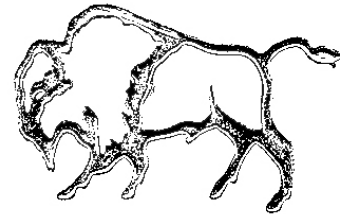


***IUCN-WCU NORTH AMERICAN
BISON SPECIALIST GROUP***



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October 2006

**Roles of the IUCN-WCU Species Survival Commission and the
North American Bison Specialist Group**

The IUCN-World Conservation Union is the world's largest conservation network. It is the only environmental organization with UN Observer status. The IUCN brings together 82 States, 111 government agencies, more than 800 non-governmental organizations (NGOs), and some 10,000 scientists and experts from 181 countries in a unique worldwide partnership supporting nature conservation. The Union's mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.



Dr. Cormack Gates and Dr. Wanda Olech, Co-Chairs of the IUCN Bison Specialist Group

The Species Survival Commission (SSC) is one of six commissions under the IUCN. It is a science-based network of some 7,000 volunteer experts from around the world, working towards achieving the vision of "A world that values and conserves present levels of biodiversity." Within the Species Survival Commission (SSC), over 110 specialist groups exist to observe species, monitor biodiversity, analyze issues, develop solutions, and implement conservation.

The Bison Specialist Group consists of two units, one for European bison and another for North American bison. The North American Bison Specialist Group (NABSG) contributes to the development of comprehensive and viable strategies and management actions to improve conservation and achieve ecological restoration of plains bison and wood bison where feasible throughout the original range of each subspecies.

**Who is involved on the NABSG:
Membership and Partnerships**

The NABSG is a network of people involved in bison conservation and recovery who are able to contribute scientific knowledge, effectively influence bison conservation, or engage in conservation projects. There are more than 60 registered members and numerous collaborators spanning the range of the



The NABSG was hosted at Ted Turner's Vermejo Park Ranch, NM in May 2005.

species from Mexico to Alaska. The U. S. Department of Interior (National Park Service, Fish and Wildlife Service) Parks Canada along with state and provincial agencies and academic institutions throughout North America (Canada, US, Mexico) are represented on the NABSG. Several major conservation organizations are working together with the North American Bison Specialist Group, including the World Wildlife Fund, the Wildlife Conservation Society and The Nature Conservancy. The Canadian Bison Association and National Bison Association, representing commercial bison producers, are also engaged with the North American Bison Specialist Group to develop guidelines for management of captive commercial populations for conservation objectives. Aboriginal North Americans are involved including the Council of Athabaskan Tribal Governments, The Intertribal Bison Cooperative, and others.

Purpose of the conservation status and action plan

The North American Bison Specialist Group is preparing a strategic document on the status and conservation of bison in North America. It will provide a concise, authoritative review of the history, biology and ecology of the two modern North American bison subspecies, plains bison and wood bison, and their current numerical and geographic status in Canada, Mexico and the United States. It offers



science and practice-based guidelines for management and restoration of populations and conservation of the genetic integrity of these subspecies. The document emphasizes the importance of maintaining the wild nature of bison and restoring populations, where feasible, where bison are an integral element of intact ecosystems, interacting with other native species, filling other ecological roles, and behaving as bison would under natural conditions.

The conservation action plan acknowledges the special historical and cultural ties between Native Peoples and bison and encourages the support of aboriginal and other local and rural communities in contributing to bison conservation and to ecosystem restoration and sustainability.

The engagement and support of resource management agencies and conservation organizations in conservation and recovery of bison as wildlife is essential.

Given the wide geographic distribution of private producers and the predominance of captive bison propagation, bison owners with an interest in maintaining the wild character of bison may choose to play a role in their conservation. The IUCN North American Bison Specialist Group is developing guidelines for conservation management of captive herds.



Key findings/messages contained in the conservation status and action plan

Status

Today, there are approximately half a million bison in North America. Despite this large number, there are reasons to be concerned about their conservation as a wildlife species:

- 95% are on about 4000 farms or ranches owned and operated by private entities. Privately owned bison are maintained in fenced areas ranging in size from a few acres to half a million acres and are under selection for market production.
- Of the approximately 20,000 bison in 53 herds managed in the public interest by government agencies and private conservation organizations, two-thirds have fewer than 50 animals. Only 13 of them (26%) have more than 400 animals and only 5 herds exceed 1000 animals.

- 16,000 bison are in free-ranging wild populations managed in the public interest. Only seven wood bison populations (numbering about 8,000), and 10 plains bison populations (also numbering about 8,000), are free-ranging (not confined by fences). Half of free-ranging wood bison are in one genetically diverse population that is infected with the exotic diseases tuberculosis and brucellosis originating from European cattle.
- Half of free ranging plains bison occur in one genetically diverse population that is infected with brucellosis.
- Within the U.S., there are no free-ranging, disease-free herds of wood or plains bison with more than 1000 animals. In Canada, there is only one free-ranging herd of plains bison larger than 1000 and free of exotic diseases, but it occurs outside of the original range of the subspecies. In Canada, there is only one herd of free-ranging wood bison within the original range of the subspecies that exceeds 1000 animals and is free of exotic cattle diseases. There is one free ranging plains bison herd in Mexico. It is in the border area adjacent to New Mexico. Bison are listed as an endangered species in Mexico, but as is the case in some other states and provinces, are not classified as wildlife in New Mexico.



The Janos-Hidalgo herd is the most southern wild bison population in North America. It resides in arid grasslands in the border area between Chihuahua and New Mexico.

Conservation issues

The large number of bison in captive herds may give an impression that bison are secure as a wild species. However, their security as a wild species depends on intentional management for conservation of genetic diversity, managing bison under conditions that allow bison to behave and interact with the natural environment as bison, and ensuring that ecological factors are present that influence the fitness of individuals and the continued evolution of the species. Conservation issues include:

Substitution of bison for cattle grazing does not necessarily contribute to bison conservation or to restoration of biodiversity, ecological processes and interactions. Many captive herds are managed in areas where the environment is missing natural elements such as predation, or where supplemental feeding is required because of limited habitat. Populations less than about 1000 may experience reduced genetic diversity and genetic drift if they are not augmented from time to time with bison from other populations. This problem is particularly a concern for populations numbering less than 400. Infection of wild bison herds with economically important exotic cattle diseases severely limits their use as a source of animals for augmenting or restoring bison herds elsewhere.

- Selection pressures on captive animals, whether they are in zoos, fenced rangelands or on farms, are substantially different from those in the wild. Captive bison are subject to inadvertent or intentional selection for heritable traits. For example, certain behavioral adaptations may be favored in captive populations. Selective breeding to improve market traits and productivity is commonly practiced by commercial producers, including selection for body conformation, coat color, improved rate of gain, docility, early maturation, and higher reproductive rates. Some managers interested in reducing feed costs and damage caused by mature males keep only a sufficient number younger bulls required for breeding. Mating competition is not typically an objective of commercial herd management.

- Forced cross-breeding between cattle and bison has left a legacy of cattle genes in many existing bison populations. The effects of cattle genes on bison are poorly understood but cattle genes may reduce longevity and alter the physiology of bison.
- Many public bison herds tested to date have a low level of introgression of cattle genes. There is no evidence of cattle genes in the largest genetically diverse plains bison (Yellowstone National Park) and wood bison populations (Wood Buffalo National Park), making them potentially important source populations for restoration projects. However, the presence of economically important diseases limits the use of these populations for translocations.
- Introductions of one subspecies within the original range of the other have occurred in several locations either intentionally or by accident. This has reduced the amount of habitat available for reintroducing the appropriate subspecies.

Potential for Ecological Restoration

As for any wildlife species, viable wild populations subject to the full range of natural limiting factors are of pre-eminent importance to long-term conservation, security and continued evolution of the species.

- The availability of extensive landscapes to restore and sustain large free-roaming plains bison populations is limited by challenging land tenure mosaics, competitive land uses, and legislative, policy and socioeconomic barriers. However, large intact grasslands exist on mixed parcels of private and public lands where projects may be possible with the support and coordinated involvement of local citizens, industry, and mandated agencies. Captive plains bison populations have the potential to play an important conservation role in these areas if managed for this purpose.
- Wood bison recovery is well underway in Canada. The potential for restoration of several large free ranging populations of bison is greater in the original range of wood bison than plains bison, because the boreal region has less agricultural and urban development than southern ranges.
- A large area in and around Wood Buffalo National Park holds a population of wood bison infected with tuberculosis and brucellosis. Alberta and the Northwest Territories have wild disease free wood bison populations in the vicinity that are at risk of infection.
- Alaska is the only range state for wood bison that has not implemented one or more restoration efforts. However, it has proposed and is pursuing the support of local communities and major non-government organizations for wood bison restoration, and is working to resolve federal regulatory and policy issues that have delayed implementation.
- Large areas of intact grassland are owned by aboriginal governments in the U.S. and Canada. Many aboriginal groups have undertaken bison projects, with management systems ranging from maximizing commercial production to maintaining herds as wildlife and use for cultural purposes.



Draft Guidelines for conservation and ecosystem restoration involving bison

The goal of the North American Bison Specialist Group is to offer guidance on how conservation and ecological restoration of bison can be achieved, recognizing:

- The principles of democratic governance in the three nations forming North America;
- The strong link between the stability of ecosystems and sustainable economic use of ecological resources, including bison;

- The ecological, economic and cultural values of intact ecosystems.

The North American Bison Specialist Group is defining principles and guidelines for working with governments, local and rural communities, and producers to plan, implement and manage projects contributing to bison conservation. The guidelines include:

- Genetic and population management of small (<400), mid-size (400 to 1000), and large populations (> 1000).
- Restoration of populations to unoccupied habitat.
- Managing bison populations in relation to biodiversity conservation (ecological roles, species interrelationships, ecological processes).
- Ecosystem restoration involving the integrated missions of ecology, economy and culture, to achieve sustainable, ecologically functioning systems in which bison conservation, biodiversity conservation, human-well being, culture and economy are integral components.

Bison conservation will have to become increasingly pragmatic, focusing on:

- Creating and maintaining several large, ecologically functioning and intact refugia in representative habitats within both subspecies' original ranges to sustain genetic and evolutionary potential of each sub-species;
- Encouraging managers of captive herds to conserve the wild character of their bison, including genetic integrity, behavioral characteristics, emulation of natural population structure and processes, and interactions with as many ecological elements as possible on confined landscapes;
- Restoring bison to some large agricultural landscapes currently managed primarily as grazing systems on mosaics of public and private lands.

Projects are encouraged that achieve the integrated missions of ecosystem management:

- Conservation of bison as wildlife;
- Maintaining biodiversity, ecological infrastructure and functions;
- Contribution to sustaining rural economies and the well-being of the human community;
- Cultural compatibility.

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The IUCN Red List

The IUCN Red List of Threatened Species provides taxonomic, conservation status and distribution information on taxa that have been globally evaluated using the IUCN Red List Categories and Criteria. The system is designed to determine the relative risk of extinction. The IUCN requires specialist groups to recommend an IUCN Red List designation for the species they focus on. This involves a systematic process of assessing the status of a species in relation to a comprehensive set of quantitative criteria. In 1996, the IUCN listed the North American bison as **LR/cd**, meaning it is at low risk of extinction, but its long term security as wildlife depends on careful management and conservation of its integrity as a wild species. The IUCN Red List designation for North American bison will be updated once the conservation status and action plan has been completed. Individual nations, states and provinces have other independent listing procedures defined under domestic legislation, regulations and policies.