



Woodland Caribou in Saskatchewan

March 2017

Woodland caribou are an important resource and symbol to northern people, and caribou populations are a reflection of the health of the landscape and ecosystem.

A member of the deer family, woodland caribou are found throughout Saskatchewan's northern forests.

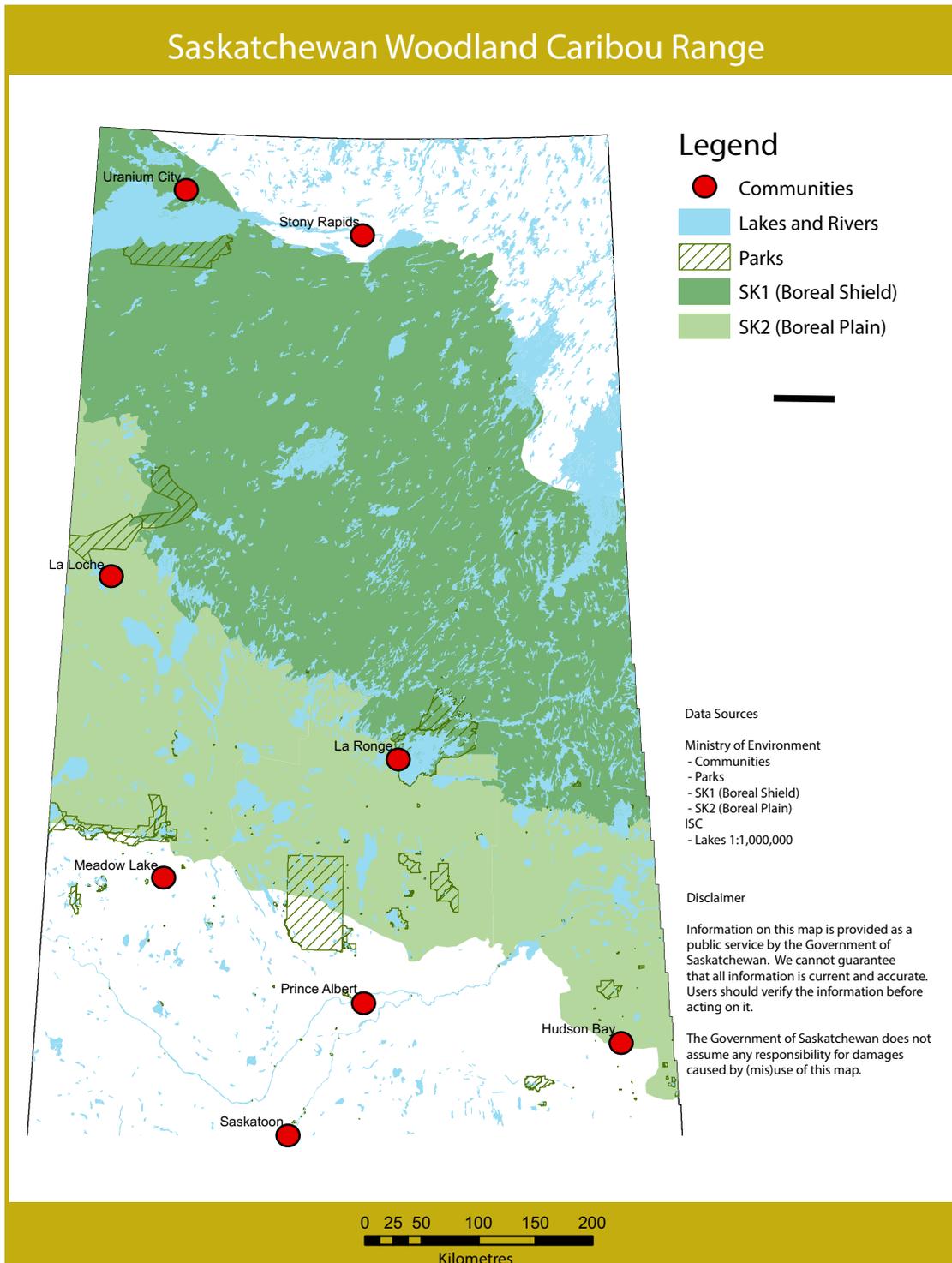


Conservation

The boreal population of woodland caribou is listed as threatened under the federal *Species at Risk Act*. As required by the Act, Environment and Climate Change Canada (ECCC) created a national recovery strategy that applies to two territories and seven provinces, including Saskatchewan.

The development of a Saskatchewan-based solution to best manage the landscape for both a sustainable caribou population and continued economic development is key for the province.

In Saskatchewan, the woodland caribou range is divided into two regions: the northern Boreal Shield range (SK1), and Boreal Plain (SK2) range to the south.



Caribou Basics

What do caribou need?



Woodland caribou need a variety of habitat types for their life cycle. They need areas for food throughout the seasons, to seek refuge from predators, and to provide safe places for birth and raising their calves.

Within the boreal forest, forage areas include a variety of habitats such as black spruce muskeg, open jack pine and lichen stands, tamarack fens, among others. They will seek refuge in wet areas, wind-exposed sites, lakes, on islands, and in dense old forest.

For calving, they often seek islands on lakes or muskeg, inaccessible rough terrain, or water-rich terrain, with abundant and nearby forage vegetation.

And, they also need to be able to move easily between these types of habitat.

As older forest is burned naturally, new forest must be available to develop into suitable habitat for caribou populations in the future.



How activities on the landscape affect caribou.



The landscape is impacted by human-caused disturbance in the boreal forest such as forest harvesting and other industrial and urban development. With good management, habitat loss can be temporary and minimized, but some permanent loss is inevitable. Wildfire is the main form of natural disturbance causing changes that can impact how caribou use this range in the short-term.

Roads, trails and seismic lines may create access to caribou habitat for people and predators. However, this can disrupt caribou feeding and resting areas, and cause them to shift their range use away from human and predator threats.



Caribou have only one calf per year. At that rate of reproduction, increased disturbances and predation may lead to declines in their population size.

Why do caribou need our help?



Due to their large home ranges, seasonal movement and sparse distribution – one caribou for every 20 square kilometres – it is difficult to determine how many caribou there really are in Saskatchewan. But there are indicators that suggest there has been a decline in caribou populations in past decades, particularly in the Boreal Plain.

The southern edge of woodland caribou range has moved northward on the Boreal Plain over the last century. This range has been fragmented and reduced in area.

The amount of traffic and overall human activity has also increased on the Boreal Plain over this time.

With changes to the landscape, there has been an increase in the number of white-tailed deer within woodland caribou range.

This increase in the deer population may support larger numbers of predators, potentially resulting in increased predation on caribou.

Higher deer numbers could also increase the risk of transmission of brainworm or chronic wasting disease (CWD) to caribou within the area.

Population considerations:

- Abundance - population size and density
- Trends - increasing, stable, or decreasing
- Composition - sex and age ratios
- Calves - pregnancy rates, birth rates, and survival rates
- Adult survival rates



Woodland caribou population dynamics.

University research monitoring caribou in Saskatchewan from 1992 to 1996 in the Central Boreal Plain showed that reproductive success was just sufficient to maintain existing caribou numbers.

Work by Parks Canada and the Saskatchewan Ministry of Environment from 2004 to 2008, in a similar area, showed reduced movement of female caribou within groups studied and indications of reduced adult survival.

In order to maintain a self-sustaining caribou population, caribou must – at a minimum – reproduce enough offspring to replace themselves.

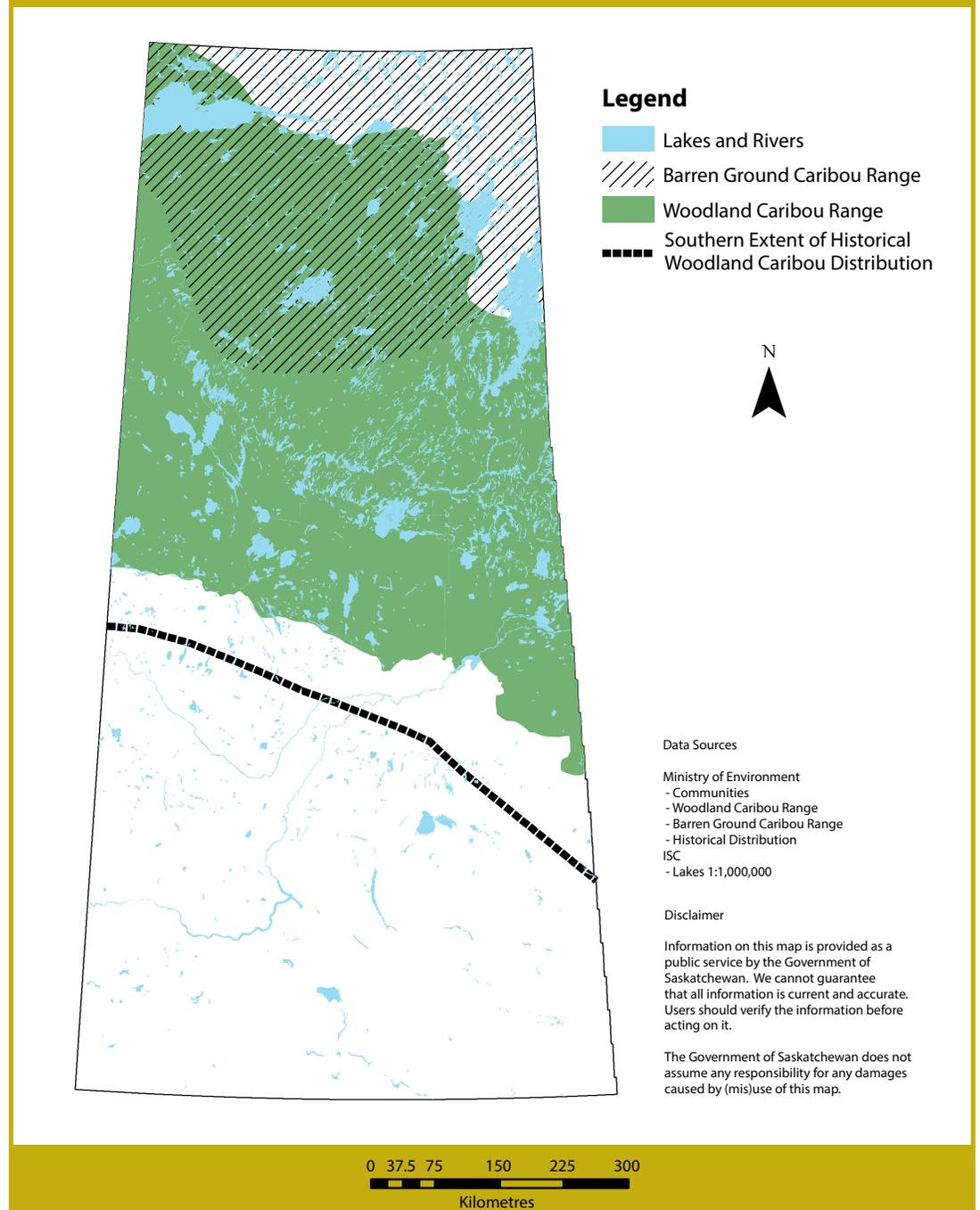
Low productivity makes caribou more vulnerable to sudden or dramatic changes in their range.

There has been a reduction in woodland caribou sightings over the past 50 years.

Estimates are that adult woodland caribou have an 85% survival rate. Less than one quarter of calves survive their first year of life (12-25%).



Saskatchewan Caribou Range - Historical and Current



Planning and Management



In 2013, the province initiated a Woodland Caribou Range Assessment and Range Planning Program to:

- provide a better understanding of woodland caribou ecology;
- help meet objectives identified in the provincial and federal strategies; and
- help the province manage the species and related habitat.

Key components:

- Woodland caribou range assessment, which will increase our understanding of woodland caribou populations and their interactions with the environment.
- Development of range plans that will lead to better decisions involving habitat management to support self-sustaining caribou populations.

The government is working with universities, industry, First Nations and Métis people to learn more about caribou in the province and answer important questions.

Engaging with industry, First Nations, Métis people and stakeholders is key to the development of range plans.

These plans will help guide the management of caribou habitat through:

- different forest management approaches;
- ensuring that new developments do not pose a risk to caribou;
- managing road, trail and seismic line activity; and
- planning for future land use that sustains caribou range and a healthy boreal forest.

Range plans for the central region of the Boreal Plain will be submitted in October 2017. Additional plans will be developed over the next couple of years.

Questions we're asking:

- Are caribou numbers staying the same, increasing or declining?
- How do things on the landscape affect them?
- What kinds of forest make up the best caribou habitat?

Disturbance impacts to caribou	Disturbance impacts to caribou habitat
Moving or shifting to less suitable habitat	Reduced habitat quality
Lower survival rates	Habitat loss
Fewer calves	Habitat reduces in size

Research

The Woodland Caribou Range Assessment Program incorporates research to help determine the status of woodland caribou populations and habitat and provide important data for range planning.

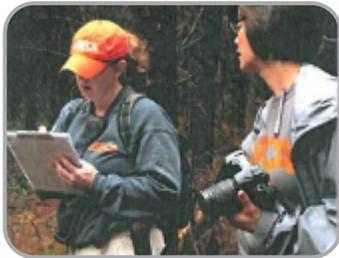
Research projects are examining population status, structure and distribution, and habitat availability and use. This will be accomplished through a combination of:

- genetic analysis;
- collaring of animals;
- direct observation;
- landscape level mapping;
- identifying the level of human-caused and fire disturbance in the boreal forest; and
- documenting traditional and local knowledge.



Genetic Analysis

Caribou droppings (fecal pellets) are collected to obtain genetic identity information that is used to determine how closely individual caribou are related across the province, and population information.



Local and Traditional Ecological Knowledge

The province's understanding of woodland caribou is limited to the results from relatively recent, short-term studies. Traditional and longer-term knowledge would help provide a better understanding of woodland caribou behaviour and biology. Such knowledge is based on first-hand observation and is passed on and combined with the experience of succeeding generations of local people.

Collaring Caribou

GPS radio tracking devices enable researchers to track individual caribou over time, to understand what kind of habitat they use and to gather population information including calving rates.

Fire Disturbance Mapping

Fire is a natural occurrence in the boreal forest. Mapping the fire footprint in the forest and determining patches of unburned forest helps to understand how much caribou habitat has burned, as well as when it will return to future caribou habitat.



Human Caused Disturbance Mapping

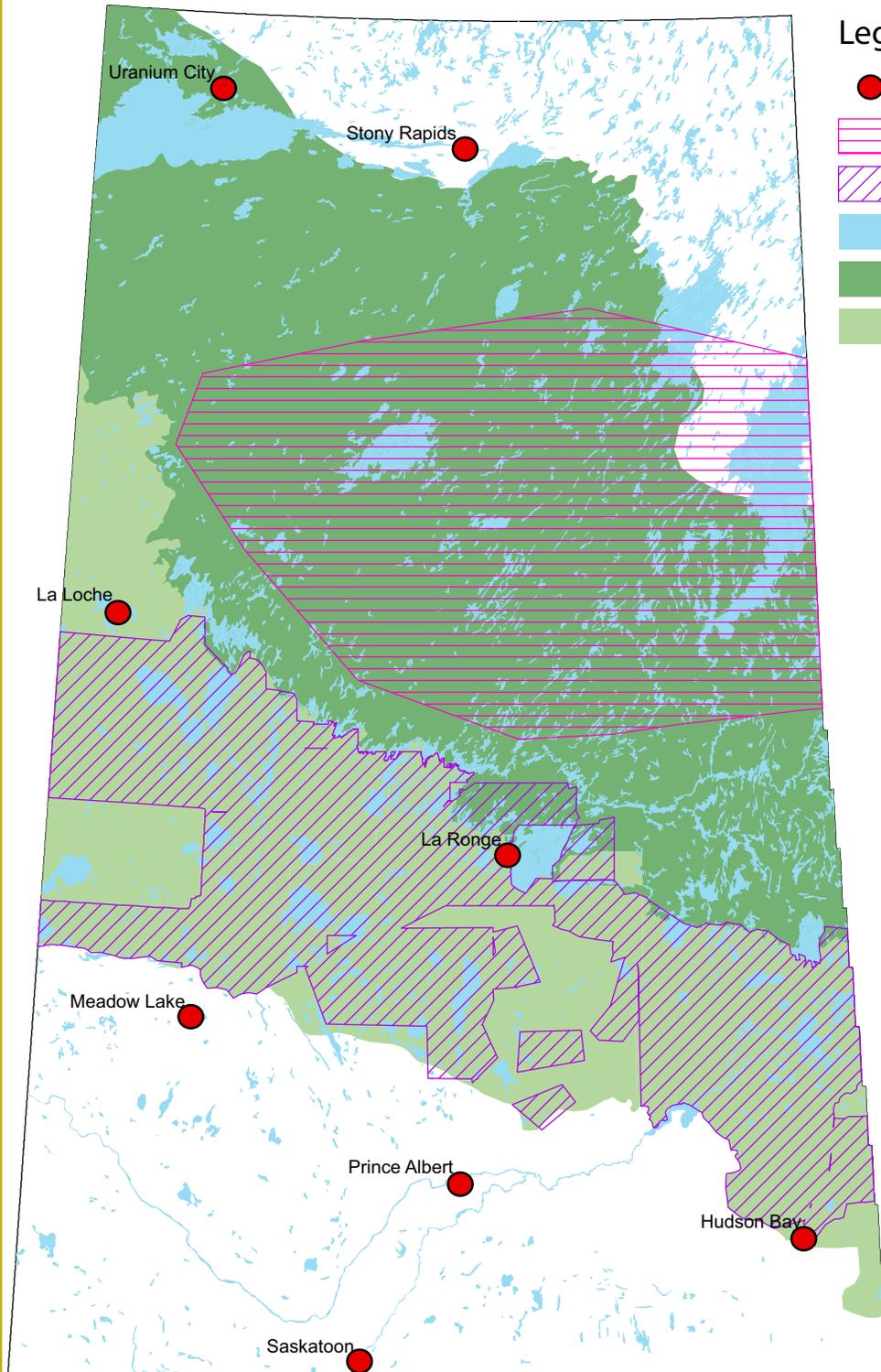
Identifying and mapping human-caused disturbance such as forest harvest, industrial development and recreation, to understand how much disturbance is on the landscape and how long these disturbances will impact caribou habitat.



Please report woodland caribou sightings

The Ministry of Environment and the Saskatchewan Conservation Data Centre are collecting information to identify the distribution of woodland caribou in the province. Report a woodland caribou sighting [online](#).

Saskatchewan Woodland Caribou Research Areas



Legend

- Communities
- ▨ Collared Caribou Study Area
- ▨ Fecal Pellet Survey Areas
- Lakes and Rivers
- SK1 (Boreal Shield)
- SK2 (Boreal Plain)



Data Sources

- Ministry of Environment
 - Communities
 - Pellet Collection Areas
 - SK1 (Boreal Shield)
 - SK2 (Boreal Plain)
- ISC
 - Lakes 1:1,000,000
- University of Saskatchewan
 - Collared Caribou Study Area

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