Detailed Impact Assessment - Scope of Assessment

1 Project Information

Project title and location:
Caribou Conservation Breeding and Augmentation Project in Jasper National Park of Canada

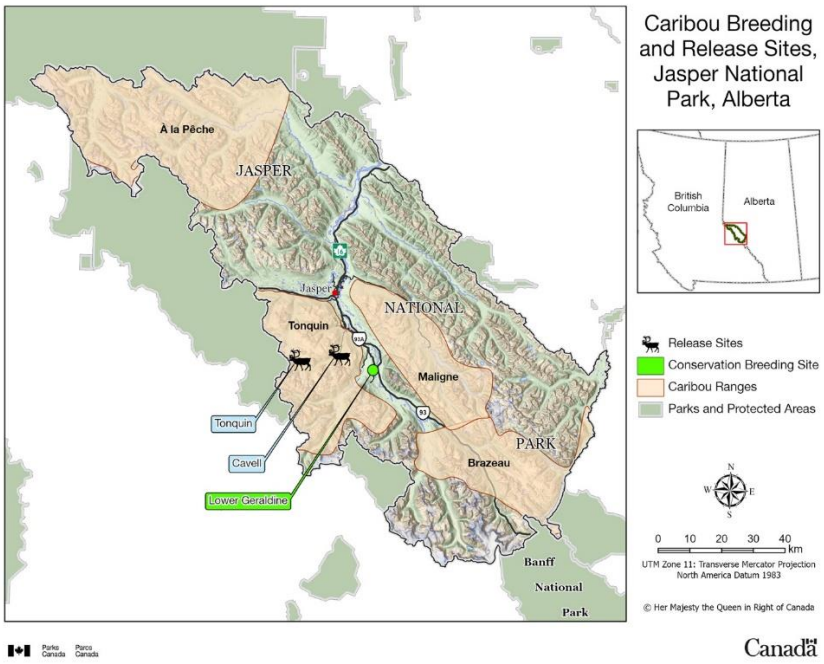

Figure 1. Breeding facility, release site locations, and caribou ranges within Jasper National Park

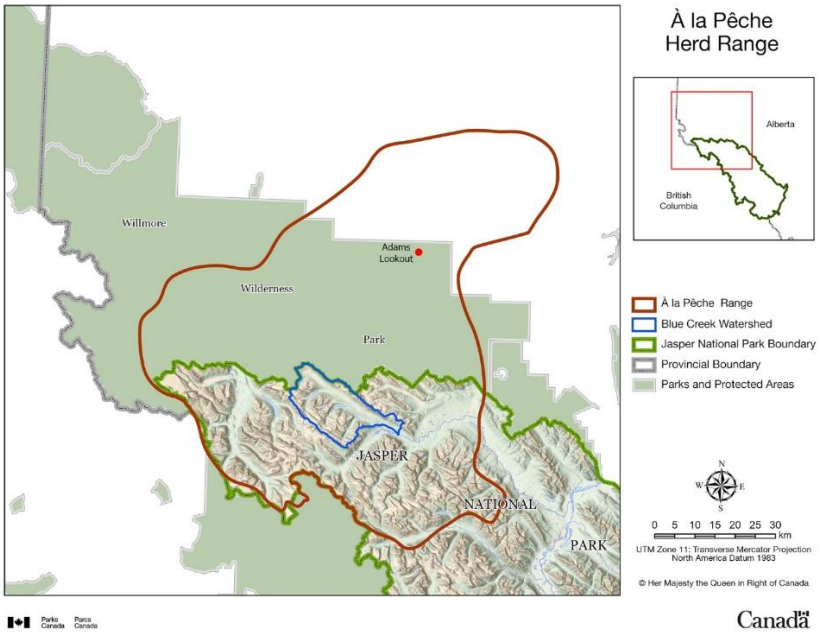

Figure 2: Range of À la Pêche caribou herd in Jasper National Park, Willmore Wilderness Park (depicted as the large Provincial Park north of JNP), and adjacent foothills regions.

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2 Overview of Key Project Elements and Activities

Parks Canada is proposing a 10 to 20-year caribou conservation breeding and augmentation project (the project) in Jasper National Park (JNP). The intent of the project is to recover caribou in its natural ranges in JNP.

Caribou recovery is a priority for Parks Canada in the fulfillment of its mandate to maintain and restore the ecological integrity of JNP, and its commitment to recover species at risk. Extensive research and consultation with Indigenous groups, stakeholders and the public will continue to be undertaken in the following months for the project. The project will occur in six (6) main phases, including:

1. Build - Breeding Facility Design, Construction & Operations: Breeding facility design and construction will consider the project setting and prioritize animal welfare. Facilities include an animal treatment lab, handling barn, site office, short-term accommodations space, and vehicle/equipment storage spaces. The site furnishing will include construction of several fenced pens, animal feeders, waterers, and animal handling equipments.

2. Capture - Securing source caribou: Securing source caribou will involve capturing wild caribou and transporting them to the breeding facility. The goal is to obtain a small number of caribou from source herds with the closest genetic and behavioural match to the wild herds where the animals will be released while not affecting the source herds' long-term viability. Following expert guidance and standard caribou capture techniques, capture of source animals would occur between December and February.

3. Breed - Animal husbandry and care: By managing risks, captive breeding has the potential to supply enough caribou to reach self-sustaining herd sizes in wild herds in the Jasper/Banff Local Population Unit (LPU). The project aims to produce 14-18 female yearlings annually, with most (11-15) available for release. Research indicates 10-20 females per year is possible. Actual numbers will depend on reproductive rates, first-year mortality, and adult mortality in captivity, which are a function of good husbandry, facility management, captive conditions, and appropriate expertise. Managing caribou health is essential to the project and should be based on preventive medicine rather than medical intervention.

4. Release - Augmentation of recipient herds: Selecting the right recipient herds, supporting the best ecological conditions in those recipient herds, and timing the release of captive-bred animals is crucial to achieving the project's objectives and minimizing mortality after release. The Tonquin herd, which is part of the Jasper/Banff LPU will be the only herd within this LPU with extant animals and will therefore be prioritized for augmentation. In order to prioritize animal welfare and minimize mortality, a soft release approach will be utilized. This approach provides captive raised caribou an opportunity to acclimatize to the release location and potentially bond with the wild herd.

5. Adapt - Research, Monitoring, and Adaptive Management: The project will be guided by Open Standards for the Practice of Conservation, which provides a framework to define and achieve conservation outcomes. The project will also be guided, as needed, by various experts in conservation from around the world and local Indigenous partners. Research scientists will also

independently be engaged to test hypotheses and assumptions, gather data and knowledge, and learn from and integrate results throughout the project's implementation.

6. End - Decommissioning and Restoration: At the end of the project, the breeding facility will be decommissioned. Initial assessment indicates that it is feasible to reclaim the proposed site. The project will include a vegetation management strategy to minimize impacts of the breeding facility and release sites.

Parks Canada's legal accountability under the *Impact Assessment Act, 2019 (*IAA 2019*)* is to ensure that projects and activities undertaken on the lands it manages do not result in significant adverse environmental effects (IAA 2019, s. 84). Developed in response to IAA 2019 legal requirements for federal lands, *Parks Canada Directive on Impact Assessment, 2019* (the Directive) outlines the legislative and policy framework and accountabilities relevant to environmental impact analysis of proposed projects within Parks Canada-protected heritage places. Under the Directive, "Projects likely to result in significant interest or controversy among members of the public, stakeholder or Indigenous peoples related to potential adverse effects on natural or cultural resources, or components of the environment critical to key visitor experience objectives," are subject to a Detailed Impact Assessment (DIA). The project is the subject of a DIA, in order to eliminate, reduce or control potential adverse effects.

3 Scope of Assessment

The scope lays the groundwork for the DIA. Scoping of the DIA includes the identification of project-environmental interactions, the identification of Valued Components (VCs), and the supporting rationale for those components. VCs are key ecological and cultural resources that are characteristic of the environment, unique or outstanding features, and/or important to main visitor experience objectives.

The *Guide to the Parks Canada Process under the Impact Assessment Act* defines VCs as values that have a higher probability of being affected by a project and that are considered to be particularly important to fulfilling Parks Canada's mandate (Parks Canada 2020a). Once identified, VCs become the focus of an assessment; therefore, selecting VCs helps ensure the greatest effort is put into evaluating how the project may affect the elements most at risk (Parks Canada 2020a).

The scope of the DIA also includes the initial application of the evidence-based decision-making model, the standards of proof, and the level of risk or importance assigned to a VC (Parks Canada 2020b). While low risk VCs (small mammals, birds, etc.) will be discussed, this DIA will mainly focus on the effects of the project on the high and medium risk VCs. High and medium risk VCs and related key issues are presented in Table 1. Assessment endpoints represent the key properties of VCs that should be protected, while measurement indicators are quantifiable expressions of changes to assessment endpoints.

Table 1: High and Medium risk Valued Components and Rationale

Valued Components (VCs)	Rationale	Measurement indicators	Assessment endpoints
Brazeau Caribou Herd	Potential impacts of capture and relocation to the conservation breeding facility of all animals of this herd on the herd-itself, range and LPU	A caribou population with 10 or fewer reproductive females is considered functionally extinct, even though a few of the animals may live for a prolonged period. Risk of mortality during capture and transport for caribou is less than the high risk of mortality in the wild (Hebblewhite 2018).	Protection of Brazeau animals from known extirpation and preservation of Jasper/Banff LPU local adaptive genetics.
À la Pêche Caribou Herd (Sourcing caribou from the À la Pêche herd is dependent on ongoing discussions with the Government of Alberta and consultations with Indigenous Partners)	Potential impacts of limited caribou removal on long term viability of the herd. Uncertainty about the exact number of caribou that can be removed safely to support the project	The size of the À la Pêche caribou herd has grown in the past decade due to wolf control by the Government of Alberta and is genetically and behaviourally appropriate for augmentation into south Jasper recipient herds (Neufeld and Calvert 2020). It has sufficient genetic diversity to act as founder for a captive herd. Parks Canada will work with the Government of Alberta and Indigenous partners to determine acceptable numbers to avoid jeopardizing the herd. A preliminary caribou source modelling completed by Parks Canada and Environment and Climate Change Canada indicates that it is possible to use a limited number of caribou from the À la Pêche herd without affecting its long term viability (Neufeld and Calvert 2020). Additional work will be completed to determine the safe and acceptable number of animals that can be removed from the herd.	Long term viability of the À la Pêche herd ensured.

Valued Components (VCs)	Rationale	Measurement indicators	Assessment endpoints
Tonquin Caribou Herd	Potential impacts of limited caribou removal and addition of captive-bred caribou to the herd, range and LPU.	The intent is to augment the herd to at least 200 caribou, based on the recent decline from 100 and historical values of the herd's size (Neufeld 2019). This herd size would likely result in some expansion of the habitat into former areas like the upper Whirlpool and Middle Whirlpool rivers, the Athabasca Valley and into Fryatt and Lick Creek valleys (Neufeld 2019).	Sustainable Tonquin Caribou Herd means that this herd consists of a number of animals that are capable of reproduction and are available now or in the foreseeable future to sustain the herd or improve its abundance while having safe access to sufficient suitable habitat.
Vegetation, and soils (primarily during the breeding facility construction and operation of the facility)	Soils and vegetation form the foundation of a healthy terrestrial ecosystem.	Habitat availability - changes to the amount of vegetation communities present; changes to soil caused by disturbance (i.e., soil loss, sedimentation, and compaction).	Protection and maintenance of existing soils and healthy and diverse native vegetation communities.
Surface and groundwater quality and subsurface drainage (primarily during the breeding facility construction and operation of the facility)	Potential for changes to surface and groundwater from spills, hazardous material, and pulses of nutrients and fecal-coliforms.	Groundwater assessed through pumping tests and assessment for long-term sustainability. Groundwater quality assessed through comparison to baseline samples.	Maintenance of groundwater quality and quantity.
Wildlife and Predator Habitat Security	Potential impacts to representative of subalpine wildlife community, including species at risk (Grizzly bear).	Habitat availability, movement patterns, abundance, Grizzly bear habitat secured: Threshold for security is 68%.	Maintenance of self-sustaining and ecologically effective wildlife populations.

Valued Components (VCs)	Rationale	Measurement indicators	Assessment endpoints
Heritage Sites	Potential impacts to both known and unknown heritage sites.	Changes in access to heritage sites.	Preservation of heritage sites.
Indigenous Values and Connections to Caribou	Indigenous partners may have concerns with the approach selected to recover the Tonquin Caribou herd, involvement with the project, benefits, and alignment with their values.	Changes in access to resources important to Indigenous communities.	Preservation of Indigenous values and connections to caribou.
Wilderness Character and Visitor Experience Opportunities	Potential to see caribou in the wild may lead to an increase in the number of backcountry visitors seeking for wilderness experience and also greater support for protected areas, environmental protection, and species at risk.	Changes to wilderness character and visual aesthetics. Support for parks and protected areas	Maintenance of wilderness experience visitors are seeking in the backcountry.

It is important to note that, although not part of the scope of this DIA, all main threats contributing to caribou herd decline in JNP, including high numbers of elk and deer, human-facilitated predation by wolves, human disturbance, and habitat loss and fragmentation inside the park, and small population effect will continue to be monitored and addressed. Any emerging threats to caribou survival will also be identified, monitored and mitigated to support the augmentation of the Tonquin Caribou Herd.

4 Indigenous Consultation

Jasper National Park is in located in Treaty 6 and Treaty 8 as well as the traditional lands of the *Anishinabe, Dene-zaa, Nehiyawak, Secwépemc, Stoney Nakoda,* and Métis. The DIA will include a section

entitled Impacts to Indigenous Communities and Rights, the purpose of which is to explicitly document changes to the DIA arising from Indigenous consultation and engagement.

An Indigenous Consultation Plan is in development and will be followed to ensure that Parks Canada communicates to Indigenous communities about consultation opportunities in the project in a timely, clear, inclusive, and responsive manner. Consultation will include a variety of opportunities for Indigenous partners to comment on the project and the draft DIA.

5 Public Consultation

Parks Canada expects a high level of interest and generally broad-based support for the project as expressed during the consultation on *the Multi-Species Action Plan* and on *the Conservation Strategy for Woodland Caribou*. Both support and concerns are expected with respect to depopulating smalls herds (Brazeau), using source animals from herds under the management of neighbouring jurisdictions, and holding wild animals in captivity that are also a species at risk, in a national park.

A Detailed Impact Assessment is Parks Canada's most comprehensive level of Impact Assessment. It requires more thorough public engagement related to the potential for the project to cause adverse environmental effects. A Public Consultation Plan is in development and will be followed to ensure that Parks Canada communicates to the public about engagement opportunities in the project in a timely, clear, inclusive, and responsive manner. The DIA process will also provide the public with an opportunity to comment on the draft DIA.

6 References

Hebblewhite, M. 2018. Review of Source Strategies for a Woodland Caribou Captive Breeding Facility in Jasper National Park. University of Montana.

Neufeld, L. 2019. Population Modelling to Assess Recovery of the Tonquin Caribou herd: Combining a captive projection model with an integrated population model for the Tonquin herd. Jasper, Alberta.

Neufeld, L and A. Calvert. 2020. Projected Impacts to the mountain population of the À la Pêche herd as a result of removals to support woodland caribou conservation breeding in Jasper National Park.

Parks Canada. 2020a. The Guide to the Parks Canada Process under the Impact Assessment Act.

Parks Canada. 2020b. Detailed Impact Assessment Handbook (Draft).