First report on the implementation of the section 11 agreement for the conservation and recovery of the woodland caribou in Alberta



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1. Executive Summary

In October 2020, Alberta and Canada signed the Agreement for the Conservation and Recovery of the Woodland Caribou in Alberta to facilitate woodland caribou recovery in Alberta. Woodland caribou (both southern mountain and boreal) are designated as a Threatened species under Alberta's *Wildlife Act* and Canada's *Species at Risk Act*. Alberta is committed to the implementation of this Agreement which supports provincial caribou recovery efforts including landscape-level planning, habitat conservation, management and recovery planning, caribou mortality and population management and caribou population and habitat monitoring. Alberta and Canada agreed to regularly report on the progress towards the commitments in this Agreement. This first report provides a summary of progress made and actions undertaken from January 1 to December 31, 2021 and in some cases includes information prior to 2021 to aid interpretation and enhance recent context for woodland caribou conservation in Alberta.

Alberta is developing a 5-year strategic program plan identifying priority areas for caribou habitat restoration, and updating the 2017 draft Provincial Restoration and Establishment Framework for Legacy Seismic Lines. Under the Caribou Habitat Recovery Program, Alberta planned for the restoration of 5,000 km of legacy seismic lines in eight caribou ranges. A total of 138 km of legacy seismic lines were treated in the Cold Lake caribou range, and restoration of 763 km of legacy seismic lines was initiated in the Little Smoky caribou range. Alberta is developing guidance and direction for forest management planning, and harvest operations as well as access management plans to be incorporated into sub-regional plans.

There are twelve boreal and three southern mountain woodland caribou local populations remaining on Alberta's crown lands. Alberta monitors population growth for all provincially managed caribou populations. Monitoring and reporting of caribou population and habitat occurs at the local population scale. Assessment of annual population growth data indicates that most woodland caribou populations in Alberta have demonstrated substantial declines over the years of population growth monitoring. To support population recovery, Alberta is delivering wolf population reduction programs annually within and adjacent to seven caribou ranges. This program is necessary to avoid the extirpation of the caribou local populations, given excessive levels of caribou mortality from predation associated with current levels of human-caused habitat loss and alteration. Additional efforts, such as adjustments to licensed hunting opportunities for other ungulate species have been put in place for some caribou ranges.

A monitoring and reporting framework for caribou habitat disturbance and recovery is being developed, to provide regular assessment and reporting on: the proportions of undisturbed habitat, biophysical habitat, and habitat disturbance from wildfire and anthropogenic features (including forest harvest and establishment of new footprint) for each local caribou population. "Footprint" in the context of caribou recovery are anthropogenic features which result in change or loss of caribou habitat within woodland caribou local population ranges. "Disturbance" refers to areas of footprint (and any associated disturbance buffers) and areas burned by wildfire within 40 years, as per nationally defined methods of critical habitat identification for the species (Environment Canada 2011).

Local populations estimated to have the least (less than 5%) undisturbed habitat in 2021 include Chinchaga, Deadwood, Egg-Pony, Little Smoky, Nipisi, Slave Lake, and Wiau. Ranges estimated to have less than 10% undisturbed habitat in 2021 include Bistcho, Christina, and Wandering. The A la Peche and Redrock-Prairie Creek summer ranges have the largest estimated amounts of undisturbed habitat (greater than 80%); however, the winter ranges of these local populations contain notably less undisturbed habitat than their summer ranges (less than 30%).

Alberta is using a sub-regional planning approach to advance caribou conservation and recovery. Sub-regional planning is a means to bring stakeholders together as well as some First Nations, Métis communities and organizations, through Ministerial task forces, to develop recommendations for consideration by government in the development of sub-regional plans. The task forces leverage local knowledge and experience to consider social, environmental and economic interests while providing those who live, work and recreate in these areas the opportunity to provide advice to Alberta. In 2021, Alberta had five sub-regional plans in progress and two of those were in the finalization and approval phase.

2. Introduction

In October 2020, Alberta Environment and Parks (AEP) and Environment and Climate Change Canada (ECCC) signed the Agreement for the Conservation and Recovery of the Woodland Caribou in Alberta (referred to here as the "Agreement") to facilitate woodland caribou recovery in Alberta. In Alberta, two types of woodland caribou (southern mountain and boreal) are designated as Threatened under both Alberta's *Wildlife Act 2000* (AB), c W-10 and Canada's *Species at Risk Act, SC 2022, c 29* (SARA). Two federal recovery strategies, one for boreal woodland caribou and one for southern mountain woodland caribou, outline population and distribution objectives, and critical habitat outcomes to enable woodland caribou conservation and recovery.

Through the Agreement, Alberta is taking a leadership role on caribou recovery in alignment with the province's authority for management of provincial Crown land. Alberta is committed to the implementation of this Agreement which supports provincial caribou recovery efforts and formalizes cooperation between the two jurisdictions, including enabling allocation of federal funding to support caribou conservation and recovery efforts in Alberta. Actions outlined in the Agreement include landscape planning, habitat conservation, management and recovery planning, population and habitat monitoring, and mortality and population management.

As part of the Agreement, Alberta and Canada agreed to regularly report on progress towards the commitments. This report provides a summary of progress made and actions undertaken by Alberta from January 1 to December 31, 2021. Additional information collected prior to 2021 has been included in some cases, to provide context for woodland caribou conservation in Alberta.

The main body of this report summarizes actions undertaken in the reporting period and progress towards meeting commitments listed in the Agreement. Additional information is provided in appended Annexes. Annex 1 provides details on deliverables in the Agreement (Appendix B). Annex 2 reports on caribou population monitoring results for 2020 and 2021. Annex 3 reports on habitat monitoring results. Annex 4 summarizes engagement with Indigenous communities and organizations during 2021 delivery of sub-regional planning.

3. Progress On Recovery Actions

3.1 Landscape planning (Annex 1, Table A)

Sub-regional planning

Alberta is using a sub-regional planning approach to advance caribou conservation and recovery. Sub-regional plans maintain or re-establish ecological processes, including landscape and habitat intactness. In addition to addressing caribou recovery and habitat intactness, these sub-regional plans consider a broad range of land uses to support environmental and conservation outcomes, Indigenous traditional use, recreation, and economic development. Sub-regional planning is a means to bring stakeholders together as well as some First Nations, Métis communities and organizations, through Ministerial task forces, to develop recommendations for consideration by government in the development of plans (Figure 1). The task forces leverage local knowledge and experience to balance social, environmental and economic interests while providing those who live, work and recreate in these areas the opportunity to provide input. Task force membership is adjusted for each sub-region to ensure relevant, local viewpoints are considered. Three task forces were established in 2019 and two more were launched in 2021, with representation from industry, the recreational sector, registered trappers, Indigenous communities/organizations, non-governmental organizations, and municipalities. Table 1 identifies the current state of sub-regional planning.

The Agreement has a 5-year timeline, with the following commitments to be supported or achieved through sub-regional planning:

- Complete, approve and implement sub-regional plans that address all land uses for the 15 woodland caribou populations, under Alberta's provincial jurisdiction.
- Complete caribou range-specific plans, including forest harvesting planning, that is consistent with woodland caribou conservation and recovery. Forest management plans and harvesting operations to be aligned with and contribute to conservation and recovery of local caribou populations and critical habitat outcomes.
- Restore disturbed caribou habitat to support woodland caribou critical habitat outcomes set out in the federal recovery strategies.
- Pursue and implement agreements with energy companies to reduce disturbance caused by future developments, and secure additional funding for habitat restoration.

- Conduct and implement access management plans that are consistent with woodland caribou recovery objectives.
- Ensure project approval conditions for existing and future energy, forestry, and other land-uses minimizes impacts, including cumulative effects, to woodland caribou critical habitat, individual woodland caribou, and woodland caribou populations.
- Consider potential management actions for identified important areas that occur outside range boundaries to maintain connectivity for caribou within and between local population ranges to support woodland caribou conservation and recovery.

In addition to the efforts on the development of sub-regional plans in 2021, Alberta advanced development of a system to enable the evaluation of project footprint to support regulatory decision makers in implementation of sub-regional plans. As sub-regional plans are approved, this tool will incorporate the sub-regional plan requirements to support decision making. This initiative will also support landscape data management, and tracking of restoration and habitat into the future.

Sub-Regional Planning Road Map

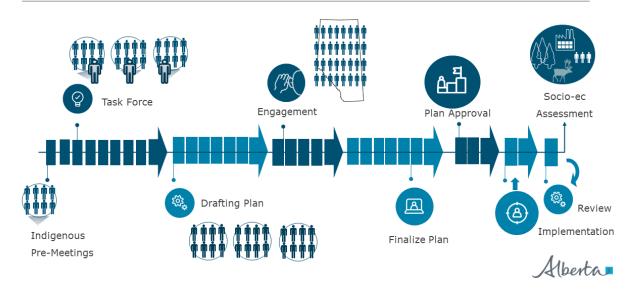


TABLE 1. STATUS OF ALBERTA SUB-REGIONAL PLANNING END OF 2021 CALENDAR YEAR. SUB-REGIONS THAT DO NOT HAVE PLANNING UNDERWAY ARE NOT INCLUDED IN THE TABLE.

	Sub-Regional Planning Milestone Description							
Sub-Regional Plan (Caribou Range)	Indigenous Pre- Meetings	Task Force Launch	Final Task Force Recommendations	Sub- Regional Plan Drafting	Public Engagement	Socio- Economic Impact Assessment Completion	Sub- Regional Plan Approval	Approval of Regulations
Cold Lake (Cold Lake & Christina)	-	Nov. 2019	Mar. 2020	Apr. 2020 –Mar. 2021	Mar May 2021			
Wandering River (East Side Athabasca River)	May – Jul. 2021	July 2021						
Bistcho Lake (Bistcho)	-	Nov. 2019	Nov.2019	May 2020 – Mar. 2021	Mar May 2021			
Upper Smoky (Redrock-Prairie Creek & Narraway)	-	Nov. 2019	Feb. 2021					
Berland (Little Smoky, A la Peche)	Apr. – Jul. 2021	Jul. 2021						

3.2 Habitat conservation, management, and recovery (Annex 1, Table B)

Restoration

Alberta is committed to the restoration of legacy seismic lines within caribou ranges, as a key action to support the recovery of caribou habitat, and reduce predator abundance, occurrence and travel within caribou range. "Footprint" in the context of caribou recovery are anthropogenic features (i.e., human caused) which result in the change or loss of caribou habitat in woodland caribou local population ranges (2020). "Disturbance" refers to areas of footprint and areas within 500 metres of specified footprint as well as areas burned by wildfire within 40 years, aligning with nationally defined methods of critical habitat identification for the species (Environment Canada 2011). Land-use footprint contributes to vegetation and landscape changes that typically remove or degrade caribou habitats, increase the occurrence and abundance of alternate prey species (i.e., deer, moose, elk) and thereby increase the occurrence and abundance of predators (i.e., wolves bears and cougars), and facilitate predator travel and hunting efficiency. Caribou are negatively affected by all of these factors.

In 2017, Alberta established the Caribou Habitat Recovery Program (CHRP), to target the restoration of legacy seismic footprint within caribou ranges. Alberta has identified over 250,000 km of legacy seismic lines within its caribou ranges, this includes legacy seismic line footprint within protected areas. Alberta is developing a 5-year strategic program plan identifying priority areas for restoration, in alignment with sub-regional planning. Habitat restoration involves identifying site-specific factors that will affect restoration success, determining restoration prescriptions, working with Indigenous communities, trappers and other stakeholders to understand access needs, and considering future operations that may conflict with restoration work.

Alberta has developed the draft Provincial Restoration and Establishment Framework for Legacy Seismic Lines in Alberta (2017) to outline restoration targets, objectives and monitoring for projects under the CHRP. A series of measures of success have been established to evaluate whether habitat is on a trajectory to become effective habitat. These measures of success include the following:

- restoration programs contribute to the efforts to reduce fragmentation by restoring large tracts of woodland caribou habitat,
- treatments have addressed site limiting factors and vegetation (particularly trees) have re-established,
- where advanced regeneration is already present and provides contiguous and consistent coverage on the line, it is
 protected to the degree feasible, and
- treatments seek to limit human and predator movements.

To understand and evaluate the success of restoration efforts, the draft Provincial Restoration and Establishment Framework for Legacy Seismic Lines also outlines a monitoring program to evaluate early tree survival and to ensure that restored lines are at a sufficient density and height. Components of this monitoring includes:

- confirming tree seedlings are establishing and are on a trajectory to canopy closure,
- documenting tree seedlings are present across a treated line,
- identifying areas where tree regeneration success is low and target remedial actions,
- minimizing survey effort through use of aerial and/or digital techniques, and
- providing a dataset to help direct future restoration efforts and inform other caribou-related monitoring.

Monitoring includes two phases 1) assessment for survival, stocking, coverage, and height of tree species between years 2–5 after treatment, and 2) assessment for overall tree stocking, coverage, tree height, establishment, and absence of human access trails between years 8–10 after treatment. Survival assessments will be conducted in the A La Peche and Cold Lake caribou ranges in the fall of 2022. Due to the infancy of the program, there were no treatment sites ready for establishment assessment in 2021.

In 2021, Alberta began to update this framework to ensure it identifies restoration and establishment guidelines specific to all caribou ranges. This update is anticipated to be completed in 2022.

Vegetation Inventory

Vegetation inventory information (based on aerial photography) is collected and interpreted to inform restoration planning. In 2021, vegetation inventories were underway for Bistcho, Yates, Caribou Mountains, and Richardson caribou ranges.

Restoration Treatment Planning

In 2021, under the CHRP, Alberta planned for the restoration of 5,000 km of legacy seismic lines, which included:

- 1,566 km in Little Smoky,
- 398 km in A la Peche,
- 946 km in Redrock-Prairie Creek,
- 189 km in Narraway,
- 800 km in Cold Lake,
- 530 km in East Side Athabasca River, and
- 575 km in Red Earth.

Restoration Treatment Delivery

In 2021, a total of 138 km of legacy seismic lines were treated in the Cold Lake caribou range, and restoration of 763 km of legacy seismic lines was initiated in the Little Smoky caribou range.

Forest Harvest Management

Alberta supports the principles of sustainable forest management and responsible stewardship. Forest management planning is essential to sustainable forest management in Alberta and there are established policy processes and regulatory requirements in place. Further guidance and direction for forest management planning, and harvest operations will be developed during sub-regional planning, and will be incorporated into sub-regional plans. Current forestry practices in Alberta disperse harvesting areas across a defined area; however, these practices can create a pattern that can contribute to landscape fragmentation. Aggregating forestry operations through harvest timing series in caribou ranges can be a tool to emulate natural disturbance patterns while reducing and managing impacts to undisturbed habitat and biophysical habitat over time within caribou ranges.

In 2021, proposed forest harvesting requirements in the draft Bistcho Lake and Cold Lake sub-regional plans were included in the draft sub-regional plans that were publicly released. This included:

- identification of forest harvest timing units in caribou ranges in an attempt to reduce potential conservation challenges for caribou, and
- requirements for reforestation of seismic in new harvest blocks to the same standard as the surrounding harvest block.

In caribou ranges where sub-regional plans are not yet in place, companies will continue to follow Forest Management Plans as approved by Alberta Agriculture, Forestry and Rural Economic Development (AAFRED).

Wildfire Management Planning

The purpose of wildfire management planning in Alberta is to direct wildfire suppression and mitigation strategies. Alberta Agriculture, Forestry and Rural Economic Development defines priorities for wildfire management based on the following values: human life, communities, watersheds and sensitive soils, natural resources, and infrastructure critical to life safety and economy. Caribou values fall within the natural resource priority.

The wildfire management planning standard describes the approach for preparing and implementing wildfire management plans in Alberta. These plans calculate an overall wildfire risk rating informed by the likelihood of a wildfire burning a given area in the near future as well as the impact that a fire will have on values in the area if there were impacted by wildfires. Wildfire management plans guide prevention and suppression activities, and also operational activities such as prescribed burns, vegetation management treatments and suppression resources allocation. Wildfire Management Plans are responsive to values and strategies identified through sub-regional planning efforts.

In 2021, AAFRED updated wildfire management plans for the Edson, Fort McMurray, Lac La Biche and Peace River Forest Areas to incorporate caribou values. Caribou range data was also provided by AEP to AAFRED for consideration in the Grande Prairie Wildfire Management Plan. Caribou values span large areas and this can create a neutral effect within the wildfire management plans. For this reason the Grande Prairie Forest Area did not incorporate caribou values at a large scale and identified the need for further delineation of caribou values to inform wildfire risk reduction and suppression strategies. In 2021, a wildfire management plan was under development for the Whitecourt Forest Area with the intention to evaluate opportunities for incorporating caribou values within the risk evaluation. AAFRED and AEP continue to investigate opportunities to develop new strategies to inform wildfire risk planning informed by caribou range values and sub-regional planning objectives.

Management of Energy Sector Activities

Voluntary agreements:

In 2021, Alberta continued to implement the existing agreement; The Little Smoky Caribou Herd Development Agreement with Ovintiv Canada ULC (Ovintiv). This development agreement extends the time Ovintiv has to hold Crown petroleum and natural gas rights without undertaking activity to prove resource productivity, a key requirement of Alberta's petroleum and natural gas tenure system. In exchange, Ovintiv agreed to restricted access to certain lands and pay \$3.5 million over 10 years for legacy seismic restoration. The development agreement requires the deferral of Ovintiv activities for eight years across approximately 8,000 hectares in important caribou habitat and permanently prohibits Ovintiv from disturbing an additional 8,200 hectares in important caribou habitat.

No additional voluntary agreements were completed in 2021.

Access management planning:

Access management plans are developed during sub-regional planning and are incorporated into sub-regional plans. The plans consider access requirements for resource development, and seek to reduce potential negative implications for wetlands, caribou populations and habitat, and for other wildlife species. Over time, the access management plans seek to enable efficient placement of roads and reduce the footprint of roads. Access management plans were developed under the 2021 draft Bistcho Lake and Cold Lake sub-regional plans.

Land Use Management Regulation and Approvals

Lands uses on public land are managed under the *Public Lands Act* and the Public Lands Administration Regulation, which provide for operating guidelines and requirements to be specified for land use activities on public lands. The Master Schedule of Standards and Conditions (MSSC) and accompanying Wildlife Sensitivity Data Sets are used together to identify areas where specific approval conditions and standards for industrial land uses apply. The Alberta Energy Regulator (AER) is responsible for reviewing and approving Public Lands Act applications related to oil, gas and coal developments, while AEP reviews and approves all other Public Lands Act applications. Forestry operations (except for Public Lands Act related applications) are managed under the *Forests Act* and are subject to requirements under that legislation and regulations and are reviewed and approved by AAFRED.

"Approval Standards" are MSSC specifications which outline the expectations and requirements for land use applications and activities. An applicant can seek to have standards not applied to an approval, making this request through a non-standard application process. Non-standard applications within caribou ranges are referred by the AER to AEP. The implications for caribou of each non-standard application, and adequacy of the proposed mitigation are assessed by AEP and recommendations are made to the AER for consideration during the approval process. The assessments are based on caribou needs, as guided by provincial and federal conservation and recovery directions and objectives. This includes providing information and recommendations related to impacts on caribou populations, their occupancy, and both the presence of biophysical critical habitat and disturbance of critical habitat. The number of non-standard applications within caribou ranges since the initiation of the Agreement (October 2020) to December 2021 is included in Table B.5 within Annex 1.

3.3 Mortality and population management (Annex 1, Table C)

Predator Management

Alberta is delivering wolf population reduction programs annually within and adjacent to seven caribou ranges. This program is necessary to avoid the extirpation of the caribou local populations, given excessive levels of caribou mortality from predation associated with current levels of human-caused habitat change and loss. Alberta's goal for wolf management is to reduce wolf populations annually to levels that enable caribou population persistence by contributing to population stability or growth. Information on wolf population management are included for each range in Annex 2. Annual wolf population reductions are primarily achieved through government led actions during the winter season. In addition, Alberta initiated a program with the Alberta Trappers Association to provide incentives for wolf harvesting by Registered Fur Management Area (RFMA) holders. Results showing RFMA holder participation in this program are included in Annex 1, Table C.

Captive Rearing

The creation of a woodland caribou rearing facility was previously proposed for placement in the Little Smoky caribou range (see draft Provincial Woodland Caribou Range Plan (2017)). At the present time, Alberta has decided to not advance on this proposed action, in favour of development and implementation of other caribou and land management plans and actions. Alberta continues to assess the need for and effectiveness of additional recovery actions for all caribou local populations as supported by best available information and science through an adaptive management approach to caribou recovery.

Caribou Harvest Management

The removal of any caribou from small or declining caribou populations challenges caribou conservation and recovery. Alberta continues to gather information on sources of caribou mortalities in Alberta, including human caused mortalities. Alberta's *Wildlife Act* and Regulations do not allow for caribou harvest, except for those with Indigenous-specific hunting rights such as constitutionally recognized rights. In a typical year, there are confirmed occurrences and unconfirmed reports of caribou being harvested by either those with Indigenous-specific hunting rights or of illegal caribou harvest by others. Alberta continues to assess the need for additional measures related to harvest management to contribute to the prevention of extirpation of caribou local populations.

Alternate Prey Management

Moose, elk, and deer can indirectly affect caribou populations as they are alternative prey which support predator populations and wolf population management can directly affect population growth of these ungulates. Alberta's goal is to enable increased harvesting of ungulates where necessary, to avoid excessive levels of alternative prey population growth in and adjacent to caribou ranges where the annual wolf population reduction program is being implemented. Harvesting of ungulate populations to mitigate excessive population growth is achieved through harvest by those with Indigenous-specific constitutionally recognized rights to harvest, and where necessary through provision of additional licensed hunting opportunities. Adjustments to licensed hunting opportunities, in alignment with wolf population management, have been put in place for portions of the Redrock-Prairie Creek, Little Smoky, and A la Peche caribou ranges.

3.4 Population monitoring (Annex 1, Table D)

Population Monitoring

There are twelve boreal and three southern mountain woodland caribou local populations remaining on Alberta's crown lands, as well as one remaining population in Jasper National Park managed by the federal government. Over the last century the occurrence and distribution of woodland caribou has greatly declined in Alberta, particularly along the eastern slopes of the province.

Alberta monitors caribou at the local population scale. In some cases however, monitoring is also conducted at a broader geographic scale, such as the East Side of the Athabasca, Red Earth and Chinchaga Ranges which each represent administrative groupings of several caribou local populations. AEP's ongoing caribou population monitoring program monitors caribou movement, distribution, habitat use and caribou vital rates (described further below). Monitoring data also informs the assessment of range boundaries (both local population and administrative range groupings) to support any necessary adjustments to delineated boundaries; updates of federal recovery strategies and provincial recovery plans; updates to commitments under this Agreement; and land management and population management approaches used.

Population Growth:

Alberta estimates population growth annually for all 15 provincially managed caribou populations. Vital rate monitoring includes estimating annual rates for adult female survival and calf recruitment (9 months in age) within local populations, which together allow for the estimation of caribou population growth. The annual caribou population growth, termed lambda (λ) represents the growth or decline in the population size year over year. An estimated lambda of 1.0 represents no net change in the population size, lambda >1.0 or <1.0 represents annual population growth or population decline, respectively. (Annex 2, Table A2.1 and Figure A2.1).

Assessment of annual population growth data indicates that most woodland caribou populations in Alberta have demonstrated substantial declines over the years of population growth monitoring. Multiple years of negative population growth is indicative of caribou population decline, and can result in substantial reductions in the number of caribou in a given population. Annual wolf population reductions, achieved through the lethal removal of wolves, has reduced the occurrence of negative population growth for the caribou populations, and resulted in stable to positive growth in most cases. In the absence of wolf population management, it is expected these caribou populations would return to a state of negative population growth (particularly due to low or negligible calf survival) and return to being on a path to extirpation.

Population Distribution:

In recent years some caribou populations have demonstrated dramatic declines in range level occupancy and distribution. This has been particularly evident for the caribou populations in west-central Alberta, with large declines in distribution evident for the Redrock-Prairie Creek, Narraway, and Little Smoky populations. In response to anthropogenic habitat change, the Redrock-Prairie Creek, Narraway and A la Peche populations are increasingly demonstrating reduced annual migration to their forested foothills traditional winter ranges (Williams et al. 2021). These populations are increasingly restricted to mountainous areas on a year around basis. Mountainous areas are suboptimal winter habitat for these caribou, and this increasingly restricted distribution contributes to elevated rates of caribou mortality. Delivery of wolf management has stabilized and created marginal population growth for the Redrock-Prairie Creek, Narraway, and Little Smoky populations, however, population growth has not been consistent or robust.

Population Estimation

Alberta has estimated population size for selected caribou populations using a non-invasive capture-mark-recapture sampling procedure, based on collection of fecal DNA. Selected ranges are surveyed multiple times in a single winter to collect caribou fecal pellet samples within caribou ranges. Since 2012-13, the province has completed population estimation surveys, based on fecal DNA collections, in 10 of the 15 provincially managed caribou populations. This work provides point in time estimates of caribou population numbers. Alberta continues to assess the need for additional population estimation efforts at the range level and undertakes these estimations when required (Annex 2, Table A2.1).

3.5 Habitat monitoring (Annex 1, Table D)

Habitat Monitoring

A monitoring and reporting framework for caribou habitat disturbance and recovery is being developed, to provide regular assessment and reporting on: undisturbed habitat, biophysical habitat, wildfire disturbance, anthropogenic features, and estimated forest harvest and approvals. Disturbance metrics and habitat availability for each caribou range was calculated using nationally defined critical habitat for the species (Environment Canada 2011) with buffered anthropogenic features and un-buffered wildfire areas. Fire data from AAFRED (Historic Wildfire Polygons 2021), and anthropogenic features from Alberta Biodiversity Monitoring Institute (ABMI) (ABMI Human Footprint Inventory, 2020) were used to represent disturbed habitat up to 2018. This was augmented with remote-sensed data (Chowdhury 2021) to estimate habitat disturbance in 2021.

To augment the identification of caribou biophysical habitat as described in the federal caribou recovery strategies (Environment Canada 2012), Alberta developed a classification system outlined in Methods for Refining Federal Classification of Woodland Caribou Biophysical Critical Habitat for Alberta (AEP 2018). For reporting purposes under the Agreement, biophysical habitat was approximated for years 2018 and 2021 by removing areas recently subject to fires, and new anthropogenic features (based on 2018 ABMI human footprint and Chowdhury 2021). Undisturbed biophysical habitat was calculated similarly, but also removes habitat within 500 metres of an anthropogenic footprint.

In addition to the anthropogenic features observed on the landscape, there were ongoing applications and approvals during 2021 for industry and natural resource activities that contribute to future footprint. These disturbances were estimated to understand the area of potential footprint that may be observed on the landscape in 2022. To estimate approved disturbances in 2021, forestry approvals were calculated using the most recently available spatial harvest sequence information for each

forest management unit, and all other approvals were derived from those recorded spatially in Alberta's Digital Integrated Dispositions (DIDs) mapping program. These estimated approvals were summed to depict the total estimated footprint area of approvals in 2021.

For illustration purposes, range specific values are reported for caribou local populations and seasonal ranges, resulting in a total of 26 local population ranges (including summer and winter ranges for Redrock-Prairie Creek and A la Peche).

For purposes of 2021 reporting, the assessment of projected future caribou habitat outcomes for the Bistcho Lake and Cold Lake sub-regional plans are still being finalized. Therefore at time of reporting, Alberta was unable to report 2021 current state against the modeled habitat outcomes resulting from these sub-regional plans. As anticipated future habitat outcomes are developed for each sub-regional plan, Alberta will also report against these projections.

Annex 3 and the text below provide results of the habitat monitoring analysis for all caribou ranges (including local populations and administratively defined groupings).

2021 Undisturbed Caribou Range Habitat (Annex 3, Table A3.1, Figures 2 and 3)

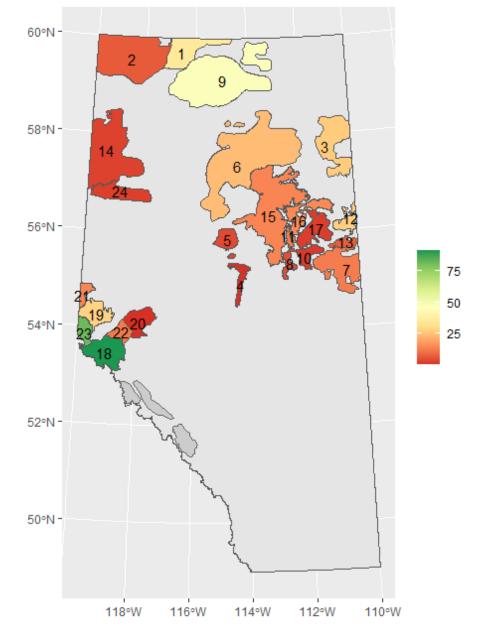
The 26 local population ranges (including summer and winter ranges for Redrock-Prairie Creek and A la Peche) are illustrated in Figures 2 and 3, with the percent of total undisturbed habitat in 2021.

Undisturbed habitat was quantified using fires and anthropogenic footprints. Fires were considered disturbed if they had burned within 40 years and had a burn class between 3-5, indicating the severity to burn at least half of the polygon area. Most footprints were buffered by 500m to represent anthropogenic disturbance. Some features were excluded including reclaimed areas, low impact seismic lines, and the vegetated edges of some railways and roads. Table A3.1 provides a summary of total undisturbed habitat (ha) and the proportion (%) of each range that was undisturbed habitat in 2010, 2018, and 2021.

Local populations estimated to have the least (i.e., less than 5%) undisturbed habitat in 2021 include Little Smoky (0.7%), Slave Lake (0.9%), Wiau (2%), Egg-Pony (2.5%), Deadwood (2.7%), Chinchaga (3.1%), and Nipisi (4.2%). Ranges estimated to have less than 10% undisturbed habitat in 2021 include Wandering (5.1%), Bistcho (6.9%), and Christina (7.4%). The A la Peche (91.5%) and Redrock-Prairie Creek (82.1%) summer ranges and the Caribou Mountains (47.5%) have the largest estimated amounts of undisturbed habitat; however, the A la Peche (12.4%), and Redrock-Prairie Creek (28.5%) winter ranges contain notably less undisturbed habitat than their summer ranges.

Annex 3, Table A3.2 and Figure A3.1 provides a summary of lands designated for protection under provincial legislation in caribou ranges.

FIGURE 2. 2021 UNDISTURBED HABITAT (%) IN ALBERTA'S LOCAL POPULATION CARIBOU RANGES. LOCAL POPULATIONS (INCLUDING SUMMER AND WINTER RANGES) ARE IDENTIFIED BY NUMBER: 1 - YATES; 2 - BISTCHO; 3 - RICHARDSON; 4 - SLAVE LAKE; 5 - NIPISI; 6 - RED EARTH (INCLUDING BIRCH MOUNTAINS); 7 - COLD LAKE; 8 - WANDERING; 9 - CARIBOU MOUNTAINS; 10 - WIAU; 11 - AGNES; 12 - BOHN; 13 - CHRISTINA; 14 - CHINCHAGA; 15 - WEST SIDE ATHABASCA; 16 - ALGAR; 17 - EGG-PONY; 18 - A LA PECHE SUMMER; 19 - REDROCK-PRAIRIE CREEK WINTER; 20 - LITTLE SMOKY; 21 - NARRAWAY; 22 - A LA PECHE WINTER; 23 - REDROCK-PRAIRIE CREEK SUMMER; 24 - DEADWOOD.



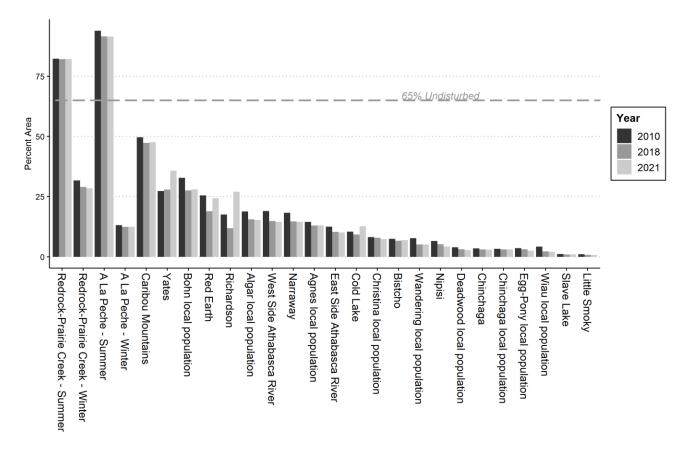


FIGURE 3. PERCENT OF UNDISTURBED HABITAT IN 2010, 2018, AND 2021 IN EACH CARIBOU RANGE (INCLUDING LOCAL POPULATIONS AND SEASONAL RANGES). ALSO SEE ANNEX 3, TABLE A3.1.

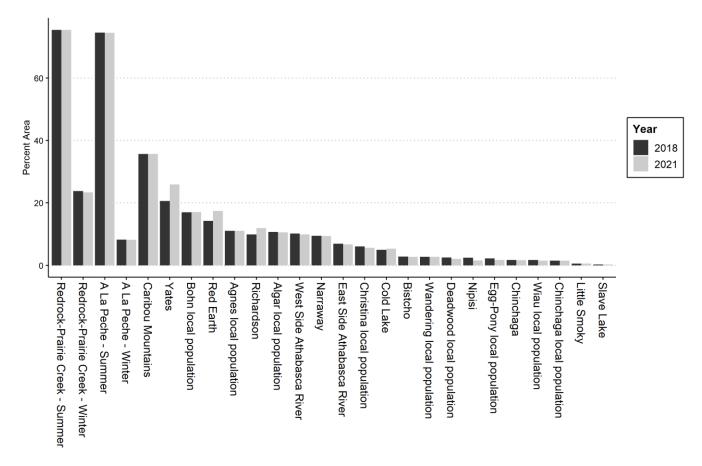
2021 Caribou Biophysical Habitat (Annex 3, Table A3.1, Figure 4)

Table A3.1 and Figure 4 provide summaries of biophysical habitat for each caribou range.

Local populations estimated in 2021 to have least undisturbed biophysical habitat (i.e., less than 5%) include: Slave Lake (0.3%), Little Smoky (0.5%), Wiau (1.5%), Chinchaga (1.5%), Nipisi (1.6%), Egg-Pony (1.7%), Deadwood (2.1%), Bistcho (2.7%), and Wandering (2.7%). During 2018 and 2021, some caribou local populations (Bohn, Caribou Mountains, Cold Lake, Richardson, Yates, and Red Earth) gained undisturbed biophysical habitat (Figure 4) due biophysical habitat returns from the recovery of forest fire after 40 years.

Ranges estimated to have the most undisturbed biophysical habitat in 2021 include: Caribou Mountains (35.7%) and the summer ranges of A la Peche (74.5%) and Redrock-Prairie Creek (75.5%). However, the A la Peche (8.2%), and Redrock-Prairie Creek (23.4%) winter ranges have notably less undisturbed biophysical habitat than their summer ranges.





2021 Wildfire Disturbance (Annex 3, Table A3.3, Figure 5)

Table A3.3 and Figure 5 provide summaries of wildfire disturbance (ha) and the proportion (%) of wildfire disturbance in each caribou range for 2010, 2018 and 2021. Using AAFRED historical wildfire polygons, wildfire disturbance in each range is the total area disturbed by fire within 40 years, with burn class between 3-5 (Figure 5). Areas most impacted by wildfires since 2010 include Wiau and Richardson. Caribou local populations that had more than 30% of the range area disturbed by wildfires between 1981 and 2021 include: Caribou Mountains (30.3%), Nipisi (32.6%), Bistcho (32.9%), Egg-Pony (33.6%), Slave Lake (36.7%), Algar (38.5%), Richardson (51.2%), and Wiau (61.9%).

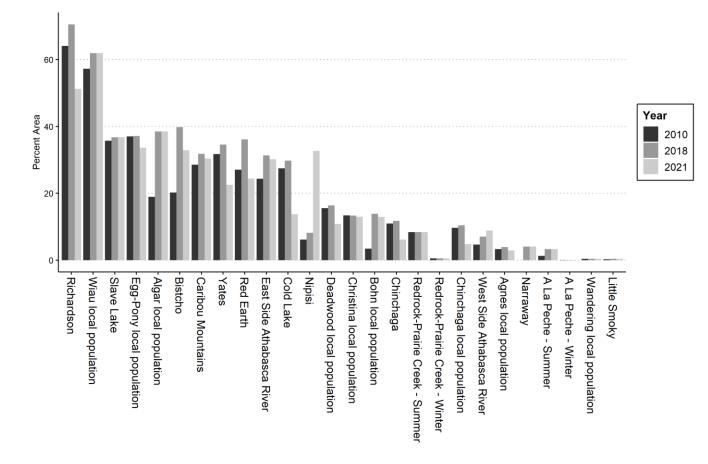


FIGURE 5. PERCENT OF AREA DISTURBED BY WILDFIRE (WITHIN 40 YEARS) IN 2010, 2018, 2021 IN EACH CARIBOU RANGE (INCLUDING LOCAL POPULATIONS AND SEASONAL RANGES).

2021 Anthropogenic Features (Annex 3, Table A3.3, Figure 6)

Estimates of disturbance in caribou ranges do not fully enable assessment of increases or decreases in the occurrence of footprint features over time, since developments may be created or restored within associated disturbance buffers. Table A3.3 and Figure 6 estimate the change in un-buffered footprint in caribou ranges between 2010 and 2021. This assessment was based on ABMI Human Footprint polygons (2018) and satellite data (Chowdhury 2021). Some anthropogenic features were excluded including reclaimed areas, low impact seismic lines, and the vegetated edges of some railways and roads.

Over the period 2010 to 2021 the percentage of caribou range covered by footprint increased in all ranges, except for Yates, and the A la Peche summer range.

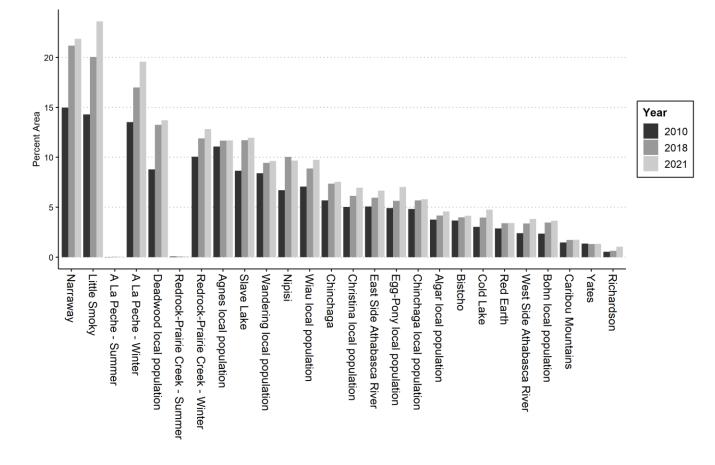


FIGURE 6. PERCENT OF UN-BUFFERED ANTHROPOGENIC FEATURES IN 2010, 2018, AND 2021 IN EACH CARIBOU RANGE (INCLUDING LOCAL POPULATIONS AND SEASONAL RANGES).

2021 Estimated Approvals (Annex 3, Table A3.4)

Working landscapes are intended to be managed for multiple environmental, social, and economic objectives. These objectives include environmental conservation, as well as human use for social and economic values. Working landscapes include natural resource industry activity and will also support traditional use, recreational use, and biodiversity objectives - including species at risk recovery.

In addition to the anthropogenic features observed on the landscape in 2021, there were ongoing approvals for industry and natural resource activities that may contribute to future footprint on the landscape. Table A3.4 in Annex 3, provides a summary of the potential estimated footprint that may be realized in 2022, as a percentage of the area of each caribou range, resulting from 2021 approvals.

2021 Deviation from Expected Sub-Regional Outcomes

Sub-regional plans will identify the area, amount, and type of anthropogenic footprint expected within each caribou range. Alberta is committed to tracking and reporting on expected footprint identified in sub-regional plans and the actual footprint on the landscape, approved by regulators.

4. Progress On Commitments

4.1 Collaboration

Information Sharing and Implementation Committee

Alberta and Canada established an implementation committee in October 2021 to provide direction for the implementation of the Agreement. Highlights for the year included creating a working group to support drafting of the 2021 annual report, and sharing of information in relation to contribution agreements, caribou recovery activities, and sub-regional planning. There will continue to be regular communications and sharing of materials between the federal and provincial governments as part of ongoing collaboration and cooperation.

4.2 Engagement Summary

Sub-regional planning engagement

There are differences across the sub-regions, including different communities and resource users, resource availability, variation in the factors affecting caribou populations, and differences in societal and Indigenous community values and expectations. As a result, Alberta is committed to engaging First Nations, Métis communities and organizations, local communities, and stakeholders in each sub-region throughout the planning processes. In addition, the processes include engagement with the general public before draft sub-regional plans are finalized and advanced for review by government.

In 2021, Alberta implemented an Indigenous sub-regional planning component to support First Nations and Métis communities' and organizations' participation in the task force and sub-regional planning processes. Indigenous pre-meetings are held before a task force is launched to inform and engage interested First Nations, Métis communities and organizations of upcoming planning and processes (Figure 1). These meetings include sharing information that there will be opportunities to communicate Indigenous values and recommendations to the task force, and opportunities to provide additional advice to government. An overview of funding available to support communities and organizations participation in the process is also provided.

Bistcho Lake and Cold Lake Sub-Regions

During 2021, four First Nations and Métis communities and organizations and were invited to participate in sub-regional planning for Bistcho Lake, and eighteen First Nations and Métis communities and organizations and were invited to participate in sub-regional planning for Cold Lake. There was one First Nation that participated during Bistcho Lake sub-regional planning, and ten First Nations, and nine Métis communities and organizations that participated during Cold Lake sub-regional planning (Annex 4).

In addition to the 90-day public engagement period on the draft Bistcho Lake and Cold Lake sub-regional plans, Alberta engaged with First Nations, Métis communities and organizations on the Bistcho Lake and Cold Lake access management plan (AMP) and forest harvesting plan.

The energy sector, the forestry sector, Northwest Species at Risk Committee (Bistcho Lake), trappers, recreational users, environmental non-government organizations, municipalities and other local stakeholders and knowledge holders also participated in the planning.

Berland and Wandering River Sub-Regions

In 2021, the planning efforts for Berland and Wandering River sub-regions focussed on Indigenous pre-meetings, the launch of the task forces, and task force meetings.

The inclusion of Indigenous pre-meetings increased opportunities for First Nations and Métis communities and organizations in the task forces and sub-regional planning processes. During 2021, First Nations and Métis communities and organizations were informed about the sub-regional task force and planning process for Berland and Wandering River sub-regions and capacity funding was provided (Annex 4).

The energy sector, the forestry sector, trappers, tourism, recreational users, the small business sector, environmental nongovernment organizations, and municipalities also participated in the planning.

Upper Smoky

In 2021, Alberta initiated an Upper Smoky Indigenous working group to support sub-regional planning. Five First Nations and six Métis communities and organizations were invited to participate, and as of December 2021, five First Nations and four Métis communities and organizations had committed to participating.

4.3 Population and Habitat Targets

Targets were identified in the Agreement to guide the application and evaluation of conservation, management, and recovery measures over the short, medium, and long term. The following provides a summary of the status and actions planned to meet population and habitat targets identified in the Agreement.

Population Targets

Short term (5 years or sooner):

"Deliver management actions to maintain or achieve stable or positive growth for woodland caribou local populations including Little Smoky, A la Peche, Redrock-Prairie Creek, Narraway, Chinchaga, Cold Lake, and East Side of the Athabasca River"

Delivery of lethal wolf population reductions have enabled estimated annual population growth from 2020 and 2021 (Annex 2) to remain at or above a growth rate of 1.0 for the listed caribou populations. It must be noted, however, that variation within the various components of caribou demographics rates affect the certainty and interpretation of ascertaining annual population growth (i.e., 95% confidence intervals). In addition, as lambda is an annual estimate, stable or positive growth must be sustained across multiple years to ensure persistence of local populations while landscape-level habitat conservation and recovery enables suitable conditions for caribou persistence.

Medium term (10 years or sooner):

"Deliver management actions towards maintaining or achieving stable or positive population growth for all woodland caribou local populations"

Alberta continues to deliver annual caribou population monitoring activities for all ranges, or portions of ranges on provincial Crown lands and assesses the need to deliver enhanced recovery efforts, including expansion of predator management activities to additional ranges, when required.

Long term (50 to 100 years or sooner):

"The target is to achieve naturally self-sustaining status for all woodland caribou local populations in Alberta"

Alberta continues to deliver annual caribou population monitoring activities for all ranges, or portions of ranges on provincial Crown lands and assesses the need to deliver enhanced recovery efforts, including expansion of predator management activities to additional ranges, when required.

Habitat Targets

Alberta is committed to achieving caribou critical habitat conservation and recovery on landscapes where human activities are well managed and coordinated. The management of habitat for sustainable woodland caribou is a key objective of sub-regional planning and the creation of sub-regional plans.

Short term (5 years or sooner):

"Finalize and implement sub-regional plans that support achievement of woodland caribou critical habitat outcomes for all woodland caribou local population ranges."

In 2021, there were five sub-regional plans in the process of development:

- Bistcho Lake and Cold Lake sub-regional plans were drafted,
- task force recommendations were finalized for Upper Smoky, and
- task forces were launched for Wandering River and Berland planning areas.

"Initiate or continue woodland caribou critical habitat restoration in local population ranges and avoid disturbance of areas treated to initiate habitat restoration."

To date, the CHRP has identified nearly 70,000 km of legacy seismic lines for future vegetation inventory. In 2021, the program planned for the treatment of 5,000 km, and 138 km of legacy seismic lines were treated in the Cold Lake caribou range.

"Enable resumption of subsurface mineral sales in woodland caribou local population ranges, that is in alignment with woodland caribou conservation and recovery objectives, including the need to increase woodland caribou critical habitat."

In September 2016, the sale of Crown mineral rights in all caribou ranges in Alberta was restricted to reduce further landscape footprint while Alberta developed strategies and plans to support caribou conservation and recovery. In 2021, the restriction on the sale of subsurface minerals remained in effect. This restriction may be lifted in local population ranges as sub-regional plans are finalized.

Medium term (10 years or sooner):

"Annually deliver management actions that contribute to achieving critical habitat outcomes in all of Alberta's woodland caribou local population ranges;

Conserve and manage undisturbed and biophysical habitat to enable all woodland caribou local populations to be naturally self-sustaining in the long term; and

Evaluate the potential to protect woodland caribou habitat through Alberta's existing legislative or regulatory tools."

Alberta is continuing to work towards achieving these recovery targets. As sub-regional plans are approved, Alberta will begin to deliver identified landscape management actions, and

Alberta is assessing available legislative and regulatory tools to support delivery of sub-regional plan actions and commitments.

Long-term (50-100 years):

"Demonstrate an increasing amount of critical habitat through time to achieve the critical habitat outcomes outlined in the Recovery Strategies and enable all woodland caribou local populations in Alberta to be naturally self-sustaining."

Over time, Alberta will continue to ensure monitoring and evaluation are in place to support long-term assessments of progress and adaptive management.

Effectiveness of conservation and recovery measures

Effectiveness of conservation and recovery measures will be evaluated throughout the term of the Agreement and will be reported on in the subsequent annual reports and during the 5-year reporting cycle.

Unforeseen circumstances impacting conservation and recovery measures

The increasing evidence of southern mountain caribou demonstrating reduced use of traditional forested foothills winter range areas, in response to anthropogenic land uses, was unforeseen. This occurrence challenges the ability to conserve and recover these populations in Alberta.

The extent of recent wildfire in the Nipisi caribou range was unforeseen, and challenges the ability to conserve and recover that caribou population.

5. Literature cited

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Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
Table A. Landscape Plannin	ng	1	I	I	I
A.1 Sub-regional Planning (Range Planning)	A.1.1 Complete sub- regional plans that will achieve, at the caribou range level, woodland caribou critical habitat outcomes set out in the Recovery Strategies and consistent with ECCC's Range Plan Guidance for Woodland Caribou, Boreal Population (2016)	Cold Lake (including Christina portion of East Side of the Athabasca River range), Bistcho	Continue to support sub- regional task forces to develop recommendations that inform sub-regional plans that achieve critical habitat outcomes set out in the Recovery Strategies. Multi-species and socio- economic considerations and analyses will be considered by the task forces. Finalize sub-regional plans that consider all land uses, including footprint, recreational and access management plans, for identified ranges.	The draft Cold Lake and Bistcho sub-regional plans were released for engagement and were updated to reflect feedback. Sub-regional plans were in process for approval.	Implement Cold Lake and Bistcho sub-regional plans following Alberta government's approval.
	A.1.2. Complete sub- regional plans that will achieve, at the caribou range level, woodland caribou critical habitat outcomes set out in the Recovery Strategies and consistent with ECCC's Range Plan Guidance for Woodland Caribou, Boreal Population (2016)	Redrock-Prairie Creek, Narraway,	Continue to support sub- regional task forces to develop recommendations that inform sub-regional plans that achieve critical habitat outcomes set out in the Recovery Strategies. Multi-species and socio- economic considerations and analyses will be considered by the task forces.	Task force recommendations were received and drafting of the sub-regional plan was initiated.	Implement working groups, including the Indigenous Working group, to support sub- regional plan drafting; and undertake public engagement on a draft plan.
	A.1.3 Complete sub- regional plans that will achieve, at the caribou range level, woodland caribou critical habitat outcomes set out in the	East Side of the Athabasca River	Continue to support sub- regional task forces to develop recommendations that inform sub-regional plans that achieve critical habitat outcomes set out in	The Wandering River task force was initiated.	Receive Wandering River task force recommendations, initiate sub-regional planning and public engagement.

Annex 1: Detailed activities and outcomes from the Agreement, Appendix B

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
	Recovery Strategies and consistent with ECCC's Range Plan Guidance for Woodland Caribou, Boreal Population (2016)		the Recovery Strategies. Multi-species and socio- economic considerations and analyses will be considered by the task forces.		
	A.1.4 Complete sub- regional plans that will achieve, at the caribou range level, woodland caribou critical habitat outcomes set out in the Recovery Strategies and consistent with ECCC's Range Plan Guidance for Woodland Caribou, Boreal Population (2016)	Chinchaga, Little Smoky, A la Peche	Continue to support sub- regional task forces to develop recommendations that inform sub-regional plans that achieve critical habitat outcomes set out in the Recovery Strategies. Multi-species and socio- economic considerations and analyses will be considered by the task forces.	The Berland task force was initiated.	Receive Berland task force recommendations and initiate sub-regional planning and public engagement. Launch Chinchaga task force in 2022.
	A.1.5 Complete sub- regional plans that will achieve, at the caribou range level, woodland caribou critical habitat outcomes set out in the Recovery Strategies and consistent with ECCC's Range Plan Guidance for Woodland Caribou, Boreal Population (2016)	Nipisi, Slave Lake	Not applicable	Not applicable	Continue planning to meet Agreement timelines.
	A.1.6 Complete sub- regional plans that will achieve, at the caribou range level, woodland caribou critical habitat outcomes set out in the Recovery Strategies and consistent with ECCC's Range Plan Guidance for	Richardson, West Side of the Athabasca River	Not applicable	Not applicable	Continue planning to meet Agreement timelines.

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
	Woodland Caribou, Boreal Population (2016)				
	A.1.7 Complete sub- regional plans that will achieve, at the caribou range level, woodland caribou critical habitat outcomes set out in the Recovery Strategies and consistent with ECCC's Range Plan Guidance for Woodland Caribou, Boreal Population (2016)	Yates, Caribou Mountains, Red Earth	Not applicable	Not applicable	Continue planning to meet Agreement timelines.
A.2 Legal Authority for Sub-regional Plans	A.2.1 Establish sub-regional plans, that support woodland caribou conservation and recovery, under provincial legislation	Not applicable	Enable sub-regional plans under provincial legislation. Sub-regional plans are published in the Alberta Gazette.	Work is underway to enable Bistcho Lake and Cold Lake sub-regional plans under provincial legislation following government approval.	Enable sub-regional plans under provincial legislation as they are approved and regulations are finalized.
A.3 Cross-Jurisdictional Coordination	A.3.1 Develop and implement complementary conservation and management measures with neighbouring federal, territorial, and provincial jurisdictions for shared woodland caribou populations	Transboundary ranges, including Bistcho, Yates, Caribou Mountains, Red Earth, Chinchaga, A la Peche, Redrock-Prairie Creek Narraway, Jasper, Cold Lake, East Side of the Athabasca River, Richardson	Initiate or build on current communication, collaboration, and formalize engagement with neighbouring jurisdictions.	Alberta coordinates delivery of wolf population reductions with the government of British Columbia, and provides caribou location and vital rates information to British Columbia, the Northwest Territories, Saskatchewan and Jasper National Park. ECCC and Alberta continue to communicate and collaborate via the federal/ provincial/ territorial National Boreal Caribou Technical Committee.	Initiate processes to collaborate with neighbouring jurisdictions on land management for shared woodland caribou populations.
				ECCC and Alberta have initiated a committee to facilitate quarterly (or more frequent)	

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
				discussions on implementation of the Agreement. Some discussions are periodically occurring between Alberta, BC, SK, NWT and Jasper National Park as part of existing engagements; ECCC supports those communications and collaborations, as needed.	
A.4 Range Boundary Updates	A.4.1 Adjust identified woodland caribou local population range boundaries	Caribou Mountains, Yates, and Red Earth, relative to range delineations within Wood Buffalo National Park, and an overall evaluation of Richardson	Finalize adjusted range boundaries and incorporate in provincial land use planning and approval processes. Updated range boundaries are available for incorporation into future Recovery Strategy amendments.	Timelines for completion of all range boundary/local caribou population updates have been delayed. Through this current report, Alberta has: 1) identified local population ranges and (to the extent possible) reported on population vital rates for caribou local populations that were previously grouped under the administratively defined East Side of the Athabasca Range; 2) delineated the local population range and reported on population vital rates for the Deadwood local population, which was previously grouped with the Chinchaga local population; and 3) identified and reported on population vital rates for the Birch Mountains local population, which was previously grouped with the Red Earth local population.	Complete further caribou local population range adjustments. ECCC anticipates receiving updated range boundaries and population information from provinces and territories in 2022/23. These data will support the second Report on Implementation of the Recovery Strategy and an updated Recovery Strategy anticipated in 2025.
Table B. Habitat Conservation	on, Management, and Recove	ry			
B.1 Restoration	B.1.1 Restore footprint to contribute to achievement of woodland caribou critical	All ranges in whole or in part on provincial land with	Establish funding mechanisms to enable partnership among industry,	Initial steps have been made to enhance the restoration program in Alberta, including	Finalize the Alberta-Canada caribou section 11 contribution agreement. This will support

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
	habitat outcomes set out in the Recovery Strategies	an emphasis on southern mountain caribou	 federal and provincial governments, and other partners. Complete analyses and publish map of priority restoration areas on a provincial scale. Develop 5 year program plan and annual workplan that includes identification of engagement activities with Indigenous Peoples and stakeholders. Continue implementing and scaling up provincial restoration program. Publish <i>Alberta's Provincial Restoration and Establishment Framework for Legacy Seismic Lines in Alberta.</i> Establish a process to track sites where restoration has been initiated, and monitor restoration progress. 	funding provided to the Caribou Habitat Recovery Program (CHRP) which supports the development and implementation of restoration treatment plans.	implementation and scaling up of the provincial restoration program to achieve these actions. Publish updates to Alberta's Provincial Restoration and Establishment Framework for Legacy Seismic Lines in Alberta, identifying restoration and establishment guidelines specific to all caribou ranges.
	B.1.2 Involve Indigenous Peoples in identification of desired access routes prior to restoration implementation	All ranges in whole or in part on provincial land	Work with interested Indigenous peoples to identify desired access routes.	The Bistcho Lake and Cold Lake draft sub-regional plans enable ongoing access for Indigenous traditional use, following forest harvest and the reforestation of legacy seismic footprint in new harvest blocks. There is work with Indigenous communities under the CHRP to understand access needs in	Continue to work with Indigenous communities through the CHRP to understand access needs in planning for legacy seismic footprint restoration.

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
				planning for legacy seismic footprint restoration.	
B.2 Forest Harvest Management	B.2.1 Complete range- specific planning to inform forest management that will achieve woodland caribou critical habitat outcomes set out in the Recovery Strategies	All ranges in whole or in part on provincial land	Complete forest harvest planning for areas with completed sub-regional plans that are consistent with woodland caribou conservation and recovery. Planning will consider the implications of alternative forest management scenarios and enable an increase in the amount of critical habitat over time within all woodland caribou ranges.	The draft sub-regional plans for Cold Lake and Bistcho Lake considered alternative forest management scenarios.	Finalize forest harvest planning direction in sub-regional plans in completed 2022.
	B.2.2 Ensure alignment of Forest Management Plans and harvesting operations with conservation and recovery of local woodland caribou populations and woodland caribou critical habitat outcomes set out in the Recovery Strategies	All ranges in whole or in part on provincial land	Forest Management Plans and harvesting operations will be aligned with, and contribute to, conservation and recovery of local woodland caribou populations and critical habitat outcomes.	The draft sub-regional plans for Cold Lake and Bistcho Lake include direction for forest harvest management planning.	Implement forest management consistent with the Cold Lake and Bistcho Lake sub-regional plans following plan approval. Implications of the forest management plans for caribou conservation and recovery will be evaluated over time.
B.3 Wildfire Management Planning	B.3.1 Incorporate woodland caribou range values (e.g., critical habitat, caribou population occurrence, rearing facilities) in Wildfire Management Plans	Little Smoky, A la Peche, Redrock-Prairie Creek, Narraway	Values are to be identified within each woodland caribou range and provided to Wildfire Management Branch for forest area wildfire management planning.	Caribou occurrence data was provided to AAFRED for consideration in development of a Grande Prairie Wildfire Management Plan (i.e., Redrock-Prairie Creek and Narraway caribou ranges).	Conduct a pilot wildfire risk assessment for the Upper Smoky sub-region to assess opportunities to mitigate impacts of wildfires on sub- regional objectives and woodland caribou values.

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
	B.3.2 Incorporate woodland caribou range values (e.g., critical habitat, caribou population occurrence, rearing facilities) in Wildfire Management Plans	All remaining ranges in whole or in part on provincial land	Values are to be identified within each woodland caribou range and provided to Wildfire Management for forest area wildfire management planning.	Caribou range data was provided to AAFRED for consideration in Peace River, Edson, Lac La Biche and Fort McMurray Wildfire Management Plans.	Consider undertaking pilot projects focussed on wildfire risk mitigation relative to sub- regional plan objectives and woodland caribou values. Complete development of a Wildfire Management Plan for the Whitecourt Forest Area, including woodland caribou values within the risk evaluation. Wildfire Management Plans will remain responsive to values and strategies identified through sub-regional planning.
B.4 Management of Energy Sector Activities	B.4.1 Pursue voluntary agreements with energy companies that support woodland caribou conservation and recovery objectives	All ranges in whole or in part on provincial land	Alberta will implement existing agreements and evaluate the impact of these agreements in contributing to woodland caribou conservation and recovery objectives. Alberta will consider and may pursue additional agreements with energy companies to reduce footprint of future developments.	No voluntary agreements signed in 2021.	Complete the transfer of the Little Smoky Caribou Herd Development Agreement from Ovintiv Canada ULC to Kiwetinohk Energy Corp.
	B.4.2 Conduct access management planning that is consistent with woodland caribou conservation and recovery objectives	Cold Lake, Bistcho	Initiate development of access management plans for identified ranges.	Access management planning was included in the development of the draft sub- regional plans for the Cold Lake and Bistcho Lake sub-regions.	Implement access management under the Cold Lake and Bistcho Lake sub-regional plans following government's approval. Implications of the access management plans for caribou

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
					conservation and recovery will be evaluated over time.
	B.4.3 Conduct access management planning that is consistent with woodland caribou conservation and recovery objectives	Redrock-Prairie Creek, Narraway	Not applicable	Not applicable	Initiate access management planning for the Upper Smoky sub-region. Implications of the access management plans for caribou conservation and recovery will be evaluated over time.
	B.4.4 Conduct access management planning that is consistent with woodland caribou conservation and recovery objectives	East Side of the Athabasca River	Not applicable	Not applicable	Continue planning to meet Agreement timelines.
	B.4.5 Conduct access management planning that is consistent with woodland caribou conservation and recovery objectives	Chinchaga, Little Smoky, A la Peche, Nipisi, and Slave Lake	Not applicable	Not applicable	Continue planning to meet Agreement timelines.
	B.4.6 Conduct access management planning that is consistent with woodland caribou conservation and recovery objectives	Richardson, West Side of the Athabasca River	Not applicable	Not applicable	Continue planning to meet Agreement timelines.
	B.4.7 Conduct access management planning that is consistent with woodland caribou conservation and recovery objectives	Yates, Caribou Mountains, Red Earth	Not applicable	Not applicable	Continue planning to meet Agreement timelines.
B.5 Land Use Management	B.5.1 Ensure project approval conditions for existing and future energy, forestry and other land uses minimize impacts, including cumulative effects, to	All ranges in whole or in part on provincial land	Make permanent the referral of all non-standard energy industry applications by the Alberta Energy Regulator (AER) to Alberta Environment and Parks –	Between October 2020 and December 2021, a total of 101 non-standard applications were referred to AEP for comment.	Review the Master Schedule of Standards and Conditions for any necessary adjustments following government approval

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
	woodland caribou critical habitat, individual woodland caribou, and woodland caribou populations Develop new conditions to reduce impacts, including cumulative effects, to woodland caribou critical habitat, individual woodland caribou, and woodland caribou populations		Fish & Wildlife Stewardship Branch (AEP) for comment. Consider potential opportunities to adjust Master Schedule of Standards and Conditions if zonation or similar approaches are adopted for woodland caribou ranges. Review and update the Master Schedule of Standards and Conditions related to woodland caribou ranges.	The majority of non-standard applications occurred within 4 of Alberta's 15 caribou ranges (East Side of the Athabasca (15 non-standard applications), Cold Lake (49 non-standard applications), Little Smoky (13 non-standard applications) and Richardson (17 non-standard applications). The AER remains responsible for approval decisions concerning non-standard applications.	of the Cold Lake and Bistcho Lake sub-regional plans.
	B.5.2 Consider potential management actions for identified important areas that occur outside range boundaries	All ranges in whole or in part on provincial land	Assess important areas, biophysical habitat attributes, undisturbed caribou habitat, caribou occurrence, and caribou movements for opportunities and needs related to land use management actions.	The draft sub-regional plans for Cold Lake and Bistcho Lake included some considerations and provisions for land management outside of the currently identified caribou ranges.	Implement land-use management actions consistent with the draft Cold Lake and Bistcho Lake sub-regional plans following government's approval.
Table C. Mortality and Popu	lation Management		1	L	
C.1 Predator Management	C.1.1 Wolf population management	All ranges in whole or in part on provincial land	Maintain current predator management programming in populations where currently underway. Assess need for predator management in additional woodland caribou ranges, consider discussions with relevant Indigenous Peoples, and identify the need to coordinate with neighbouring jurisdictions.	Annual wolf population management program continued in 2021-22 within and adjacent to the following caribou ranges: Little Smoky, A la Peche, Redrock-Prairie Creek, Narraway, Chinchaga, East Side of the Athabasca, and Cold Lake. Range level summary provided in Annex 2, Table A2.1.	Maintain existing program delivery.

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps
			Ongoing coordination of predator management program delivery with British Columbia (i.e., Red Rock/Prairie Creek, Narraway, and Chinchaga).		
	C.1.2 Convene neighbouring federal, provincial, and territorial jurisdictions on predator management	Transboundary ranges	Convene relevant neighbouring federal, provincial, and territorial jurisdictions to identify the need for, and collaborate on, predator management actions for: Chinchaga, Jasper, A la Peche, Narraway, Redrock-Prairie Creek, Cold Lake, and East Side of the Athabasca River woodland caribou populations.	Collaboration between Alberta and British Columbia continues in relation to wolf population management for the Narraway and Chinchaga caribou populations.	Continue collaborations with other jurisdictions as needed.
	C.1.3 Evaluate effectiveness of Alberta Trappers Association-led pilot program to increase wolf harvest activity by Registered Fur Management Area (RFMA) holders	Little Smoky A la Peche, Redrock-Prairie Creek, Chinchaga, Cold Lake East Side of the Athabasca River	Continued delivery of pilot program related to incentivised wolf harvesting, and to training of RFMA holders and Indigenous trappers.	In 2020, 86 Registered Fur Management Area holders participated in the program within the following caribou ranges: A la Peche/Little Smoky (12 RFMAs), Chinchaga (25 RFMAs), and Cold Lake/East Side Athabasca (49 RFMAs). In 2021, 84 Registered Fur Management Area trappers participated in the program within the following caribou ranges: A la Peche/Little Smoky (7 RFMAs), East Side Athabasca (43 RFMAs), Chinchaga (25 RFMAs), Red Rock Prairie Creek (5 RFMAs), and Cold Lake (4 RFMAs).	Continue pilot program.

Management Tool	Action Objective Range 2021 Deliverable		Results	Next Steps		
C.2 Captive Rearing	C.2.1 Consider establishing a rearing facility in the Little Smoky range and, if approved, commence 5- year pilot program	Little Smoky	Finalize decisions regarding proceeding with the project.	The proposed caribou rearing facility in the Little Smoky caribou range is not being advanced at this time.	Continue to consider if a captive rearing facility is necessary to avoid extirpation of the Little Smoky caribou population.	
	C.2.2 Explore opportunities for collaboration with Indigenous Peoples	Little Smoky	Continue engagement.	The use of captive rearing is not being advanced at this time.	Continue to consider if a captive rearing facility is necessary to avoid extirpation of the Little Smoky caribou population.	
C.3 Harvest Management	C.3.1 Assess the need for establishing a conservation closure to prohibit killing of woodland caribou	All ranges in whole or in part on provincial land	Assess need for conservation closure. Identify communities that harvest woodland caribou.	Alberta's <i>Wildlife Act</i> and Regulations do not allow for caribou harvest, except for Indigenous peoples with constitutionally recognized harvesting rights. There continues to be occurrences of illegal caribou harvesting by non-Indigenous people. While some First Nations and Métis communities and organizations have voluntarily refrained, some harvest of caribou continues across various caribou ranges, as informed by confirmed occurrences and unconfirmed reports. Any caribou harvesting can compromise species conservation, particularly for small populations.	Continue to assess the need for conservation closures. As harvesting can compromise caribou conservation, particularly for small populations, collaboration with Indigenous peoples is needed.	
C.4 Alternative Prey Management	C.4.1 Manage vegetation to reduce alternative prey forage	All ranges in whole or in part on provincial land	Complete and deliver range- specific plans that over time will achieve woodland caribou critical habitat outcomes set out in the Recovery Strategies.	Sub-regional plans consider the need to reduce the creation of young seral stage forest stands in caribou range. An industrial land use approval condition which prohibits the seeding of legume species on dispositions within caribou range is in place.	The effectiveness of sub- regional plans at reducing the creation of young seral stage forest stands to enable caribou conservation and recovery will be evaluated over time.	

Management Tool	Action Objective	Range	2021 Deliverable	Results	Next Steps	
	C.4.2 Increase harvest opportunities for alternative prey species	Woodland caribou ranges receiving predator management actions	Assess alternative prey abundance and harvest levels by Indigenous Peoples with constitutionally recognized harvesting rights. Enhance licenced harvesting opportunities where needed to avoid alternative prey population increases.	Increased opportunities for licensed hunting of alternative ungulate prey species in (and adjacent to) portions of the Little Smoky, A la Peche, and Redrock-Prairie Creek caribou ranges are currently provided. The objective of these actions is to enable management of the increased productivity (population growth) of these species resulting from wolf population reductions.	Continue to assess the need for enhanced harvesting of alternative prey species in areas where wolf population management is being delivered, such as portions of the Wilmore Wilderness Park.	
Table D. Population an	d Habitat Monitoring	I	1	I	I	
D.1 Monitoring	D.1.1 Assess woodland caribou population status	All ranges in whole or in part on provincial land	Implement annual program and prepare a report.	Annual program work completed. Range specific metrics and values are presented in Annex 2, Table A2.1.	Continue annual monitoring program.	
	D.1.2 Estimate total population size	One or two ranges per year to establish baseline conditions	Field work, analyses, and reporting.	A summary of range specific estimates are presented in Table A2.1. No total population size estimation field work was carried out in 2021. Analysis of data collected to date is currently underway.	Consider estimating total population size of additional caribou local populations.	
	D.1.3 Develop an annual monitoring and reporting framework for habitat disturbance and recovery, including areas where habitat restoration has been initiated	All ranges in whole or in part on provincial land	Annual assessment and reporting on trends in habitat disturbance and recovery, biophysical habitat attributes by type, and spatial arrangement of habitat.	Methods are being explored to enhance mapping of caribou critical habitat (i.e. landscape disturbance and biophysical habitat). This work will contribute to providing information on changes to critical habitat over time. During engagement, the draft Bistcho Lake Sub-Region	Report on habitat annually through Agreement reporting. See Annex 3.	

Management Tool	Action Objective	tion Objective Range 2021 Deliverable		Results	Next Steps	
				Caribou Habitat Recovery Analysis and The Cold Lake Sub-Region Caribou Habitat Recovery Analysis Appendices were released. These provided habitat outcomes from modelling for the draft Bistcho Lake and Cold Lake sub-regional plans.		
	D.1.4 Deliver woodland caribou conservation, management, and recovery measures	All ranges in whole or in part on provincial land	Evaluate and coordinate areas where additional knowledge will help inform conservation, management, and recovery measures (e.g., silvacultural prescriptions).	138 km of seismic lines were treated for restoration in the Cold Lake sub-region.	Continue to plan for and implement restoration treatments for legacy seismic lines in caribou ranges.	
	D.1.5 Delineate range categories within each local population unit for southern mountain caribou ranges	A la Peche Narraway Redrock-Prairie Creek	Environment and Climate Change Canada to provide necessary information to support critical habitat delineation within each range.	ECCC has initiated work to delineate range categories within southern mountain caribou local population ranges. Work in 2021 focused on the southern mountain caribou – central group, which occurs in Alberta and British Columbia. Timelines to complete updates have been delayed due to challenges assembling caribou population data.	Continue work by ECCC in 2022 on delineation of southern mountain caribou – central group critical habitat, including facilitating collaboration between ECCC, Alberta, British Columbia and Parks Canada, and engaging with Indigenous peoples.	

Annex 2: Update of population monitoring results

Table A2.1 Summary of caribou population monitoring results.

Caribou Range and Local	Population Monitoring			Population Size Estimat	Predator Management		
Population *	Population Growth Rate [†] , [‡] Year: λ (95% Cl)		Active Collars [§]	Fecal DNA Surveys [™] Year: n (95% Cl)	Total Minimum Count ^{††}	Total Wolf Removals ^{‡‡} Year: n	
	2020	2021			2021	2020	2021
A la Peche	1.12 (0.97 – 1.24)	1.09 (0.89 – 1.24)	23	2017-18: 152 (142 – 162)	< 100	12	8
Bistcho	1.08 (0.97 – 1.13)	0.98 (0.83 - 1.08)	27	-	< 200	-	-
Caribou Mountains	1.09 (0.96 – 1.14)	1.10 (0.99 – 1.16)	29	-	< 250	-	-
Chinchaga Range *	1.11 (0.99 – 1.18)	1.09 (0.97 – 1.16)	30	-	< 150	166	120
Chinchaga local population	1.10 (0.98 – 1.17)	1.06 (0.94 – 1.12)	23	-	< 100	-	-
Deadwood local population	1.17 (1.02 – 1.30)	1.22 (1.07 – 1.35)	7	-	< 50	-	-
Cold Lake (Alberta portion)	1.03 (0.90 – 1.12)	1.16 (1.02 – 1.26)	27	2013-14: 353 (276 – 452)	< 100	37	26
East Side Athabasca River Range *	1.09 (0.99 – 1.17)	1.11 (1.02 – 1.18)	58	2012-13: 647 (549 – 763)	> 250	171	134
Agnes local population	1.09 (0.94 – 1.25)	1.08 (0.96 – 1.19)	6	-	< 50	-	-
Algar local population	1.04 (0.93 – 1.14)	1.10 (1.00 – 1.19)	12	-	< 100	-	-
Bohn local population	1.03 (0.91 – 1.14)	1.17 (1.05 – 1.28)	10	-	< 50	-	-
Christina local population	1.08 (0.97 – 1.20)	1.16 (1.04 – 1.25)	10	-	< 100	-	-
Egg Pony local population	1.23 (1.09 – 1.34)	1.08 (0.98 – 1.17)	10	-	< 100	-	-
Wandering local population	1.10 (0.96 – 1.23)	1.21 (1.07 – 1.34)	5	-	< 50	-	-
Wiau local population	1.07 (0.93 – 1.21)	1.05 (0.94 – 1.18)	5	-	< 50	-	-
Little Smoky	1.06 (0.94 – 1.13)	1.12 (0.97 – 1.22)	20	2012-13: 94 (69 – 129)	< 100	138	40
Narraway	1.21 (0.92 – 1.38)	1.03 (0.75 – 1.21)	13	2018-19: 56	< 100	23	18
Nipisi	1.00 (0.69 – 1.17)	0.71 (0.35 – 0.98)	7	2018-19: 63 (47 – 85)	< 50	-	-
Red Earth Range*	1.08 (1.01 – 1.13)	0.95 (0.82 – 1.06)	46	2016-17: 387 (347 – 430)	< 200	-	-
Birch Mountains local population	1.10 (0.97 – 1.17)	0.89 (0.68 - 1.06)	19	-	< 150	-	-

* Alberta monitors caribou populations at the local population scale. In some cases, such as the East Side of the Athabasca Range, Chinchaga and Red Earth Ranges, estimates of caribou population growth rate have been made at broader landscape scales to ensure adequate data for adult survival and calf recruitment – in these cases Table 2A.1 reports on results measured at both landscape and embedded local population scales.

[†] For local populations only, lambda estimates are based on calf recruitment within the local population but adult female survival across the range-scale due to low collar sample size at the local population scale. Does not apply to the Red Earth and Birch Mountains local populations.

[‡] Estimates demonstrating stable population growth can occur in cases of no recorded annual mortality of adult female caribou together with no or negligible calf recruitment. This circumstance, however, will not result in caribou persistence or recovery.

§ Active GPS collars deployed on adult female caribou as of spring 2021.

** Total population estimates for Redrock-Prairie Creek and Narraway ranges in 2018/19 did not use the same spatially-explicit analytic approach as compared to other ranges. While total size is reported, estimates of uncertainty are withheld as they are not comparable. Re-analysis is underway.

++ From minimum visual counts obtained during annual late winter calf recruitment surveys in winter 2021. Does not represent a population enumeration.

Total number of wolves removed per range as a result of AEP program delivery and incentivized RFMA trapper harvest; does not include other sources of legal harvest.

Red Earth local population	1.03 (0.90 – 1.11)	1.01 (0.84 – 1.13)	27	-	< 100	-	-
Redrock-Prairie Creek	1.14 (1.02 – 1.22)	1.01 (0.82 – 1.13)	25	2018-19: 153	< 150	27	10
Richardson	1.08 (0.90 – 1.19)	1.01 (0.81 – 1.14)	25	-	< 100	-	-
Slave Lake	0.87 (0.38 – 1.12)	1.07 (0.81 – 1.22)	10	2018-19: 38 (25 – 58)	< 50	-	-
West Side Athabasca River	1.02 (0.86 – 1.12)	1.13 (1.02 – 1.20)	31	2014-15: 659 (590 – 737)	< 150	-	-
Yates	1.05 (0.90 – 1.13)	1.04 (0.86 – 1.16)	25	-	< 250	-	-

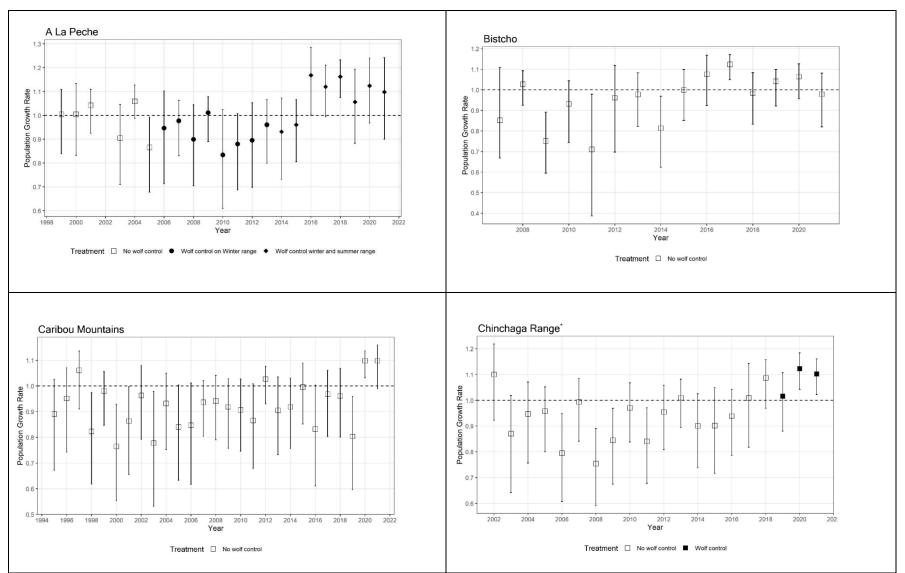
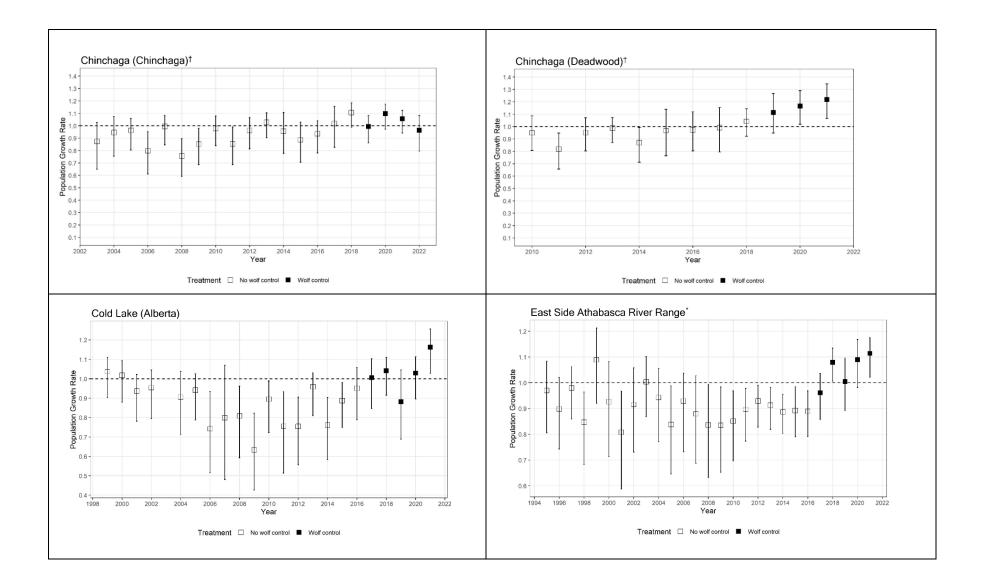
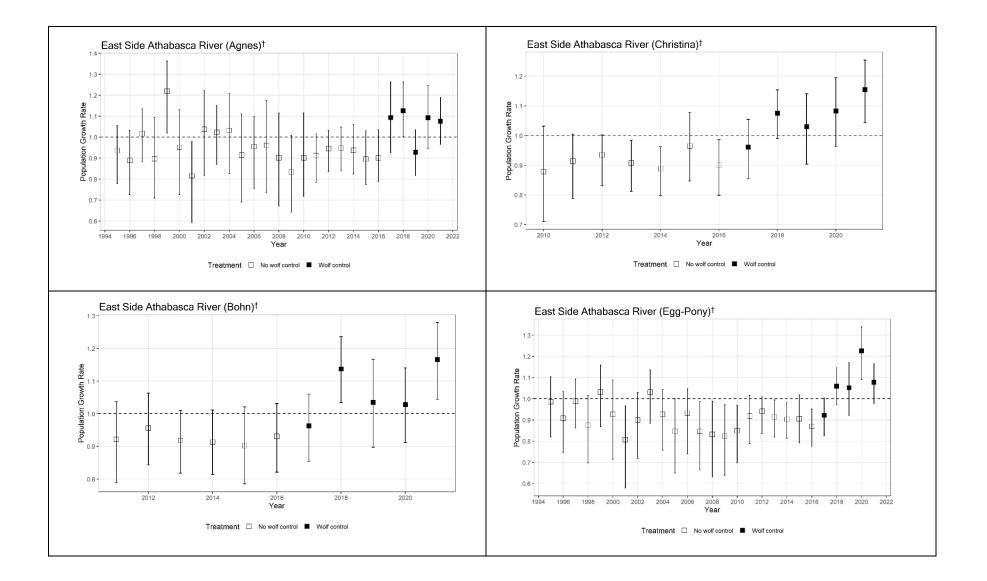


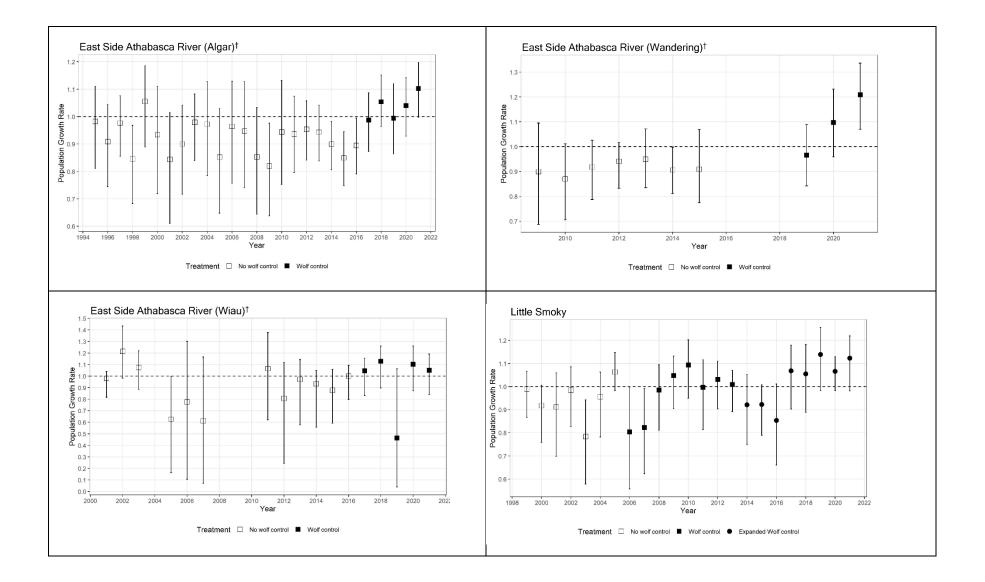
Figure A2.1. Woodland Caribou Population Growth by Alberta Caribou Ranges and Local Population*†

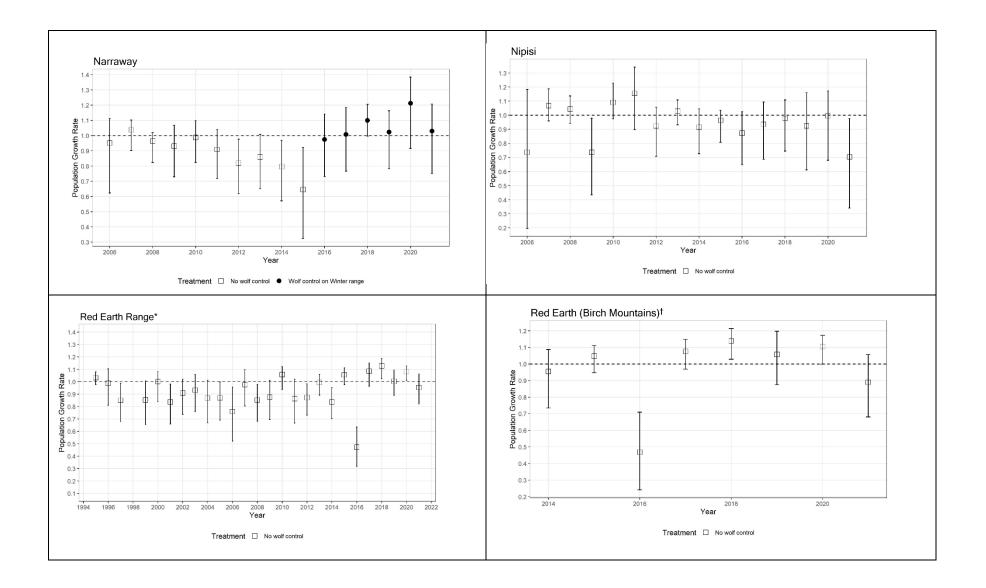
^{*} Alberta monitors caribou populations at the local population scale. In some cases, such as the East Side of the Athabasca Range, estimates of caribou population growth rate have been made at broader landscape scales to ensure adequate data for adult survival and calf recruitment – in these cases Table 2A.1 reports on results measured at both landscape and embedded local population scales.

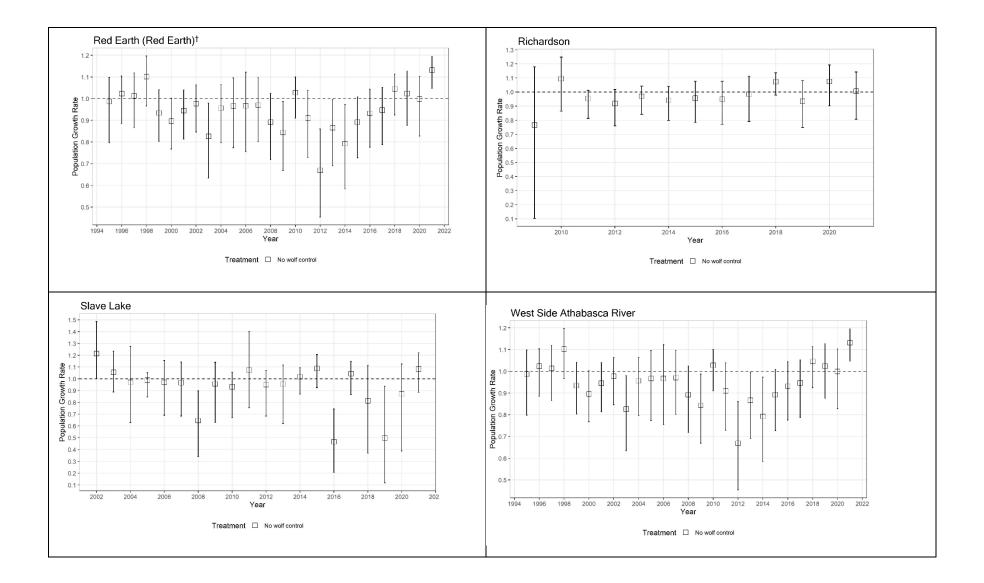
[†] For local populations only, lambda estimates are based on calf recruitment within the local population but adult female survival across the range-scale due to low collar sample size at the local population scale.

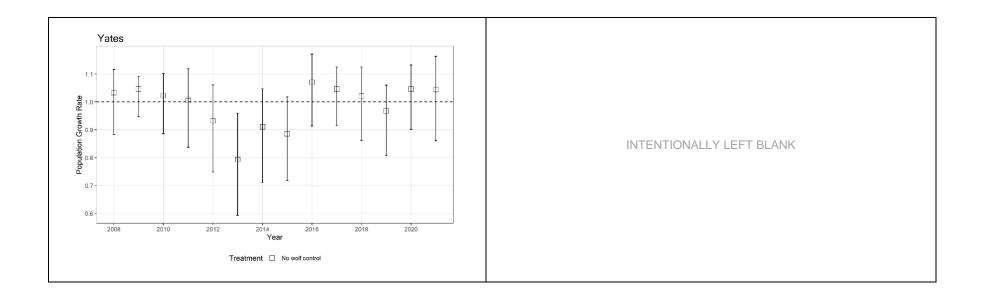












Annex 3: Update of habitat monitoring results

Table A3.1. Area (ha) and proportion (%) of caribou ranges covered by undisturbed critical habitat, biophysical critical habitat, and undisturbed biophysical critical habitat.

Range	Range Range Size (ha)		Undisturbed [*] Habitat (ha) (%)			Biophysical Habitat (ha) (%)		Undisturbed [*] Biophysical Habitat (ha) (%)	
	(na)	2010	2018	2021	2018	2021	2018	2021	
A la Peche - Summer	495,073	465,127 (94%)	453,364 (91.6%)	452,945 (91.5%)	389,596 (78.7%)	389,596 (78.7%)	368,976 (74.5%)	368,663 (74.5%)	
A la Peche - Winter	166,426	21,888 (13.2%)	20,728 (12.5%)	20,661 (12.4%)	106,386 (63.9%)	103,448 (62.2%)	13,752 (8.3%)	13,637 (8.2%)	
Bistcho	1,435,810	106,926 (7.4%)	95,009 (6.6%)	98,820 (6.9%)	559,429 (39%)	575,442 (40.1%)	39,929 (2.8%)	39,292 (2.7%)	
Caribou Mountains	2,065,873	1,025,118 (49.6%)	976,482 (47.3%)	982,084 (47.5%)	1,012,549 (49%)	1,030,183 (49.9%)	736,390 (35.6%)	736,692 (35.7%)	
Chinchaga	1,764,364	60,840 (3.4%)	53,472 (3%)	52,635 (3%)	954,694 (54.1%)	965,595 (54.7%)	30,677 (1.7%)	28,760 (1.6%)	
Chinchaga local population	1,375,405	45,413 (3.3%)	41,412 (3%)	41,962 (3.1%)	759,798 (55.2%)	769,120 (55.9%)	20,890 (1.5%)	20,662 (1.5%)	
Deadwood local population	388,959	15,426 (4%)	12,060 (3.1%)	10,673 (2.7%)	194,896 (50.1%)	196,475 (50.5%)	9,787 (2.5%)	8,098 (2.1%)	
Cold Lake	672,586	69,861 (10.4%)	62,370 (9.3%)	85,275 (12.7%)	317,098 (47.1%)	334,519 (49.7%)	33,458 (5%)	35,994 (5.4%)	
East Side Athabasca River	1,311,902	164,102 (12.5%)	135,321 (10.3%)	131,902 (10.1%)	644,785 (49.1%)	643,730 (49.1%)	90,997 (6.9%)	87,805 (6.7%)	
Agnes local population	47,051	6,822 (14.5%)	6,102 (13%)	6,117 (13%)	29,066 (61.8%)	29,347 (62.4%)	5,204 (11.1%)	5,204 (11.1%)	
Algar local population	330,847	62,371 (18.9%)	51,478 (15.6%)	50,586 (15.3%)	145,095 (43.9%)	144,702 (43.7%)	35,416 (10.7%)	34,812 (10.5%)	
Bohn local population	174,123	57,085 (32.8%)	47,938 (27.5%)	48,720 (28%)	96,654 (55.5%)	96,942 (55.7%)	29,574 (17%)	29,725 (17.1%)	
Christina local population	113,321	9,283 (8.2%)	8,979 (7.9%)	8,342 (7.4%)	74,645 (65.9%)	73,964 (65.3%)	6,837 (6%)	6,366 (5.6%)	
Egg-Pony local population	374,826	13,433 (3.6%)	11,746 (3.1%)	9,425 (2.5%)	186,146 (49.7%)	185,915 (49.6%)	8,277 (2.2%)	6,309 (1.7%)	
Wandering local population	105,633	8,147 (7.7%)	5,389 (5.1%)	5,387 (5.1%)	70,111 (66.4%)	70,047 (66.3%)	2,861 (2.7%)	2,860 (2.7%)	
Wiau local population	166,101	6,962 (4.2%)	3,689 (2.2%)	3,325 (2%)	43,069 (25.9%)	42,812 (25.8%)	2,827 (1.7%)	2,528 (1.5%)	
Little Smoky	308,380	3,353 (1.1%)	2,298 (0.7%)	2,226 (0.7%)	208,461 (67.6%)	199,709 (64.8%)	1,688 (0.5%)	1,652 (0.5%)	
Narraway	104,066	19,025 (18.3%)	15,228 (14.6%)	15,088 (14.5%)	51,054 (49.1%)	50,801 (48.8%)	9,880 (9.5%)	9,796 (9.4%)	
Nipisi	210,436	13,737 (6.5%)	10,972 (5.2%)	8,768 (4.2%)	102,926 (48.9%)	74,679 (35.5%)	5,086 (2.4%)	3,295 (1.6%)	
Red Earth	2,470,203	629,172 (25.5%)	467,563 (18.9%)	601,262 (24.3%)	1,042,934 (42.2%)	1,207,225 (48.9%)	352,219 (14.3%)	430,540 (17.4%)	
Birch Mountains local population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Red Earth local population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Redrock-Prairie Creek - Summer	167,219	137,629 (82.3%)	137,332 (82.1%)	137,331 (82.1%)	140,584 (84.1%)	140,577 (84.1%)	126,197 (75.5%)	126,195 (75.5%)	
Redrock-Prairie Creek - Winter	315,673	99,958 (31.7%)	91,437 (29%)	89,865 (28.5%)	222,554 (70.5%)	220,850 (70%)	75,187 (23.8%)	73,843 (23.4%)	
Richardson	707,390	123,883 (17.5%)	83,999 (11.9%)	190,782 (27%)	178,785 (25.3%)	195,633 (27.7%)	69,797 (9.9%)	84,181 (11.9%)	
Slave Lake	151,623	1,732 (1.1%)	1,435 (0.9%)	1,424 (0.9%)	42,612 (28.1%)	42,539 (28.1%)	387 (0.3%)	386 (0.3%)	
West Side Athabasca River	1,570,712	297,572 (18.9%)	232,936 (14.8%)	226,785 (14.4%)	995,320 (63.4%)	969,729 (61.7%)	159,415 (10.1%)	155,307 (9.9%)	
Yates	522,344	142,482 (27.3%)	145,796 (27.9%)	186,780 (35.8%)	225,779 (43.2%)	272,193 (52.1%)	107,614 (20.6%)	135,393 (25.9%)	

^{* &}quot;Disturbance" refers to areas of footprint (and any associated disturbance buffers) and areas burned by wildfire within 40 years, as per nationally defined methods of critical habitat identification for the species (Environment Canada 2011).

Denne		Area and Proportion of Range within Protected Areas in 2021 (ha)				
Range	Range Size (ha)	Provincial Parks Act	WAERNAHRA [*]	Willmore Wilderness Park Act		
A la Peche - Summer	495,073	0 (0%)	0 (0%)	291,753 (58.9%)		
A la Peche - Winter	166,426	631 (0.4%)	0 (0%)	0 (0%)		
Bistcho	1,435,810	0 (0%)	0 (0%)	0 (0%)		
Caribou Mountains	2,065,873	576,017 (27.9%)	0 (0%)	0 (0%)		
Chinchaga	1,764,364	80,306 (4.6%)	0 (0%)	0 (0%)		
Chinchaga local population	1,375,405	80,306 (5.8%)	0 (0%)	0 (0%)		
Deadwood local population	388,959	0 (0%)	0 (0%)	0 (0%)		
Cold Lake	672,586	33,023 (4.9%)	0 (0%)	0 (0%)		
East Side Athabasca River	1,311,902	114,897 (8.8%)	980 (0.1%)	0 (0%)		
Agnes local population	47,051	0 (0%)	0 (0%)	0 (0%)		
Algar local population	330,847	2,554 (0.8%)	0 (0%)	0 (0%)		
Bohn local population	174,123	60,757 (34.9%)	0 (0%)	0 (0%)		
Christina local population	113,321	36,038 (31.8%)	0 (0%)	0 (0%)		
Egg-Pony local population	374,826	14,734 (3.9%)	980 (0.3%)	0 (0%)		
Wandering local population	105,633	813 (0.8%)	0 (0%)	0 (0%)		
Wiau local population	166,101	0 (0%)	0 (0%)	0 (0%)		
Little Smoky	308,380	0 (0%)	0 (0%)	0 (0%)		
Narraway	104,066	0 (0%)	0 (0%)	0 (0%)		
Nipisi	210,436	0 (0%)	0 (0%)	0 (0%)		
Red Earth	2,470,203	659,964 (26.7%)	1,786 (0.1%)	0 (0%)		
Birch Mountains local population	N/A	N/A	N/A	N/A		
Red Earth local population	N/A	N/A	N/A	N/A		
Redrock-Prairie Creek - Summer	167,219	65,685 (39.3%)	0 (0%)	101,534 (60.7%)		
Redrock-Prairie Creek - Winter	315,673	1,568 (0.5%)	0 (0%)	0 (0%)		
Richardson	707,390	270,533 (38.2%)	3,840 (0.5%)	0 (0%)		
Slave Lake	151,623	46 (0%)	680 (0.4%)	0 (0%)		
West Side Athabasca River	1,570,712	363 (0%)	0 (0%)	0 (0%)		
Yates	522,344	0 (0%)	0 (0%)	0 (0%)		

^{*} Wilderness Areas, Ecological Reserves, Natural Areas and Heritage Rangelands Act

First report on the implementation of the section 11 agreement for the conservation and recovery of the woodland caribou in Alberta

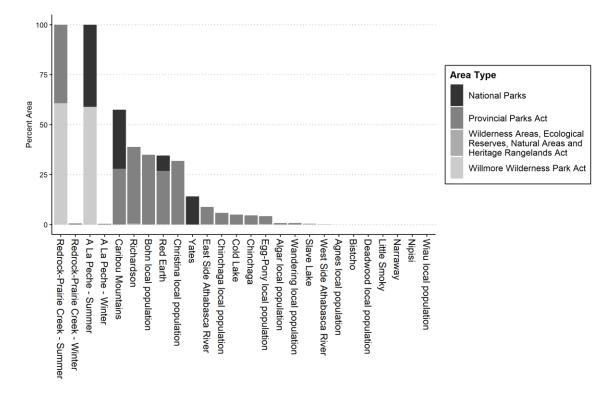


Figure A3.1. Percent of lands designated for protection under provincial legislation in caribou ranges (including local populations and seasonal ranges). Also see Table A3.2.

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Table A3.3. Area (ha) and proportion (%) of caribou ranges covered by wildfire and anthropogenic features*.

Dense	Range Size	Range Size Area Impacted by Wildfire [†] (ha) (%)			Total Anthropogenic Features (ha) (%)			
Range	(ha)	2010	2018	2021	2010	2018	2021	
A la Peche - Summer	495,073	6,322 (1.3%)	16,409 (3.3%)	16,409 (3.3%)	110 (0%)	127 (0%)	130 (0%)	
A la Peche - Winter	166,426	17 (0%)	17 (0%)	17 (0%)	22,514 (13.5%)	28,261 (17%)	32,582 (19.6%)	
Bistcho	1,435,810	290,290 (20.2%)	571,493 (39.8%)	472,138 (32.9%)	52,758 (3.7%)	57,105 (4%)	59,416 (4.1%)	
Caribou Mountains	2,065,873	589,257 (28.5%)	656,138 (31.8%)	626,894 (30.3%)	30,161 (1.5%)	35,374 (1.7%)	35,777 (1.7%)	
Chinchaga	1,764,364	193,233 (11%)	206,709 (11.7%)	107,813 (6.1%)	100,381 (5.7%)	129,816 (7.4%)	133,151 (7.5%)	
Chinchaga local population	1,375,405	132,767 (9.7%)	143,207 (10.4%)	65,748 (4.8%)	66,210 (4.8%)	78,253 (5.7%)	79,824 (5.8%)	
Deadwood local population	388,959	60,466 (15.5%)	63,502 (16.3%)	42,065 (10.8%)	34,171 (8.8%)	51,562 (13.3%)	53,327 (13.7%)	
Cold Lake	672,586	184,518 (27.4%)	200,321 (29.8%)	92,064 (13.7%)	20,320 (3%)	26,538 (3.9%)	32,002 (4.8%)	
East Side Athabasca River	1,311,902	319,296 (24.3%)	410,874 (31.3%)	395,237 (30.1%)	66,388 (5.1%)	78,020 (5.9%)	87,394 (6.7%)	
Agnes local population	47,051	1,544 (3.3%)	1,830 (3.9%)	1,364 (2.9%)	5,215 (11.1%)	5,490 (11.7%)	5,499 (11.7%)	
Algar local population	330,847	62,663 (18.9%)	127,445 (38.5%)	127,445 (38.5%)	12,416 (3.8%)	13,775 (4.2%)	15,098 (4.6%)	
Bohn local population	174,123	5,931 (3.4%)	24,067 (13.8%)	22,449 (12.9%)	4,094 (2.4%)	6,003 (3.4%)	6,337 (3.6%)	
Christina local population	113,321	15,191 (13.4%)	15,052 (13.3%)	14,706 (13%)	5,702 (5%)	6,946 (6.1%)	7,866 (6.9%)	
Egg-Pony local population	374,826	138,561 (37%)	139,192 (37.1%)	125,980 (33.6%)	18,357 (4.9%)	21,091 (5.6%)	26,267 (7%)	
Wandering local population	105,633	381 (0.4%)	426 (0.4%)	426 (0.4%)	8,867 (8.4%)	9,978 (9.4%)	10,171 (9.6%)	
Wiau local population	166,101	95,025 (57.2%)	102,861 (61.9%)	102,866 (61.9%)	11,738 (7.1%)	14,736 (8.9%)	16,155 (9.7%)	
Little Smoky	308,380	708 (0.2%)	1,073 (0.3%)	1,073 (0.3%)	44,061 (14.3%)	61,871 (20.1%)	72,853 (23.6%)	
Narraway	104,066	1 (0%)	4,206 (4%)	4,207 (4%)	15,592 (15%)	22,036 (21.2%)	22,756 (21.9%)	
Nipisi	210,436	12,883 (6.1%)	17,212 (8.2%)	68,677 (32.6%)	14,079 (6.7%)	21,123 (10%)	20,353 (9.7%)	
Red Earth	2,470,203	667,400 (27%)	891,699 (36.1%)	603,145 (24.4%)	70,829 (2.9%)	83,449 (3.4%)	84,396 (3.4%)	
Birch Mountains local population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Red Earth local population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Redrock-Prairie Creek - Summer	167,219	14,030 (8.4%)	14,030 (8.4%)	14,030 (8.4%)	83 (0%)	90 (0.1%)	98 (0.1%)	
Redrock-Prairie Creek - Winter	315,673	1,626 (0.5%)	1,662 (0.5%)	1,662 (0.5%)	31,758 (10.1%)	37,574 (11.9%)	40,486 (12.8%)	
Richardson	707,390	453,101 (64.1%)	498,988 (70.5%)	362,275 (51.2%)	3,744 (0.5%)	4,407 (0.6%)	7,345 (1%)	
Slave Lake	151,623	54,146 (35.7%)	55,676 (36.7%)	55,676 (36.7%)	13,102 (8.6%)	17,762 (11.7%)	18,149 (12%)	
West Side Athabasca River	1,570,712	73,220 (4.7%)	110,022 (7%)	138,689 (8.8%)	37,532 (2.4%)	52,780 (3.4%)	60,129 (3.8%)	
Yates	522,344	165,694 (31.7%)	180,364 (34.5%)	117,634 (22.5%)	7,034 (1.3%)	6,789 (1.3%)	6,927 (1.3%)	

^{* &}quot;Footprint" in the context of caribou recovery are anthropogenic features which result in change or loss of caribou habitat within woodland caribou local population ranges.

[†] Wildfire disturbance is calculated as the extent of wildfires that have occurred within the range within 40 years of the year of calculation (consistent with Environment Canada, 2011).

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Table A3.4 Area of legacy seismic lines (km) and area (ha) and proportion (%) of estimated future footprint* in caribou ranges that may be realized in 2022 as a result of 2021 approvals for forest harvest, energy, mining and linear approvals.

Panga	Legacy Se	Estimated Area of Approvals ^{†‡}		
Range	Total	Treated 2021	2020	2021
A la Peche - Summer	17	0	0 (0%)	0 (0%)
A la Peche - Winter	1,788	0	1,993 (1.2%)	1,898 (1.1%)
Bistcho	56,596	0	427 (0%)	413 (0%)
Caribou Mountains	7,286	0	1,433 (0.1%)	1,433 (0.1%)
Chinchaga	53,757	0	5,101 (0.3%)	5,088 (0.3%)
Chinchaga local population	45,506	0	2,723 (0.2%)	2,727 (0.2%)
Deadwood local population	8,252	0	2,378 (0.6%)	2,361 (0.6%)
Cold Lake	7,113	138	446 (0.1%)	526 (0.1%)
East Side Athabasca River	17,716	0	2,786 (0.2%)	1,823 (0.1%)
Agnes local population	563	0	60 (0.1%)	52 (0.1%)
Algar local population	3,860	0	165 (0.1%)	146 (0%)
Bohn local population	1,697	0	388 (0.2%)	259 (0.2%)
Christina local population	1,529	0	250 (0.2%)	224 (0.2%)
Egg-Pony local population	5,999	0	1,379 (0.4%)	624 (0.2%)
Wandering local population	1,814	0	224 (0.2%)	227 (0.2%)
Wiau local population	2,255	0	319 (0.2%)	291 (0.2%)
Little Smoky	8,574	0	5,329 (1.7%)	5,328 (1.7%)
Narraway	796	0	535 (0.5%)	446 (0.4%)
Nipisi	3,575	0	1,234 (0.6%)	1,245 (0.6%)
Red Earth	39,970	0	2,440 (0.1%)	2,243 (0.1%)
Birch Mountains local population	N/A	N/A	N/A	N/A
Red Earth local population	N/A	N/A	N/A	N/A
Redrock-Prairie Creek - Summer	3	0	0 (0%)	3 (0%)
Redrock-Prairie Creek - Winter	1,410	0	2,309 (0.7%)	2,157 (0.7%)
Richardson	1,794	0	430 (0.1%)	386 (0.1%)
Slave Lake	3,148	0	307 (0.2%)	366 (0.2%)
West Side Athabasca River	20,306	0	3,096 (0.2%)	3,001 (0.2%)
Yates	5,444	0	548 (0.1%)	548 (0.1%)

^{* &}quot;Footprint" in the context of caribou recovery are anthropogenic features which result in change or loss of caribou habitat within woodland caribou local population ranges.
† 2020 and 2021 annual totals of estimated approvals include estimated Annual Forest Harvest Rate and spatial approvals recorded in Alberta's Digital Integrated Dispositions (DIDs) program. Approvals recorded in DIDs include linear approvals (industrial activities approved for power lines, pipelines, and roads) and energy and mining approvals (industrial activities approved for petroleum and natural gas, coal, metallic and industrial metals, and surface material extraction).
* This summary does not include approvals for Temporary Field Authorizations (TFAs), Regulatory Temporary Fields (RTFs), or geophysical activities (e.g. seismic lines).
These are tracked outside of Alberta's DIDs program.

Annex 4: Sub-regional planning Indigenous community and organization engagement

Table A4.1. Summary of all Indigenous communities and organizations having opportunity to participate during 2021 sub-regional planning process.

	1					
	C Representative on	Provincial Capacity				
Indigenous Communities and Organizations	the Task Force	Supports Provided*				
Berland						
Alexander First Nation		•				
Alexis Nakota Sioux Nation						
Aseniwuche Winewak Nation	•	•				
Driftpile Cree Nation						
Duncan's First Nation						
East Prairie Metis Settlement						
Gift Lake Metis Settlement						
Horse Lake First Nation						
Kehewin Cree Nation						
Lac Ste. Anne Metis Community Association		•				
Métis Local 74 - Fort Vermilion						
Métis Local 78 - Peace River						
Métis Local 1929 - Valleyview		•				
Métis Local 1990 - Grande Prairie		•				
Métis Local - Fairview		•				
Métis Nation of Alberta	•					
Métis Nation of Alberta Region 6 [†]		•				
Metis Settlements General Council	•					
Mountain Métis Nation		•				
O'Chiese First Nation	•	•				
Peavine Metis Settlement						
Sturgeon Lake Cree Nation						
Sucker Creek First Nation		•				
Swan River First Nation	•	•				
Whitefish (Goodfish) Lake First Nation						
Bistcho						
Dene Tha' First Nation		•				
Cold Lake						
Athabasca Landing Métis Nation		•				
Beaver Lake Cree Nation		•				
	•					

¹Individual communities and organizations were identified in every sub-region for the opportunity to receive capacity to support their participation in various phases of the planning process. Individual communities and organizations that followed through on the grant application process and timelines are identified in this table. [†] This grant also includes Métis Local 1929 - Valleyview, Métis Local 1990 - Grande Prairie, and Métis Local - Fairview.

Indigenous Communities and Organizations	Representative on the Task Force	Provincial Capacity Supports Provided
Buffalo Lake Metis Settlement		
Chard Métis Nation		•
Chipewyan Prairie Dene First Nation		•
Cold Lake First Nation		•
Elizabeth Metis Settlement		
Fishing Lake Metis Settlement		
Fort McMurray #468 First Nation		•
Heart Lake First Nation		•
Kehewin Cree Nation		
Kikino Metis Settlement		
Lakeland Métis Community Association		•
Métis Nation of Alberta Region 1		
Métis Nation of Alberta Region 2		
Onion Lake Cree Nation		
Owl River Métis Community Association		•
Saddle Lake Cree Nation		
Whitefish (Goodfish) Lake First Nation		
Upper Smoky		
Aseniwuche Winewak Nation	•	•
Duncan's First Nation		•
East Prairie Metis Settlement		
Gift Lake Metis Settlement		
Horse Lake First Nation		•
Lac Ste. Anne Métis Community Association		•
Métis Nation of Alberta	•	
Métis Nation of Alberta Region 4		•
Métis Nation of Alberta Region 6		
Mountain Métis Nation		•
Sturgeon Lake Cree Nation		•
Sucker Creek First Nation		•
Treaty 8 Trappers Association	•	
Wandering River		
Athabasca Chipewyan First Nation		•
Athabasca Landing Métis Nation		•
Beaver Lake Cree Nation	•	•
Bigstone Cree Nation		
· ·	1	
Buffalo Lake Metis Settlement		•

Indigenous Communities and Organizations	Representative on the Task Force	Provincial Capacity Supports Provided
Chipewyan Prairie Dene First Nation	•	•
Conklin Resource Development and Advisory Committee		
Elizabeth Metis Settlement		
Fort McKay First Nation		•
Fort McMurray #468 First Nation		•
Gift Lake Metis Settlement		
Heart Lake First Nation		•
Kehewin Cree Nation		
Kikino Metis Settlement		
Lakeland Métis Community Association		•
Métis Local 1935 - Fort McMurray		•
Métis Local 1954 - Big Bay/ Touchwood Lake		•
Métis Local 2002 - Buffalo Lake		•
Métis Local 2097 - Lac La Biche		•
Willow Lake Métis Nation		•
Métis Nation of Alberta Region 1*	•	•
Mikisew Cree First Nation		•
Owl River Métis Community Association		•
Peavine Metis Settlement		•
Saddle Lake Cree Nation		
Whitefish (Goodfish) Lake First Nation		•

^{*} This grant also includes Métis Local 1935 - Fort McMurray, Métis Local 1954 - Big Bay/ Touchwood Lake, and Métis Local 2002 - Buffalo Lake.