

## **ANNEX "A" - STATEMENT OF WORK**

**Title:** Feasibility study of physical barriers as a method to prevent bison movement while allowing passage of other large mammals, thereby preventing interaction between Wood Buffalo National Park's Peace-Athabasca Delta bison herd and the Ronald Lake herd

### **1 Background**

Parks Canada has played a leading role in bison conservation since the inception of the Canadian parks service, beginning with the purchase and protection of the largest surviving plains bison herd in the early 1900s. Over a hundred years later, through its integrated mandate, Parks Canada is restoring the species and associated ecological processes on the landscape, and presenting the story of Canada's role in recovering this iconic species from near extinction.

Wood bison were listed as a Threatened species on Schedule 1 of the Species at Risk Act (SARA) in 2003. One of the greatest threats to meeting the recovery objectives is the presence of bovine brucellosis and tuberculosis in the Wood Buffalo National Park bison population. These diseases are highly transmissible and persistent, and can reduce reproductive success and life expectancy in bison. Bovine tuberculosis transmission likely occurs through aerosol droplets or infected milk, while bovine brucellosis is primarily transferred through oral or nose contact with contaminated placentas or aborted fetuses. Thus, close individual contact is required to spread these diseases.

As per the 2018 National Wood Bison Recovery Strategy, over the short-term, the recovery objectives for the species include maintaining the disease-free status, population size, and range of all disease-free local populations within their original ranges in Canada. In order to meet these recovery objectives, contact between diseased and disease-free herds cannot occur.

In January 2020, the federal Minister of Environment and Climate Change made a determination that wood bison are facing imminent threats to their recovery. Only two free-ranging, disease-free herds were found to be subject to threats that could affect achievement of the short-term recovery objectives outlined in the Recovery Strategy described above. One of these herds is the Ronald Lake herd, which was found to be at imminent risk of contracting bovine brucellosis and/or tuberculosis from diseased bison in Wood Buffalo National Park. The Ronald Lake local population, with an estimated 200 individuals, makes up approximately 5% of the disease-free population of wood bison in Canada, and 95% of the naturally-founded, disease-free wood bison population.

The Ronald Lake herd's range straddles the southern border of Wood Buffalo National Park and is in close proximity to the diseased Peace-Athabasca Delta (also known as Delta) and Garden River herds, which occur within the park (see Fig 1). As a result, there is a need to ensure that these diseased herds do not come in direct contact with Ronald Lake animals, where disease transmission would be possible. Parks Canada wants to examine the potential for a low-invasive means to keep these herds separated, such as a physical barrier to limit interaction between these herds. Physical barriers include, but are not limited to, traditional fencing, drift fencing similar to that installed for the Banff National Park bison reintroduction project (Heuer and Zervogel 2021), and deadfalls. It is important that these barriers prevent bison movement, but also allow free movement of other important wildlife species such as caribou, moose, deer, wolves and bears.

### **2 Purpose and Objective:**

To perform an assessment of different types of physical barriers that could be used to ensure that Peace-Athabasca Delta and Ronald Lake bison do not intermingle, while still allowing movement of other species (e.g. caribou, moose, wolves, bears), thus reducing the likelihood that bovine brucellosis and tuberculosis will be transferred to the Ronald Lake herd.

The Contractor will examine different methods and infrastructure (such as physical barriers) that could be effective to prevent bison movement, but still be permeable to other species. For each option, the study must review:

- Effectiveness for the prevention of interaction between Ronald Lake and the Garden River and Peace-Athabasca Delta bison herds
- Potential impacts and permeability for other large ungulate and carnivore species
- The feasibility of constructing and maintaining different barriers in challenging northern environments
- Other advantages and disadvantages

The Contractor will also review possibilities for the general alignment to support development of an opinion of probable cost that can be used for budgeting future project phases.

The study area is within Wood Buffalo National Park between the ranges of the Peace-Athabasca Delta and Garden River herds, and the Ronald Lake herd (Fig 1). Natural topography of the area and disturbance to sensitive land cover types (e.g., ponds, streams, bogs, fens) should be considered in evaluating the effectiveness of each type of barrier.

It is possible that PCA may ask the Contractor to be available as an advisor for the implementation of any recommendations coming from this contract. If that occurs, this contract will be amended to reflect the additional duties. These services would be required within 18 months of the completion on the final draft.

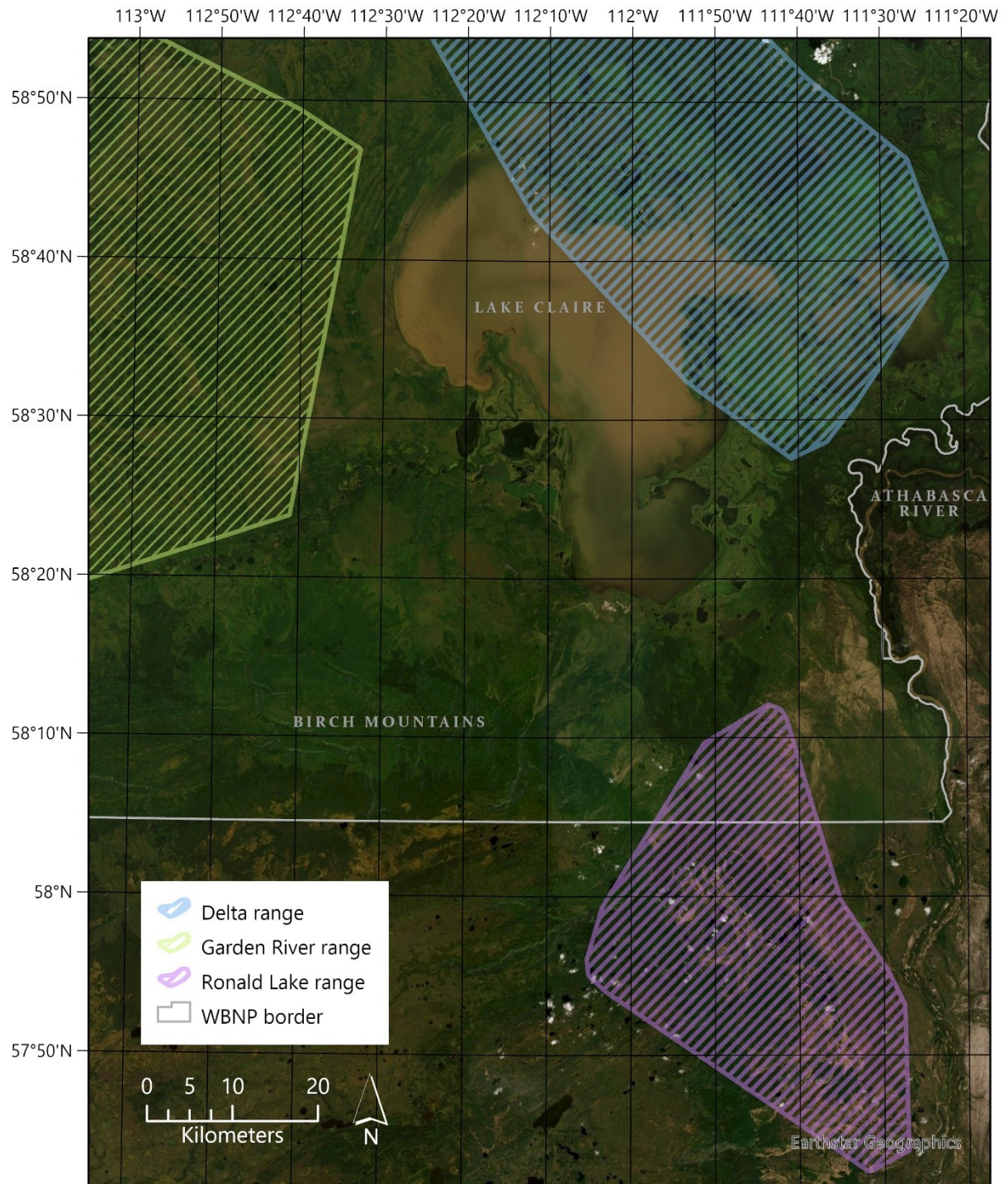


Figure 1: Locations of the Delta, Garden River, and Ronald Lake bison herd ranges.

### **3 Contractor's Responsibilities**

#### **3.1 Services**

- 3.1.1) The Contractor will attend a project kick off meeting that is hosted by PCA where the project objectives and constraints will be reviewed.
- 3.1.2) The Contractor will review existing literature, field conditions and existing Indigenous knowledge relevant to the study.
- 3.1.3) The Contractor will prepare a report documenting all findings and recommendations from the feasibility study
- 3.1.4) Optional Services (if required): The Contractor may be requested to provide advisory services, on an as-and-when required basis, for the implementation of any recommendations coming from this Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

#### **3.2 Deliverable Requirements**

- 3.2.1) The feasibility study (report) must be submitted for review in draft form.
- 3.2.2) The draft report must be presented to PCA via video teleconference. During the review period, the Contractor must host a second video call to respond to questions, provide clarity and receive initial comments. PCA will then seek input from Indigenous communities on the draft report.
- 3.2.3) Upon receiving final comments from PCA, including those gathered from Indigenous communities, the Contractor will adjust the report as required and resubmit in final form.
- 3.2.4) The report must include a complete list of reference materials, bibliography and data sources.
- 3.2.5) Draft and final design reports are required in electronic version only. File must be text recognized, non-password protected (unsecured) PDF file type, at reasonable file size to accommodate distribution.

#### **3.3 Meetings and Communication**

The Contractor must communicate with the Project authority via email before proceeding with the work. These initial discussions will enable the Contractor and Project authority to review the defined parameters of the work, delivery standards and time frame. Communication with the Project authority will occur as required (recommended monthly – dates to be determined by both parties after Contract Award). Any meetings required will be virtual.

#### **3.4 General Requirements**

##### **3.4.1 Confidentiality**

It is understood and agreed that the Contractor, during and after the effective period contract, must not divulge any information obtained in the course of the performance of the proposed work, unless authorized in writing by Parks Canada.

##### **3.4.2 Official Languages**

The Agency is under the obligation to respect the spirit and the letter of the Official Languages Act R.S. 1985, C.31 (4th Suppl.). It is therefore imperative that the Contractor, when representing the Crown, ensures that verbal communications are in the preferred official language of the participants. Written communications will be in the language(s) of the participants and must be submitted to the Project authority before they are issued. If participants are required to communicate by telephone with the Contractor or his/her representatives, the Contractor must ensure that all persons, including receptionists and other contacts who will be receiving these calls, are bilingual. The official language for the work associated with this requirement will be English.

##### **3.4.3 Green Procurement and Services**

The Contractor should make every effort to ensure that all documents prepared or delivered are printed double-sided on Ecologo certified recycled paper or on paper with equivalent post-consumer recycled content to the full extent to which it is procurable

#### 3.4.4 Quality

The Contractor is responsible for the professional quality, technical accuracy and timely completion and submission of all deliverables, services or commodities required to be provided under the contract. If PCA determines that the deliverable does not meet a reasonable quality the Contractor will be responsible for revising the report until it is satisfactory, at no additional costs to PCA.

The review, approval, acceptance or payment of deliverables furnished under this contract shall not in any way relieve the Contractor of responsibility for the technical adequacy of its work.

#### 4 Parks Canada Agency Responsibilities

Parks Canada will provide:

- an up-to-date species list for WBNP (if requested).
- The Parks Canada library collection can be searched by registering for an account at <https://www.bac-lac.gc.ca/eng/about-us/about-collection/Pages/about.aspx>
- The project manager or technical experts will be available to discuss issues or respond to questions on contract terms of reference or scientific, technical issues.
- Copies of electronic files of existing base maps and boundaries of Wood Buffalo National Park.
- Engagement of Indigenous communities on the draft literature review developed in 3.2.2.

#### 5 Contract Schedule

Milestone No.	Description	Due On or Before
01	For all work described under Annex “A” – Statement of Work, Section 3.3. Participate in project initiation discussions	<b>2 Weeks after Contract Award</b>
02	For all work described under Annex “A” – Statement of Work, Section 3.2.2. Perform literature review on potential physical barriers and provide a draft report	<b>July 30, 2022</b>
03	For all work described under Annex “A” – Statement of Work, Section 3.2.3. Provide a final report (digital format MS Word or, compatible format).	<b>October 15, 2022</b>

#### 6 References

Heuer K, and A Ziervogel. 2021. Plains Bison Reintroduction in Banff National Park Pilot Project 2017-2022: 2020 Progress Report. Parks Canada. 36 pp.