Act*), sub-regional plans are built through a collaborative process and include input and feedback from Indigenous peoples, stakeholders, and the public.
Temporary Roads	A road approved under a public lands authorization or forestry annual operating plan.
Tourism	The activity of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes not related to the exercise of an activity remunerated from within the place visited. A tourism trip occurs when visitors take an overnight trip or a same-day trip of more than 40 kilometres (one-way) outside of their home community.
Traditional Uses	For the purposes of this plan, “traditional uses” has the same meaning as in the GoA’s policies on consultation with First Nations and Metis Settlements on land and natural resource management as those policies may read at any one time.
Traditional Land Use	For the purposes of this plan, in the context of Indigenous Peoples, this includes both Treaty Rights and Traditional Uses, and harvesting by recognized Métis harvesters.
Treaty Rights	Constitutionally protected rights to hunt, trap, and fish for food. These rights may be practiced on unoccupied Crown lands or lands to which First Nations members have right of access for such purposes.
Undisturbed Habitat	Habitat not showing any: i) human-caused disturbance visible on Landsat at a scale of 1:50,000, including habitat in a 500-metre buffer of the human-caused disturbance; and/or ii) fire disturbance in the last 40 years, as identified in data from each provincial and territorial jurisdiction (without a buffer).
Valley Break	The interface between the upland tableland and the crest or rim of the main (oldest) slope of the board river valley.
White Area	The White Area (settled portion) consists of the populated central, southern, and Peace River areas of the province. In the White Area, public land is part of the agricultural landscape. It is managed for various uses, including agriculture, recreation, soil and water conservation, and fish and wildlife habitat.
Working Landscape	An area of land managed for multiple environmental, social, and economic objectives. These objectives include environmental conservation as well as human use for social and economic value.


Alberta