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Plains Bison (*Bison bison bison*)

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Species summary

COSEWIC scientific name

Bison bison bison

Taxonomic group

Mammals (terrestrial)

Range

Alberta, British Columbia,
Saskatchewan



Legal list

Legal common name

Plains Bison

Status on Schedule 1

Not on Schedule 1 (under consideration for addition)

SARA status history

COSEWIC designated the species Threatened in May 2004, GIC decided not to list for

GIC decision	further considerations. Status re-examined and confirmed by COSEWIC in November 2013. Pending
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COSEWIC assessment

COSEWIC common name	Plains Bison
COSEWIC scientific name	<i>Bison bison bison</i>
Previous common names	Buffalo
Last assessment date and status change	November 2013 (no change)
COSEWIC status	Threatened
Status criteria ¹	C2a(i)
COSEWIC status history	Designated Threatened in May 2004. Status re-examined and confirmed in November 2013.
COSEWIC reason for designation	This bison occurs in only five isolated wild subpopulations in Canada. There are approximately 1,200 to 1,500 mature individuals, of which about half occur in one subpopulation located outside of the historical range. The total number of individuals has increased by 36% since the last assessment in 2004, but the total remains a tiny fraction of their numbers of 200 years ago. Currently they occupy less than 0.5% of their original range in Canada. This animal continues to face a number of threats to its persistence. Further increases in population size or the addition of new subpopulations is curtailed by fragmented or unsuitable habitat that is often managed to exclude bison. An

overall decline is projected for wild subpopulations because they are managed to control or reduce population size and are subject to unpredictable but potentially catastrophic future events, mainly disease

Show less

Last minister's receipt date October 15, 2014

Species details

On this page, you will learn about the life cycle of this wildlife species. You can access different types of information about this species and how it relates to the Species at Risk Act.

Taxonomy

There are two existing subspecies of *Bison bison*: the Plains Bison and the Wood Bison. The validity of the designation of bison subspecies is a controversial issue due to the implications for the genetic diversity and management of North American bison.

Description

The Plains Bison is the largest land mammal in North America. This species can be recognized by its massive head and shoulders, which seem disproportionate to its extremely narrow hindquarters. In the adult male, shoulder height ranges from 1.7 to 2.8 m, total length ranges from 3.0 to 3.8 m. Weight is generally in the 600 to 860 kg range, with the average being approximately 700 kg. The nostrils flare wide, the snout is large, and the ends of the black horns on either side of the head are

curved inward. The female is smaller than the male and her horns, which are more slender, point upwards. The coat consists of long coarse hairs, called guard hairs, and woolly interwoven underfur. The tail is moderately long and has a tuft of hair at the tip. The front of the body is covered with a woolly, curly mane that is a dark chocolate-brown colour. The hindquarters are covered with short, smooth copper-coloured hairs. Calves are generally orangey red in colour for the first three months, after which their coat begins to darken. Plains Bison can be distinguished from Wood Bison by the Plains Bison's hump between the shoulders, which is clearly lower and more centrally located, its coat, which is lighter and woollier, its longer beard, which is virtually non-existent in Wood Bison, its tail, which is shorter, and its mane, which is thicker.

Distribution and population

At one time, the range of the Plains Bison extended from the Rockies to the site of the present-day city of Washington in the United States, and from central Alberta and Saskatchewan to northern Mexico. Although this species was once widely found throughout all of North America, the Plains Bison now only occurs in fragmented populations within its historic range. In Canada, wild populations can be found in British Columbia and Saskatchewan. Semi-wild or captive herds can be found in Alberta, Saskatchewan and Manitoba. Prior to the arrival of European settlers, there were likely some thirty million bison across the continent. It is estimated that, by 1888, only eight bison remained in Canada and 85 in North America. Currently, there are approximately 600 000 to 720 000 Plains Bison in North America. However, more than 95% of these bison are being farmed for commercial purposes. In Canada, there are 670 to 740 adult animals in three free-ranging herds, as well as 250 to 270 adult

animals in a semi-wild herd. There are also four small captive populations, with 63 to 83 adult bison in all, but these animals were not taken into consideration for status assessment purposes. Overall, the Canadian range of the Plains Bison is extremely fragmented and there are no corridors between herds. In Canada, wild bison occupy a total territory of approximately 2750 to 3000 km². They are divided into four populations: Elk Island National Park (Alberta), Pink Mountain (British Columbia), Prince Albert National Park (Saskatchewan), and Cold Lake/Primrose Air Weapons Range (Saskatchewan). Plains Bison were once found in eastern British Columbia, south of the Peace River and west to the Rockies. However, the Pink Mountain Plains Bison herd is now the only herd found in this area. This herd is located in the Pink Mountain and Sikanni Chief River sector, 180 km northwest of Fort St. John. Its current territory covers approximately 1500 km² and its habitat consists primarily of sedge meadows and grassland. Since it was established in 1971, the Pink Mountain Herd has grown and expanded its range, although it seems to have stabilized in recent years. The 2003 survey indicates that the herd consists of 876 animals; the herd is maintained at this approximate level through harvesting. Plains Bison once occurred throughout all of central and southern Alberta. Following their extermination, in the 1880s, a Plains Bison population was re-established, forming the current population in the Elk Island National Park. In addition to being the only semi-wild herd in Canada, this herd is the founding herd of all Plains Bison conservation herds across the country. Its fenced range covers an area of 136 km² and is located 50 km east of Edmonton. This herd currently contains approximately 500 individuals. The size of the herd has been stable since 1975 due to management measures designed to stabilize the herd and alleviate grazing pressure. The captive herd at Waterton Lakes National Park is carefully managed to

maintain 26 head and there is a herd of 16 head in the Bud Cotton Buffalo Paddock just south of Wainwright. Plains Bison existed throughout the entire Prince Albert National Park area in Saskatchewan until they were extirpated towards the end of the 19th century. The Plains Bison herd currently living in Prince Albert National Park is the only free-ranging herd remaining in this species' original Canadian range. It is protected by a 3875 km² national park located approximately 200 km north of Saskatoon in central Saskatchewan. The herd's territory covers approximately 750 km², of which 50 km² are beyond the boundaries of the park. These animals are protected as long as they remain within the park's boundaries. However, small groups of bison roam between the park and neighbouring private properties. In 2002, the park had a population of 320 bison. Over the past 20 years, the population has been growing at a rate of 10% to 14% per year. The Cold Lake/Primrose Air Weapons Range, which encompasses an area of more than 12 000 km² and straddles the Alberta-Saskatchewan border, is also home to a free-ranging herd of Plains Bison. These bison live on the Saskatchewan side of the weapons range. This population, estimated to contain 70 to 100 animals, may be growing. There has been a display herd in Buffalo Pound Provincial Park since 1972, which is located in southwestern Saskatchewan, approximately 30 km northeast of Moose Jaw. This herd is maintained at 35 individuals. There are currently no wild populations of Plains Bison in eastern Saskatchewan. A captive display herd is maintained in Riding Mountain National Park in Manitoba, within the historic range of the Plains Bison. This herd is managed to maintain 25 to 50 animals and it currently has a population of 33 individuals. While the population in Prince Albert National Park is growing, any expansion of this herd's territory beyond the boundaries of the park is limited due to the presence of farmland. The growth of the population in the Cold

Lake/Primrose Air Weapons Range in northwestern Saskatchewan is also possible, although it could be limited by recent agreements authorizing the Cold Lake First Nations People to hunt this population. Overall, little is known about the Cold Lake/Primrose Air Weapons Range herd, specifically as concerns the area of occupation and the exact size of the population. Other Plains Bison populations remain relatively constant in size. The current Canadian range of the Plains Bison is largely protected. However, hunting is permitted, at least to a certain extent, in each of the free-ranging herds. Current management strategies do not include plans to reduce the area occupied by bison. The small size of the Cold Lake/Primrose Air Weapons Range herd could be a cause for concern. However, none of these populations are currently in imminent danger of extinction.

Habitat

The Canadian range of the Plains Bison once extended across the entire Prairies and included grasslands, montane meadows, scrublands and certain wooded areas that provided the bison with shelter from the weather and predators. Plains Bison prefer open habitats provided by meadows and grasslands. Being a grazer, this animal chooses its habitat on the basis of its nutritional needs, the availability of forage, depth of snow cover, burn history and predator avoidance. The availability of forage often dictates seasonal habitat changes, while vegetation growth stages dictate movements within a habitat, since bison prefer new shoots to older ones. Overgrazing is not an issue in free-ranging herds, since the bison will not overgraze if it can move to another area. In addition, protected herds are maintained at an optimum size for their territory. Although the original range of the Plains Bison has been almost

completely lost to agriculture and urbanization, there still remain some opportunities for reintroduction.

Biology

Plains Bison are polygynous mammals, which means that females go into heat several times per season. The first heat occurs in late summer and subsequent heats occur until late fall as long as the female has not been impregnated. For males, the ability to reproduce depends on their rank within the hierarchy. Males and females live apart for most of the year, coming together only during the summer. Rut occurs from June to October and peaks in early August. The male will diligently follow a breeding female for several days. Rivals engage in fierce battles, which result in the stronger males driving away the weaker ones. Generally, females are reproductively capable from the ages of 3 to 16. They often produce their first calf at age three after a gestation period lasting slightly longer than nine months. Calving season occurs from April to June and usually lasts three to four weeks. Depending on factors such as climate and nutrition, reproductive success can range from 35% to 100%. During the week after calving, the female maintains a very close relationship with her calf and, although nursing can last from 7 to 12 months, it can also last as long as 24 months. Although calves are typically protected by their mothers, the herd will also defend calves by placing them at the front of the herd in the event of pursuit. This is a gregarious species and the size and structure of the herd fluctuates over the months. Throughout most of the year, bison herds break up into maternal groups and bull groups. Maternal groups, which make up the majority of the herd, are composed of 20 to 50 females and calves. Bulls establish a fluid hierarchy in which dominant status frequently changes

throughout the breeding season. The bison is particularly well adapted to low temperatures. Its tolerance to cold is largely attributable to the insulating properties of its coat, which contains ten times more hair per square centimetre than that of cattle. Although the bison prefers sedges and grasses, it can modify its diet based on the available forage. On average, Plains Bison live approximately 15 years. However, in captive or semi-wild populations, bison can live longer than 20 years and can even continue to breed beyond the age of 30. The bison is prey to the wolf, the Grizzly Bear and also to humans.

Threats

Lack of habitat is the greatest impediment to the conservation of the Plains Bison. The major part of its original range has been lost to agriculture and urbanization. Additional threats include domestic cattle diseases and the risk of genetic pollution from escaped ranched bison. Most existing bison herds were established with animals that were donated or sold by ranchers. When ranchers found bison scattered among their cattle herds during roundups, they occasionally allowed interbreeding between bison and cattle. Hybridization between these two species likely resulted in a loss of some of the original genetic diversity of the Plains Bison. Hybridization with Wood Bison and game ranching also pose a threat to the conservation of Plains Bison in Canada, due to the risk of hybridization between wild Plains Bison populations and ranched herds of Wood and Plains Bison when ranched animals escape. In addition, domestic cattle may also serve as a disease reservoir for the bison and their close proximity may present a health risk for some bison herds. Currently, none of the Canadian Plains Bison populations have been infected by a disease that could threaten their continued

existence. However, there can be no doubt that the most serious diseases that afflict today's North American bison herds (i.e., tuberculosis, brucellosis and anthrax) were introduced by cattle. Plains Bison conservation efforts in Canada are also hampered by the absence of a consensus in federal and provincial legislation regarding protection. Bison are considered wildlife in British Columbia and Saskatchewan and are protected in national parks. However, they are considered livestock in Alberta and Manitoba and, consequently, they are not currently protected under the terms of any legislation. Finally, controlled hunting of certain herds is permitted. However, the impact of this hunt on population characteristics and size has not been studied.

Protection

SARA contains provisions that allow for the protection of certain listed species at risk individuals, their residences as well as their critical habitat. The responsibility for conservation of species at risk is shared by all jurisdictions in Canada. The Act recognizes this joint responsibility and that all Canadians have a role to play in the protection of wildlife. More information about SARA, including how it protects individual species, is available in [A guide to your responsibilities under the Species at Risk Act](#). For information on how provincial or territorial laws protect the species, consult the provinces' and territories' websites.

Documents

14

Action Plans

2



Canada

The *Multi-species Action Plan for Grasslands National Park of Canada* applies to lands and waters occurring within the boundaries of Grasslands National Park of...

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Attachments:

Multi-species Action Plan for Grasslands National Park of Canada [Final Version] (2016-07-05) [pdf](#) | [html](#)

Multi-species Action Plan for Grasslands National Park of Canada [Proposed] (2016-03-31) [pdf](#) | [html](#)

Consultation period:

2016-03-31 to 2016-05-30

Document type:

Action Plans

Document recovery status:

Final

Multi-species Action Plan for Waterton Lakes National Park of Canada and Bar U Ranch National Historic Site of Canada



The Multi-species Action Plan for Waterton Lakes National Park of Canada and the Bar U Ranch National Historic Site of Canada applies to lands and waters occurring within t...

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Attachments:

Multi-species Action Plan for Waterton Lakes National Park of Canada and Bar U Ranch National Historic Site of Canada [Final Version] (2017-12-12) [pdf](#) | [html](#)

Multi-species Action Plan for Waterton Lakes National Park of Canada and Bar U Ranch National Historic Site of Canada

[pdf](#) | [html](#)

[Proposed] (2017-04-13)

Consultation period:

2017-04-13 to 2017-06-12

Document type:

Action Plans

Document recovery status:

Final

COSEWIC Annual Reports

2

COSEWIC Annual Report - 2004

2004 Annual Report to the Canadian Endangered Species Conservation Council (CESCC (Canadian Endangered Species Conservation Council)) from the Committee on the Status of Endangered Wildlife in Canada.

Attachments:

COSEWIC Annual Report - September 2004 (2004-09-16)

[pdf](#) | [html](#)

Document type:

COSEWIC Annual Reports

COSEWIC Annual Report - 2013-2014

Under Canada's *Species at Risk Act* (SARA), the foremost function of COSEWIC is to "assess the status of each wildlife species considered by COSEWIC to be at ri...

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Attachments:

Document type:

COSEWIC Annual Reports

COSEWIC Status Reports

2

COSEWIC Assessment and Status Report on the Plains Bison *Bison bison* and the Wood Bison *Bison bison athabasca* in Canada

The American bison is a member of the wild cattle family and is the largest land mammal in North America. The two recognized subspecies--Plains Bison (

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Attachments:

COSEWIC Assessment and Status Report on the Plains Bison *Bison bison* and the Wood Bison *Bison bison athabasca* in Canada (2014-10-15)

[pdf](#) | [html](#)

Document type:

COSEWIC Status Reports

COSEWIC assessment and status report on the Plains Bison *Bison bison* in Canada

Plains bison, *Bison bison* Linnaeus 1758, are one of two subspecies of *Bison bison*, along with *Bison bison athabasca* Rhoads 1897, the wood bison.

Attachments:

COSEWIC assessment and status report on the Plains Bison *Bison bison* in Canada (2004-05-01)

[pdf](#) | [html](#)

Document type:

Consultation Documents

2

Consultation on Amending the List of Species under the Species at Risk Act : Terrestrial Species - January 2015



The Government of Canada is committed to preventing the disappearance of wildlife species at risk from our lands. As part of its strategy for realizing that commitment, on ...

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Attachments:

Consultation on Amending the List of Species under the Species at Risk Act : Terrestrial Species - January 2015 (2015-01-13) [pdf](#) | [html](#)

Consultation period:

2015-01-13 to 2015-10-15

Document type:

Consultation Documents

Consultation on Amending the List of Species under the Species at Risk Act: November 2004



The Government of Canada proclaimed the *Species at Risk Act* (SARA (Species at Risk Act)) on June 5, 2003 as part of its strategy for the protect...

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Attachments:

Consultation on Amending the List of Species under the Species at Risk Act: November 2004 (2004-11-23) [pdf](#) | [html](#)

Consultation period:

2004-11-23 to 2005-01-28

Document type:

Consultation Documents

Orders

2

Order Acknowledging Receipt of the Assessments Done Pursuant to Subsection 23(1) of the Act

The Order acknowledges receipt by the Governor in Council of the assessments of the status of wildlife species done pursuant to subsection 23(1) of the *Species at Risk* ...

Show more

Attachments:

Order Acknowledging Receipt of the Assessments Done Pursuant to Subsection 23(1) of the Act, Vol. 138, No. 22 (2004-10-19)

[pdf](#) | [html](#)

Document type:

Orders

Order Amending Schedules 1 to 3 to the Species at Risk Act (volume 139, number 15, 2005)



The Minister of the Environment is recommending, pursuant to section 27 of the *Species at Risk Act* (SARA), that 43 species be added to Schedule 1, the List of Wild...

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Attachments:

Canada Gazette Part 2 (Final Version) Order Giving Notice of Decisions (2005-07-27) [pdf](#) | [html](#)

Order Amending Schedules 1 to 3 to the Species at Risk Act - Vol. 139, No. 15 (2005-07-27) [pdf](#) | [html](#)

Order Amending Schedules 1 to 3 to the Species at Risk Act, Vol. 139, No. 20 [Proposed] (2005-05-16) [pdf](#) | [html](#)

Consultation period:

2005-05-16 to 2005-06-15

Document type:

Orders

Related Information

1

Environment and Climate Change Canada's Species at Risk Act (SARA) Listing Plan 2016 to 2018

The status of wildlife species is assessed by an independent panel of expert Canadian scientists, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Show more

Attachments:

Environment and Climate Change Canada's Species at Risk Act (SARA) Listing Plan 2016 to 2018 (2017-09-29) [pdf](#) | [html](#)

Document type:

Related Information

Reports on the Progress of Recovery Document Implementation

1

Implementation Report: Multi-species Action Plan for Grasslands National Park of Canada (2016 to 2021)

This document reports on implementation of the [Multi-species Action Plan for Grasslands National ...](#)

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Attachments:

Implementation Report: Multi-species Action Plan for Grasslands National Park of Canada (2016 to 2021) (2021-12-29)

[pdf](#) | [html](#)

Document type:

Reports on the Progress of Recovery Document Implementation

Response Statements

2

Response Statement - Plains Bison (2004)

There are currently about 700 mature bison of this subspecies in three free-ranging herds and about 250 semi-captive mature bison in Elk Island National Park. The largest free...

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Attachments:

Plains Bison (2004) - Response Statement (2004-10-22)

[pdf](#) | [html](#)

Document type:

Response Statements

Response Statement - Plains Bison (2015)



This bison occurs in only five isolated wild subpopulations in Canada. There are approximately 1,200 to 1,500 mature individuals, of which about half occur in one subpopulatio...

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Attachments:

Plains Bison (2015) - Response Statement (2015-01-13)

[pdf](#) | [html](#)

Consultation period:

2015-01-13 to 2015-10-15

Document type:

Response Statements

Permits

1

2020

1

Explanation for issuing permit (EI-2019-34617) pursuant to the provisions of section 74 of SARA - Plains Bison



This project involves baiting, handling, disease testing, and loading surplus wood bison from Elk Island National Park for removal from the park. Wood bison will be sorted ...

Show more

Issuing authority:

Parks Canada Agency

Permit period:

Footnotes

-
- 1 COSEWIC wildlife species assessment: quantitative criteria and guidelines
-