[Revise the title of 4.0 as follows:]

4.0 Standards for Intelligent Mail and POSTNET Barcodes

4.1 General

[Revise the text of 4.1 as follows:]

Intelligent Mail barcodes and POSTNET (Postal Numeric Encoding Technique) barcodes are USPS-developed methods to encode ZIP Code information on mail that can be read for sorting by automated machines. Intelligent Mail barcodes also encode other tracking information. POSTNET barcodes do not qualify for automation pricing.

* * * * *

We will publish an appropriate amendment to 39 CFR Part 111 to reflect these changes.

Stanley F. Mires,

Attorney, Legal Policy & Legislative Advice.

[FR Doc. 2012–10505 Filed 5–2–12; 8:45 am]

BILLING CODE 7710–12–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R9–IA–2008–0123; FXES111309F2120D2–123–FF09E22000]

RIN 1018–AI83

Endangered and Threatened Wildlife and Plants; Reclassifying the Wood Bison Under the Endangered Species Act as Threatened Throughout Its Range

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), are reclassifying the wood bison (*Bison bison athabascae*) from endangered to threatened. This action is based on a review of the best available scientific and commercial data, which indicate that the primary threat that led to population decline, unregulated hunting, is no longer a threat and that recovery actions have led to a substantial increase in the number of herds that have a stable or increasing trend in population size. Critical habitat has not been designated because free-ranging wood bison only occur in Canada and we do not designate critical habitat in foreign countries.

DATES: This rule becomes effective June 4, 2012.

ADDRESSES: This final rule is available on the Internet at *http://www.regulations.gov* under Docket No. FWS–R9–IA–2008–0123 and at *http://alaska.fws.gov/fisheries/endangered/index.htm.* Comments and materials received, as well as supporting documentation used in the preparation of this rule, will be available for public inspection, by appointment, during normal business hours at: U.S. Fish and Wildlife Service, Alaska Regional Office, 1011 East Tudor Road, Anchorage, AK 99503; 907–786–3856.

FOR FURTHER INFORMATION CONTACT: Marilyn Myers at U.S. Fish and Wildlife Service, Fisheries and Ecological Services, 1011 E. Tudor Road, Anchorage, AK 99503; or telephone at 907–786–3559; or facsimile at 907–786–3848. If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. We listed the wood bison as endangered in 1970. Since listing, the status of wood bison has improved because enactment and enforcement of national and international laws and treaties have minimized the impacts of hunting and trade, and reintroduction of disease-free herds has increased the number of free-ranging herds in Canada from 1 population of 300 in 1978, to 7 populations totaling 4,414 bison in 2008. These free-ranging populations are stable or increasing. Therefore, we have determined that the wood bison no longer meets the definition of endangered under the Endangered Species Act.

This rule changes the listing of the wood bison from endangered to threatened.

Basis for our action. While we have determined that the wood bison no longer meets the definition of endangered under the Endangered Species Act, some threats to wood bison remain. Habitat loss has occurred in Canada from agricultural development, and we expect losses will continue in concert with human growth and expansion of agriculture, including commercial bison production. The presence of disease in Canada constrains herd growth, and regulatory mechanisms are inadequate to prevent disease transmission within Canada. However, the continued reintroduction of disease-free herds, the ongoing development and updating of management plans, the active management of herds, the ongoing research, and the protections provided by laws and protected lands provide compelling evidence that recovery actions have been successful in reducing the risk of extinction associated with the threats identified. Therefore, we are reclassifying the wood bison from endangered to threatened.

The majority of comments we received support this action. The majority of comments (13 of 19) supported downlisting. A subset of these comments (7 of the 13) asserted that the Service should delist the species immediately. Three comments stated that wood bison should remain listed as endangered. The peer review comments provided very specific corrections to details about two of the wood bison herds in Canada, and we have updated our information in this rule accordingly, but these changes do not alter our finding.

Background

Previous Federal Actions

The listing history for wood bison is extensive and was described in the proposed rule published on February 8, 2011 (76 FR 6734). Please refer to that proposed rule for the complete listing history. Here we present only the most pertinent facts.

The wood bison became listed in the United States under the 1969 Endangered Species Conservation Act when it was included on the first List of Endangered Foreign Fish and Wildlife, which was published in the **Federal Register** on June 2, 1970 (35 FR 8491). In 1974, the first list of federally protected species under the 1973 Endangered Species Act (Act; 16 U.S.C. 1531 *et seq.*) appeared in the Code of Federal Regulations (CFR), and the wood bison appeared on this list based on its inclusion on the original 1969 list. Because the wood bison was listed under the 1969 Endangered Species Conservation Act and grandfathered in for protection under the Act, there is not a separate **Federal Register** notice that defined the population(s) and their range or analyzed threats to the species. The wood bison was classified as endangered and has retained that designation since the original listing.

On May 14, 1998, the Service received a petition from a private individual requesting that the Service remove the wood bison from the List of Endangered and Threatened Wildlife, primarily because it had been downgraded from an Appendix I to an Appendix II species under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In a 90-day finding published on November 25, 1998 (63 FR 65164), we found that the petitioner did not provide substantial

information to indicate that the delisting may be warranted.

On November 26, 2007, we received a petition from the co-chairs of Canada's National Wood Bison Recovery Team, requesting that we reclassify the wood bison from endangered to threatened. On February 3, 2009, we published a 90-day finding (74 FR 5908) acknowledging that the petition provided sufficient information to indicate that reclassification may be warranted and that we would initiate a status review. On February 8, 2011, we announced the completion of our status review of the species, which also constituted our 5-year review under section 4(c)(2) of the Act, and issued a proposed rule to reclassify the wood bison from an endangered species to a threatened species (76 FR 6734). This document is our final rule to reclassify the wood bison from endangered to threatened.

Species Information

Taxonomy and Species Description

Wood bison (*Bison bison athabascae*) belongs to the family Bovidae, which also includes cattle, sheep, and goats. Debate over the generic name *Bison* continues with some authorities using *Bos* and others using *Bison* depending on the methodology used to determine relationships among members of the tribe Bovini (Asian water buffalo, African buffalo, cattle and their wild relatives, and bison) (Boyd *et al.* 2010, pp. 13–15). In this discussion, we will use *Bison,* which is consistent with ''Wild Mammals of North America'' (Reynolds *et al.* 2003, p. 1010), ''Mammal Species of the World'' (Wilson and Reeder 2005, p. 689), and the Wood Bison Recovery Team (Gates *et al.* 2001, p. 25). Wood bison was first described as a subspecies in 1897 (Rhoads 1897, pp. 498–500). One other extant bison subspecies, the plains bison (*B. b. bison*), occurs in the United States and Canada. Based on the historical physical separation and quantifiable behavioral, morphological, and phenological (appearance) differences between the two subspecies, the scientific evidence indicates that subspecific designation is appropriate (van Zyll de Jong *et al.* 1995, p. 403; FEAP 1990, p. 24; Reynolds *et al.* 2003, p. 1010; Gates *et al.* 2010, pp. 15–17).

Wood bison is the largest native extant terrestrial mammal in North America (Reynolds *et al.* 2003, p. 1015). Average weight of mature males (age 8) is 910 kilograms (kg) (2,006 pounds (lb)) and the average weight of mature females (age 13) is 440 kg (970 lb) (Reynolds *et al.* 2003, p. 1015). They have a large triangular head, a thin beard and rudimentary throat mane, and a poorly demarcated cape (Boyd *et al.* 2010, p. 16). In addition, the highest point of their hump is forward of their front legs; they have reduced chaps on their front legs; and their horns usually extend above the hair on their head (Boyd *et al.* 2010, p. 16). These physical characteristics distinguish them from the plains bison (Reynolds *et al.* 2003, p. 1015; Boyd *et al.* 2010, p. 16).

Distribution

The exact extent of the original range of wood bison cannot be determined with certainty based on available information, but was limited to North America (Gates *et al.* 2001, p. 11). However, historically, the range of the wood bison was generally north of that occupied by the plains bison and included most boreal regions of northern Alberta, northeastern British Columbia east of Cordillera, a small portion of northwestern Saskatchewan, the western Northwest Territories south and west of Great Slave Lake, the Mackenzie River Valley, most of The Yukon Territory, and much of interior Alaska (Reynolds *et al.* 2003, pp. 1011–1012). Skinner and Kaisen (1947, pp. 158, 164) suggested that the prehistorical U.S. range extended from Alaska to Colorado, and Stephenson *et al.* (2001, p. 140) concluded that wood bison were present within the boundaries of what is now defined as Alaska until their disappearance during the last few hundred years. Currently, there is a wild population neither in Alaska nor in the continental United States (Harper and Gates 2000, p. 917; Stephenson *et al.* 2001, p. 140).

During the early 1800s, wood bison numbers were estimated at 168,000, but by the late 1800s, the subspecies was nearly eliminated, with only a few hundred remaining (Gates *et al.* 2001, p. 11). In the words of Soper (1941, p. 362), wood ''bison appear to have been practically exterminated,'' and based on the fate of plains bison, in which 40 to 60 million animals were reduced to just over 1,000 animals in less than 100 years (Hornaday 1889; Wilson and Strobeck 1998, p. 180), overharvest may have been the cause for the decline (Harper and Gates 2000, p. 915). The fact that populations began to rebound once protection was in place and enforced supports this idea (Soper 1941, pp. 362–363). In 1922, Wood Buffalo National Park (WBNP) was set aside for the protection of the last remnant population of wood bison. Since that time, several additional herds have been established (Table 1).

TABLE 1—SIZES OF WOOD BISON HERDS IN CANADA FROM 1978 TO 2008 (DATA PROVIDED BY CANADIAN WILDLIFE SERVICE)

Herd category and name	1978	1988	2000	2002	2004	2006	2008
Free-ranging, disease-free herds:							
Mackenzie	300	1,718	1,908	2,000	2,000	~ 2,000	1,600
Nahanni	.....	30	160	170	399	400	400
Aishihik	.....	.....	500	530	550	700	1,100
Hay-Zama	.....	.....	130	234	350	600	750
Nordquist	.....	.....	50	60	112	140	140
Etthithun	.....	.....	.....	43	70	124	124
Chitek Lake	.....	.....	70	100	150	225	300
Free-ranging, diseased herds:							
Wood Buffalo [1] National Park	.....	.....	2,178	4,050	[2] 4,947	[3] 5,641	[4] 4,639

[1] Excluding adjacent diseased Wentzel, Wabasca, and Slave River Lowlands herds.
[2] Population estimate for year 2003.
[3] Population estimate for year 2005.
[4] Population estimate for year 2007.

Another factor that is thought to have played a role in the decline in wood bison is a gradual loss of meadow habitat through forest encroachment (Stephenson *et al.* 2001, p. 143; Quinlan *et al.* 2003, p. 343; Strong and Gates

2009, p. 439). Although not quantified, it is likely that because of fire suppression, and subsequent forest encroachment on meadows, there was a net loss of suitable open meadow habitat for wood bison throughout their range through about 1990. More intensive fire management began in Canada in the early 1900s with the philosophy that fire was destructive and should be eliminated to protect property and permit proper forest management (Stocks *et al.* 2003, p. 2). However, wildfire is an integral component of boreal forest ecology (Weber and Flannigan 1997, p. 146; Rupp *et al.* 2004, p. 213; Soja *et al.* 2007, p. 277). Without fire, trees encroach on meadows and eventually the meadow habitat is lost and replaced by forest.

Habitat

The foraging habitats most favored by wood bison are grass and sedge meadows occurring on alkaline soils. These meadows are typically interspersed among tracts of coniferous forest, stands of poplar or aspen, bogs, fens, and shrublands. Meadows typically represent 5 to 20 percent of the landscape occupied by wood bison (Larter and Gates 1991a, p. 2682; Gates *et al.* 2001, p. 23). Wet meadows are rarely used in the summer, probably because of the energy required to maneuver through the mud, but they are used in late summer when they become drier, and in the winter when they freeze (Larter and Gates 1991b, pp. 133, 135; Strong and Gates 2009, p. 438).

Biology

Because wood bison can thrive on coarse grasses and sedges, they occupy a niche within the boreal forest that is not utilized by other northern herbivores such as moose or caribou (Gates *et al.* 2001, p. 25). Several studies indicate that wood bison prefer sedges (*Carex* spp.), which can comprise up to 98 percent of the winter diet (Reynolds *et al.* 1978, p. 586; Smith 1990, p. 88; Larter and Gates 1991a, p. 2679; Fortin *et al.* 2003, pp. 224–225). Seasonally, other important diet items include grasses, willow, and lichen (Reynolds *et al.* 1978, p. 586; Smith 1990, p. 88; Larter and Gates 1991a, pp. 2680–2681; Fortin *et al.* 2003, pp. 224–225).

Free-ranging wood bison roam extensively with annual maximum traveling distance from each individual's center-of-activity averaging from 45 to 50 kilometers (km) (28 to 31 miles (mi)) (Chen and Morley 2005, p. 430). However, some captive animals released into the wild have traveled over 250 km (155 mi) (Gates *et al.* 1992, pp. 151–152). Herds are fluid, and individuals interchange freely (Fuller 1960, p. 15; Wilson *et al.* 2002, p. 1545). Wood bison travel between favored foraging habitats along direct routes including established trails, roads, river corridors, and transmission lines (Reynolds *et al.* 1978, p. 587; Mitchell 2002, p. 50). Bison are also powerful swimmers and will cross even large rivers such as the Peace, Slave, Liard, and Nahanni to reach forage, provided that there are low banks for entry and exit (Fuller 1960, p. 5; Mitchell 2002, pp. 32, 50; Larter *et al.* 2003, pp. 408–412).

The wood bison's breeding season is from July to October. The age of first reproduction depends on nutritional condition and disease status, and is therefore variable (Gates *et al.* 2010, p. 49). Females typically produce their first calf when they are 3 years old and may be reproductively successful up to age 20 (Wilson *et al.* 2002, p. 1545). Although capable of reproduction at age 2, males typically do not participate in the rut until they are 5 or 6, and reproductive success is at its maximum between ages 7 and 14 (Wilson *et al.* 2002, pp. 1538, 1544). Bison have a polygynous mating system, in which one male mates with several females (Wilson *et al.* 2002, p. 1538). When habitat is adequate and there are no other limiting factors such as disease and predation, wood bison populations have expanded exponentially (FEAP 1990, pp. 34–35; Gates and Larter 1990, p. 233). Consequently, newly introduced populations have the capacity to grow quickly, as demonstrated by the Mackenzie herd (Gates and Larter 1990, p. 235).

Wood bison are susceptible to a variety of diseases that may affect their population dynamics. The most important are anthrax, bovine brucellosis, and bovine tuberculosis, none of which are endemic to wood bison (Gates *et al.* 2010, pp. 28–32). Anthrax is an infectious bacterial disease that is transmitted through the inhalation or ingestion of endospores (Gates *et al.* 2010, p. 28). The disease is rapidly fatal, with death usually occurring within several days once the clinical signs appear (Dragon *et al.* 1999, p. 209). Between 1962 and 1993, nine outbreaks were recorded in northern Canada, killing at least 1,309 bison (Dragon *et al.* 1999, p. 209). Additional outbreaks continued to occur through at least 2010 (GNT 2010, p. 9). Factors associated with outbreaks are high ambient temperatures, high densities of insects, and high densities of bison as they congregate in areas of diminishing forage and water (Dragon *et al.* 1999, p. 212). Sexually mature males are more susceptible than cows, juveniles, or calves, perhaps because of elevated levels of testosterone (Dragon *et al.* 1999, p. 211). Anthrax is not treatable in free-ranging wildlife, but captive bison can be vaccinated effectively and treated with antibiotics (Gates *et al.* 2001, p. 22)

Bovine brucellosis is caused by the bacterium *Brucella abortus* (Tessaro 1989, p. 416). Although the primary hosts are bovids, other ungulates such as elk can be infected. The disease is primarily transmitted through oral contact with aborted fetuses, contaminated placentas, and uterine discharges. Greater than 90 percent of infected female bison abort during their first pregnancy (Gates *et al.* 2010, p. 30). Naturally acquired immunity reduces the abortion rate with subsequent pregnancies (Aune and Gates 2010, p. 30). Male bison experience inflammation of their reproductive organs and, in advanced cases, sterility. Both sexes are susceptible to bursitis and arthritis caused by concentrations of the bacterium in the joints, which may make them more susceptible to predation (Joly 2001, pp. 97–98). Two vaccines, S19 and SR B51, have been developed in an attempt to prevent bovine brucellosis (Aune and Gates 2010, pp. 30–31); however, brucellosis remains extremely difficult to eradicate in ungulates. The combined use of quarantine protocols, serum testing, slaughter, and vaccination is being explored as a means of controlling the disease (Nishi *et al.* 2002, pp. 230–233; Bienen and Tabor 2006, pp. 324–325; Aune and Gates 2010, p. 31).

Bovine tuberculosis is a chronic infectious disease caused by the bacterium *Mycobacterium bovis* (Tessaro 1989, p. 417). Historical evidence indicates that bovine tuberculosis did not occur in bison prior to contact with infected domestic cattle (Tessaro 1989, p. 416). Wood bison were infected in the 1920s, when plains bison were introduced into the range of wood bison (Tessaro 1989, p. 417). Currently, the disease is concentrated in bison in and near WBNP (Wabasca, Wentzel, and Slave River Lowlands herds). The disease is primarily transmitted by inhalation and ingestion of the bacterium, but may also pass to offspring through the placenta or contaminated milk (FEAP 1990, p. 11). Bovine tuberculosis is a chronic disease that progressively becomes debilitating; advanced cases are fatal. There is not an effective vaccine for immunization against tuberculosis (FEAP 1990, p. 2).

Wood bison herds in and around WBNP, Alberta and the Northwest Territories, Canada, are infected with brucellosis and bovine tuberculosis.

These diseased herds account for about half of the free-ranging wood bison and are the only known reservoirs of tuberculosis and brucellosis among the herds (Gates *et al.* 2010, pp. 4, 35). Approximately 30 percent of the animals in these herds test positive for brucellosis, and 21 to 49 percent test positive for tuberculosis. The combined prevalence of the two diseases is 42 percent (Tessaro *et al.* 1990, p. 174; Gates *et al.* 2010, p. 35). Wood bison cows infected with both tuberculosis and brucellosis are less likely to be pregnant, and infected herds are more likely to have their populations regulated by wolf predation (Tessaro *et al.* 1990, p. 179; Joly and Messier 2004, p. 1173; Joly and Messier 2005, p. 549). Unlike anthrax, which occurs in outbreaks in which many animals die at one time, brucellosis and tuberculosis are chronic diseases that weaken animals over time.

Conservation Status

In Canada, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) was established in 1977, to assess species' status and evaluate their risk of extinction. In 1978, the COSEWIC designated wood bison as endangered, based primarily on the fact that there were only about 400 disease-free wood bison: 100 in a captive herd and 300 in a free-ranging herd. In 1988, wood bison was downlisted to threatened in Canada because of data presented in a status report prepared by the National Wood Bison Recovery Team that documented progress towards recovery (Gates *et al.* 2001, p. 28; Gates *et al.* 2010, p. 65). A review by the COSEWIC in 2000 confirmed that ''threatened'' was the appropriate designation at that time (Gates *et al.* 2010, p. 65).

The wood bison was listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) on July 1, 1975, when the treaty first went into effect. On September 18, 1997, it was transferred to Appendix II, based on a proposal from Canada that described progress in implementation of the Canadian recovery plan (Government of Canada 1997, entire). CITES Appendix-II species are not necessarily considered to be threatened with extinction now but may become so unless trade in the species is regulated. The United States supported this change.

Recovery Actions

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species, unless the Director determines that such a plan will not promote the conservation of the species. The Service has not developed a recovery plan for wood bison, because no wild populations of wood bison currently exist in the United States. In Canada, the National Wood Bison Recovery Team published a national recovery plan in 2001 (Gates *et al.* 2001), and is currently preparing a revision to the plan. The purpose of the recovery plan is to advance the recovery of the wood bison; specific criteria for delisting under Canada's Species at Risk Act (SARA) were not specified. Management plans for the provinces support the goals and objectives of the National Recovery Plan (e.g., Harper and Gates 2000, p. 917; GNT 2010, p. 1). Four goals were established to advance the recovery of wood bison (Gates *et al.* 2001):

(1) To reestablish at least four discrete, free-ranging, disease-free, and viable populations of 400 or more wood bison in Canada, emphasizing recovery in their original range, thereby enhancing the prospects for survival of the subspecies and contributing to the maintenance of ecological processes and biological diversity.

(2) To foster the restoration of wood bison in other parts of their original range and in suitable habitat elsewhere, thereby ensuring their long-term survival.

(3) To ensure that the genetic integrity of wood bison is maintained without further loss as a consequence of human intervention.

(4) To restore disease-free wood bison herds, thereby contributing to the aesthetic, cultural, economic, and social well-being of local communities and society in general.

Revisions to the U.S. List of Endangered and Threatened Wildlife (adding, removing, or reclassifying a species) must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is endangered or threatened, as defined by the Act, because of one or more of the five factors outlined in section 4(a)(1). In other words, an analysis of the five factors under 4(a)(1) can result in a determination that a species is no longer endangered or threatened. Section 4(b) requires that the determination made under section 4(a)(1) be based on the best scientific and commercial data available and after taking into account those efforts, if any, being made by any State or foreign nation to protect such species. Here, we rely on the five-factor analysis to determine if it is appropriate to reclassify wood bison. We also take into consideration the conservation actions that have occurred, are ongoing, and are planned.

In 1978, there was one free-ranging, disease-free herd with 300 individuals: the MacKenzie herd (see Table 1, above). By 2000, when the last Canadian status review was conducted, the number of disease-free herds had grown to 6, with a total of approximately 2,800 individuals (see Table 1, above). Since 2000, an additional herd has been established bringing the total number to 7, and the number of disease-free, free-ranging bison has increased to approximately 4,400 (see Table 1, above). Four of the herds have a population of 400 or more, meeting recovery goal number 1 (see Table 1, above). The free-ranging, disease-free herds are discussed in detail below.

Free-Ranging, Disease-Free Herds

The Mackenzie bison herd was established in 1963, with the translocation of 18 wood bison that were originally captured in an isolated area of WBNP. This herd is currently the largest free-ranging, disease-free herd of wood bison, with approximately 1,600 to 2,000 animals (Reynolds *et al.* 2004, p. 7). The Mackenzie Bison Sanctuary was established in 1979, and encompasses an area of 6,300 km^2 (2,432 mi^2) northwest of Great Slave Lake. The current range of the Mackenzie bison herd (12,000 km^2 (4,633 mi^2)) extends well beyond the boundaries of the sanctuary. In 2010, the Government of Northwest Territories released the final Wood Bison Management Strategy. It indicates that there is sufficient habitat in the Northwest Territories to support expanding bison populations (GNWT 2010, p. 9). Habitat protection within the range of the Mackenzie bison herd is facilitated through the Species at Risk Act (SARA), Canada's equivalent to the Act, and the Mackenzie Valley Resource Management Act of 1998. Although the Mackenzie Valley Resource Management Act does not specifically provide protection to wood bison, it did create a Land and Water Board (LWB), which is given the power to regulate the use of land and water, including the issuance of land use permits and water licenses. Under current management, an annual harvest is allowed (described under Factor B below), and the Mackenzie herd size has been greater than the recovery target of 400 since 1987, with approximately 1,600 to 2,000 animals (Gates and Larter 1999, p. 233; see Table 1, above). Thus, the

Mackenzie herd contributes to recovery goals 1 and 4.

Five releases of wood bison totaling 170 animals from 1988 to 1991 established the Aishihik herd in southwestern Yukon, in a remote area west of Whitehorse, Canada. Herd size has totaled over 400 since 1999 (Gates *et al.* 2001, p. 14; see Table 1, above). With a current population of approximately 1,100 animals, it is the second-largest herd. The herd inhabits approximately 9,000 km^2 (3,475 mi^2) of largely undeveloped habitat near the community of Haines Junction, adjacent to Kluane National Park. Less than 5 percent of the range of the Aishihik herd is on private lands (First Nation Settlement Lands), and these landowners participate in a management planning team specifically for this herd. The remainder of the herd's range is owned by the Government of Canada, and there are no threats to habitat in this area (Reynolds *et al.* 2004, p. 9). The herd has room to expand or shift its range, because there are no large-scale developments east, west, or north of the present range for several hundred kilometers. Small-scale agricultural development to the south of the present range, however, could restrict range expansion in that direction (Reynolds *et al.* 2004, p. 9). Regulated hunting occurs on this herd (described under Factor B below). Other than regulated harvest, no other limiting factors have been identified (Reynolds *et al.* 2004, p. 17). The Aishihik herd contributes to recovery goals 1, 2, and 4.

The Hay-Zama herd was established in 1984, when 29 wood bison were transferred from Elk Island National Park to the holding corral site near Hay-Zama Lakes, Alberta (Gates *et al.* 2001, p. 17). A herd of 48 wood bison became free-ranging when portions of the corral they were being held in collapsed in 1993 (Gates *et al.* 2001, p. 17). Since then, the free-ranging herd has grown to approximately 750 animals (Table 1), thus contributing to recovery goals 1, 2, and 4. In 1995, the Government of Alberta established a 36,000 km^2 (13,900 mi^2) Bison Management Area around the Hay-Zama herd in the northwestern corner of the province. In this area, all wood bison are legally protected from hunting under Alberta's Wildlife Act; outside of the area they are not protected. Collisions with vehicles are the largest source of known mortality for individuals in this herd (Mitchell and Gates 2002, p. 9).

The Nahanni herd, established in 1980 with the release of 28 wood bison, occurs primarily in the Northwest Territories and extends into southeast Yukon and northeast British Columbia. The population was bolstered by two supplemental releases in 1989 and 1998, of 12 and 59 animals, respectively (Larter and Allaire 2007, p. 3). Population size has been approximately 400 animals or more since 2006, and, based on surveys, was estimated at 413 in 2010 (Larter, GNWT, 2010, pers. comm.). There is currently sufficient habitat to support the expanding population (GNT 2010, p. 9).

The Nordquist herd was established in 1995, near the Laird River in northeastern British Columbia (see Table 1, above). Because the majority of the herd occupies habitat near the Alaska Highway, vehicle collisions are a source of mortality (Reynolds *et al.* 2009, p. 6). It is anticipated that the Nordquist and Nahanni herds will eventually coalesce into one herd because of their close proximity and the presence of river corridors that provide travel corridors (Gates *et al.* 2001, p. 18). Although it has not yet occurred, combination of the two herds would create a herd with numbers that exceed the recovery criterion of 400 (see Table 1, above).

The Etthithun herd was established in 2002, near Etthithun Lake, British Columbia. Factors limiting the size of this herd include the amount and location of suitable habitat, conflicts with humans and industrial development, and potential contact with commercial plains bison (BC MOE, pers. comm., 2010). Current population size is approximately 124 (see Table 1, above); consequently, this herd does not currently meet the recovery criterion of 400 individuals. However, it does contribute to recovery goals 2 and 4.

The Chitek Lake herd was established in 1991, in Manitoba, Canada. The Chitek Lake Wood Bison Management Committee plans to maintain the herd at approximately 300 animals to keep the herd within carrying capacity of the habitat. The 100,300-hectare (ha) (25,452-acre (ac)) Chitek Lake Park Reserve provides habitat protection for the core range of the herd. Limiting factors for the herd include accidental mortality from drowning, starvation in bad winters, and predation from wolves (Manitoba Conservation, pers. comm., 2010). Although outside of the historic range of wood bison, Chitek Lake herd plays an important role in wood bison conservation because it is an isolated, disease-free herd and, consequently, provides security to the species through population redundancy, thus contributing to recovery goal 2.

Captive, Disease-Free Herds

In addition to the free-ranging wood bison herds discussed above, four captive herds have been established, although only three are currently viable. The Elk Island National Park herd in Alberta, Canada, was established in 1965, from wood bison transferred from an isolated portion of WBNP. It is the national conservation herd and has provided disease-free stock for six of the free-ranging populations and several captive breeding herds in zoos and private commercial ranches (Gates *et al.* 1992, p. 153). Carrying capacity at Elk Island National Park is approximately 350 animals; animals above this number are regarded as surplus and are removed to establish and supplement free-roaming populations in former areas of their historic range (Parks Canada 2009a, unpaginated). Although the herd is fenced, the animals are semi-wild and spend the majority of their time roaming the 65 km^2 (25 mi^2) enclosure, interacting with the environment in a largely natural manner (Gates *et al.* 2001, p. 18). The herd is rounded up annually to test for disease and to vaccinate for common cattle diseases. The age, sex, and condition of all the individuals are determined to inform management decisions. Using this information, individuals are selected for sale, donation, or the establishment of new herds, which also controls the population size of the herd (Parks Canada 2009b, unpaginated). This conservation herd contributes to recovery goals 2, 3, and 4.

The Hook Lake Wood Bison Recovery Project was initiated to establish a captive, disease-free herd from a wild herd infected with brucellosis and tuberculosis. The overall objective of the project was to determine the feasibility of genetic salvage from a diseased herd (Nishi *et al.* 2002, p. 230). Specific objectives of the project were to conserve the genetic integrity of the wild herd by capturing an adequate number of calves, provide intensive veterinary and preventative drug treatment to eliminate disease from the calves, and raise a disease-free herd from the salvaged calves (Nishi *et al.* 2002, p. 229). From 1996 to 1998, 62 calves were captured. The disease eradication protocol included orphaning newborn, wild-caught calves to minimize their exposure to *B. abortus* and *M. bovis;* testing calves for antibodies to brucellosis prior to inclusion in the new herd; treating with antimycobacterial and anti-*Brucella* drugs; and intensive, whole-herd testing for both diseases (Nishi *et al.* 2002, p. 229). By 2002, the herd size was 122. In

2006, after 9 years of intensive management, the herd was destroyed because bovine tuberculosis was discovered in 2005 in 2 founding animals and 10 captive-born animals, even though all animals initially tested disease-free. The herd provided valuable information on genetic salvage, genetic management, captive breeding for conservation, disease testing, and the difficulties involved in eradicating disease (Wilson *et al.* 2003, pp. 24–35). The Hook Lake Herd contributed to recovery goal 3.

In April 2006, 30 wood bison calves were transferred from Elk Island National Park to Lenski Stolby Nature Park near Yakutsk, Sahka Republic (Yakutia), Russia. An additional 30 head were transferred in 2011. Although outside the historical range, this was an opportunity to create another geographically separate population that provides added security to the species through population redundancy, thereby contributing to recovery goal 2. Transfer of wood bison to Russia was specifically mentioned in the recovery plan because it would contribute to the global security of the species (Gates *et al.,* 2001, p. 14).

In June 2008, 53 disease-free wood bison were transferred from Elk Island National Park to the Alaska Wildlife Conservation Center in Portage, Alaska. Consequently, this captive herd currently contributes to recovery goal number 2 through population redundancy. Ultimately, the Alaska Department of Fish and Game (ADFG) plans to restore wood bison populations in one to three areas in interior Alaska, with potential herd size of 500 to 2,000 or more depending on the location (ADF&G 2007, p. 79). Environmental analysis of the project is currently under review. The National Wood Bison Recovery Team in Canada recommended establishing one or more populations in Alaska in areas that can support 400 or more animals (Gates *et al.* 2001, p. 31). Establishment of one or more herds in Alaska would be a significant contribution to increasing the number of secure, disease-free, free-roaming herds.

Summary of Progress Toward Recovery

In summary, since 1978, the number of free-ranging, disease-free herds has increased from 1 to 7, and the number of wood bison has increased from approximately 400 to over 4,000. The first recovery goal of establishing 4 free-ranging, disease-free herds with 400 or more animals has been met, and planning is underway to create one or more herds in Alaska. Although the number of herds needed to meet recovery goal 2 was not specified, progress has been made on the second goal with the establishment of disease-free herds in Russia; Manitoba, Canada; and Alaska. The Hook Lake Bison Recovery Project was a well-planned, science-based attempt to conserve the genetic diversity of a diseased herd and would have contributed greatly to recovery goal 3. Although ultimately the project was unsuccessful, a great deal of knowledge was gained (Wilson *et al.* 2003, pp. 62–67). The wood bison recovery team is very aware of the need to maintain genetic diversity in the herds and establishes new herds with the goal of maintaining genetic diversity through multiple introductions (i.e., the Aishihik herd, Nahanni, and Hook Lake herds). The establishment of six additional herds on the landscape since 1978 contributes to recovery goal 4. In addition, the captive population at Elk Island National Park has provided disease-free stock for those six additional herds and two captive herds. It is clear that there is active management of the herds, and multiple avenues of research are being funded and pursued regarding the biology and management of wood bison. Progress towards the recovery goals outlined in the national recovery plan, published by the National Wood Bison Recovery Team, is moving forward steadily.

Summary of Comments and Recommendations

In the proposed rule published on February 8, 2011 (76 FR 6734), we requested that all interested parties submit written comments on the proposal by April 11, 2011. We also contacted appropriate Federal and State agencies, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. We did not receive any requests for a public hearing.

During the comment period for the proposed rule, we received 19 comment letters directly addressing the proposed listing of wood bison with threatened status. All substantive information provided during the comment period has either been incorporated directly into this final determination or addressed below. Several of the comments included opinions or information not directly related to the proposed rule, such as views relating to the reintroduction of wood bison into Alaska. We do not address those comments as they do not have bearing on the reclassification of wood bison.

Peer Review

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinion from three knowledgeable individuals with scientific expertise that included familiarity with wood bison and its habitat, biological needs, recovery efforts, and threats. We received a response from one of the peer reviewers.

We reviewed all comments received for substantive issues and new information regarding the listing of wood bison. The majority of comments (13 of 19) supported downlisting. A subset of these commenters (7 of the 13) thought the Service should delist the species immediately. Three commenters felt that wood bison should remain listed as endangered. The peer reviewer comments are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Reviewer Comments

(1) *Comment:* The peer reviewer provided very specific corrections to details about two of the wood bison herds in Canada, the Nahanni and Mackenzie.

Our Response: As the reviewer noted, and we agree, the changes do not alter our finding. We have incorporated the details and updates for the Canadian herds provided by the reviewer into this final rule.

Comments From State of Alaska

Comments received from the State of Alaska regarding the proposal to reclassify the wood bison are addressed below.

(2) *Comment:* The State agrees that ''endangered'' is not the appropriate designation for wood bison but states that the species should be removed from the List of Endangered and Threatened Wildlife (delisted), not reclassified as threatened. Several other commenters came to the same conclusion. They argue that recovery efforts in Canada have been successful enough that delisting is warranted.

Our Response: We agree that conservation efforts in Canada have led to significant increases in the number of herds and herd size. However, we also recognize that threats to the species, in particular disease, loss of habitat, and hybridization with plains bison, persist, and delisting is therefore not yet appropriate. We will continue to follow the progress of conservation efforts, and we will propose to delist wood bison if and when appropriate.

(3) *Comment:* The State and several commenters argued that listing under the Act provides no conservation benefits for the species in the United States, and may in fact be impeding conservation by making it more difficult to reintroduce wood bison into Alaska.

Our Response: Under section 4(b)(1)(A) of the Act, the Service must base a status determination solely on the best scientific and commercial data available. Thus, we cannot and did not base the decision to reclassify the wood bison under the Act on the efficacy of this action to conserve the species. Nevertheless, we disagree that listing is impeding conservation by making it more difficult to reintroduce the species to Alaska. Under the provisions of the Act's section 10(j), wood bison could be reintroduced into Alaska as an experimental, nonessential population. We have been working with the Alaska Department of Fish and Game on such a proposal, and both agencies agree that this approach may be a viable method for the reintroduction. Designating wood bison as an experimental, nonessential population would not only provide the means for reintroducing the animals, it would also provide assurances that conflicts with potential development would be minimal. Critical habitat is not designated for experimental, nonessential populations.

(4) *Comment:* The State commented that the only real impact from listing was to deny sportsmen the opportunity to import legally harvested wood bison trophies from Canada.

Our Response: We recognize that regulated hunting is an important component of Canada's recovery plan for the species; however, as explained above, listing determinations are based on evaluation of the factors affecting the species under section 4(a)(1) of the Act, using the best scientific and commercial information available. It is important to note that, under section 9(c)(2) of the Act, when the wood bison is reclassified to threatened status (see **DATES**, above), importation into the United States of sport-hunted trophies taken from Canada would not require a permit under 50 CFR 17.32, provided that a CITES Appendix-II export permit issued by the Canadian government accompanies the trophy when it arrives into the United States.

Federal Agency (Canada) Comments

(5) *Comment:* We received two responses from the Northwest Territories. Both included specific minor corrections regarding herds, and both supported downlisting.

Our Response: The commenters stated, and we agree, that none of the corrections were significant in terms of the finding. We have incorporated the details and updates for the Canadian herds provided by the reviewers in this final rule.

Public Comments

(6) *Comment:* A few commenters argued that wood bison should remain listed as endangered. In summary, the reasoning presented was that the populations were too small, there is not enough habitat available, and hunting should not be allowed because of the small population sizes.

Our Response: The Canada's National Wood Bison Recovery Team and recovery plan set forth the reasoning for maintaining a minimum population (herd) size of 400 (Gates *et al.* 2001, p. 32). At this point, there are more than 4,000 disease-free wood bison in 7 herds and an additional 4,000 animals in WBNP that are subject to disease but have a stable population. Four separate disease-free populations have 400 or more animals (see Table 1, above). In addition, it has been demonstrated that wood bison, like plains bison and cattle, are relatively easy to breed and their populations can be managed for growth either in the wild (given adequate resources) or in captivity.

Although we agree that there has been a loss of suitable habitat, there has been enough suitable and available habitat for the reintroduction of six herds within their historical range in Canada. All of the herds that have been established in the wild have expanded in size and are self-sustaining (see Table 1, above). Regulations prevent excess harvest on the free-ranging herds. Regardless of classification type (endangered or threatened), regulation of hunting in Canada is outside the jurisdiction of the Act. Currently, Canada uses hunting of wood bison as a management tool for population control and to minimize the chances that disease will spread from one population to another. We found no evidence that hunting, as it is currently managed, is a threat to the species. For these reasons, we have concluded that wood bison are no longer on the brink of extinction and are, therefore, not endangered; rather, they are progressing steadily towards recovery.

(7) *Comment:* One commenter argued that wood bison should remain listed as endangered because Alaska is a significant portion of the wood bison's range. Because wood bison are extinct in Alaska, they should remain endangered until they are successfully introduced back into Alaska.

Our Response: The Service disagrees that the wood bison's historical range, which includes Alaska, constitutes a significant portion of the range such that the endangered classification under the Act must be retained because of the species' extirpation in that portion of the historical range. The text of the Act supports our conclusion that we cannot base this determination on the status of the species in lost historical range. As defined by the Act, a species is endangered only if it ''is in danger of extinction'' in all or a significant portion of its range. The phrase ''is in danger'' denotes a present-tense condition of being at risk of a current (or future) undesired event. Hence, to say a species ''is in danger'' in an area where it no longer exists—i.e., in its historical range where it has been extirpated—is inconsistent with common usage. Thus, we consider ''range'' within the definition of an ''endangered species'' to mean current range, not historical. In addition, in determining whether a species is an endangered species, the Act requires the Secretary to consider ''present'' or ''threatened'' (i.e., future), rather than past, ''destruction, modification, or curtailment'' of a species' habitat or range (16 U.S.C. 1533(a)(1)(A)). Furthermore, additional support for this conclusion is found in the Act's requirement that a summary of a proposed listing regulation be published in a newspaper ''in each area of the United States in which the species is believed to occur'' (16 U.S.C. 1533(b)(5)(D)). There is no requirement to such notice in areas where the species no longer occurs. For these reasons, Alaska cannot be a significant portion of the wood bison's range.

(8) *Comment:* One commenter felt that the proposed rule was deficient because we did not address the status of wood bison in Alaska and only looked at where wood bison currently exists. Thus, we should have included Alaska in our analysis as part of wood bison's historical range.

Our Response: As explained above in our response to Comment 7, a species' listing determination cannot be based on the status of the species within its lost historical range. Nevertheless, we did consider the effect of the loss of the wood bison's historical range on the viability of the species throughout all or a significant portion of its current range. Although the species has been extirpated from Alaska for quite some time and the historic population in Alaska is unknown, we conclude that the loss of species' historic range in Alaska does not place the species in danger of extinction throughout all or a significant portion of the range. As detailed more fully in our final determination, the wood bison populations in Canada have stabilized or are increasing, and are self-sustaining in the absence of a population in Alaska.

(9) *Comment:* Two commenters argued that wood bison is not a valid

subspecies and that they should not be listed for that reason. One commenter stated that differences between wood and plains bison are only phenotypic (they look different), and that all wood bison are hybrids with plains bison. The commenter cites the work of Douglas *et al.* 2011, which concludes that based on mitochondrial sequences, wood and plains bison should not be considered separate subspecies.

Our Response: In the proposed rule (76 FR 6734), we outlined our reasoning for concluding that wood bison are a valid subspecies. We also acknowledged that because of the introduction of plains bison into WBNP there had been some introgression of plains bison genetic material into the wood bison genome. However, based on the historical physical separation, and quantifiable behavioral, morphological, and phenological (appearance) differences between the two subspecies, the scientific evidence indicates that subspecific designation is appropriate (van Zyll de Jong *et al.* 1995, p. 403; FEAP 1990, p. 24; Reynolds *et al.* 2003, p. 1010; Gates *et al.* 2010, pp. 15–17).

Douglas *et al.* (2011, p. 167) included mitochondrial sequences from only two wood bison in their analysis. Considering the history of wood and plains bison on the landscape, two animals cannot accurately represent the range of genetic variation present between wood and plains bison, and it is not reasonable to conclude that the two subspecies should be considered as one, based on a sample size of two. In addition, the authors (Douglas *et al.* 2011, p. 173) include the important qualifying clause, ''with respect to their mitochondrial genomic sequences'' *B. b. bison* and *B. b. athabascae* should not be considered distinct subspecies. Mitochondrial DNA is maternally inherited and therefore presents only a partial picture of an animal's total genome. Mitochondrial DNA is used primarily to look at the more recent divergence between species. Differences in nuclear DNA sequences (which represent contributions from both the male and female) are used to determine differences that originate further back in time. Unless a peer-reviewed revision of the phylogeny of the subfamily Bovinae occurs that indicates wood and plains bison do not vary enough genetically to be considered distinct subspecies, and that revision is accepted by the scientific community, we will continue to acknowledge the two subspecies of bison.

(10) *Comment:* One commenter stated that we did not provide a convincing argument that the threats to wood bison rise to the level that the species is likely to become endangered in the foreseeable future. The commenter states, ''[t]he Proposed Rule does not show that these risks are both sufficiently severe and likely to justify the ''threatened'' classification.''

Our Response: In the proposed rule (76 FR 6734), we identified threats under Factors A, C, D, and E. Although we did not identify an individual factor that might be responsible for the extinction of wood bison in the future, the combination of these threats are currently acting on the populations and will continue into the foreseeable future. The species is being actively managed in Canada to address these threats. Of these threats, disease is the most problematic for the species because there is not a clear path forward on how disease will be handled. No effective vaccines exist for brucellosis, tuberculosis, or anthrax for free-ranging populations and developing new disease-free herds is very challenging. In addition, although recommendations for the management of the diseased herds in and around WBNP have been suggested (FEAP 1990, p. 2), they have not yet been implemented, it is unknown if they will be implemented, and it is unknown how implementation of the recommendations would affect the status of the subspecies. It is possible many animals could be purposefully euthanized if disease spreads to currently uninfected herds that are in proximity to commercial cattle and bison operations, or as a solution to the diseased herds found in and around WBNP. As described in the proposed rule, the Hook Lake Herd, which was initiated as a disease-free herd, was eliminated when disease was detected. We also know that Canada has not yet made the decision to delist the species under SARA. We will continue to evaluate the status of wood bison and propose to delist the species when appropriate.

(11) *Comment:* One commenter said that the Service cannot conclude that the wood bison remains threatened without establishing a timeframe for the foreseeable future.

Our Response: We disagree. In some listings we have used very specific timeframes for our threats analysis (e.g., polar bear, see 73 FR 28212, May 15, 2008), especially when we are using models that are projecting into the future for a specific amount of time. In the case of wood bison, we are not relying on modeling to describe or understand the threats into the future. In analyzing how threats will affect the status of this species, we assessed the foreseeable future for the wood bison in terms of the threats that are currently operating on the populations as well as those we could reliably expect to continue to affect the populations.

(12) *Comment:* One commenter states that bison are inherently social creatures and are subject to rules of group behavior. As the size of herds changes, so too do their actions and lifestyles. There is simply not enough data from small herds over a few decades about wood bison sociology to make any confident predictions about the future. They argue that there are too few wood bison to contemplate easing protections on the species at this time.

Our Response: We agree that wood bison are social animals and that new herds have been established for a relatively short time. However, the growth of the herds gives ample evidence that when suitable habitat is present the herds will grow until controlled. In reality, the protections provided to a species listed as threatened do not differ significantly from the protections provided to an endangered species. Wood bison will continue to be protected under the Act as a threatened species.

(13) *Comment:* One commenter argued that *B. b. athabascae* is present in Yellowstone National Park (YNP) and it is endangered there.

Our Response: Peer-reviewed published papers present a compelling opposing view to this comment. The published literature indicates that the only place where free-ranging wood bison occur, or have occurred in the recent past (last several hundred years), is in Canada and Alaska (Skinner and Kaisen 1947, p. 164; Stephenson *et al.* 2001, pp. 137, 146; Wilson and Strobeck 1998, p. 186). We disagree that wood bison currently persists in YNP and that it is endangered there.

Summary of Changes From Proposed Rule

We reanalyzed the data from the United Nations Environment Programme—World Conservation Monitoring Center CITES Trade Database and, for clarity, reported data in specimens rather than shipments. However, this change did not alter our finding. We have not made any substantive changes in this final rule based on the comments we received. Although many commenters thought that wood bison no longer need the protections provided by the Act and should be delisted, no new or compelling information was provided to support such a recommendation. We recognize that conservation actions are continuing and that the status of wood bison is improving. However, because of the threats that are still present,

delisting is premature. Therefore, just as we proposed, we are changing the listing of the wood bison from endangered to threatened.

Summary of Factors Affecting the Subspecies

Section 4 of the Act and implementing regulations (50 CFR part 424) set forth procedures for adding species to, removing species from, or reclassifying species on the Federal Lists of Endangered and Threatened Wildlife and Plants. Changes in the Lists can be initiated by the Service or through the public petition process. Under section 4(a)(1) of the Act, a species may be determined to be endangered or threatened based on any of the following five factors:

(A) The present or threatened destruction, modification, or curtailment of Its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) Other natural or manmade factors affecting its continued existence.

We must consider these same factors in downlisting a species. For species that are already listed as endangered or threatened, we evaluate both the threats currently facing the species and the threats that are reasonably likely to affect the species in the foreseeable future following the delisting or downlisting and the removal or reduction of the Act's protections.

Under section 3 of the Act, a species is ''endangered'' if it is in danger of extinction throughout all or a significant portion of its range and is ''threatened'' if it is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. ''Foreseeable future'' is determined by the Service on a case-by-case basis, taking into consideration a variety of species-specific factors such as lifespan, genetics, breeding behavior, demography, threat projections timeframes, and environmental variability. The word ''range'' in the phrase ''significant portion of its range'' (SPR) refers to the range in which the species currently exists, and the word ''significant'' refers to the value of that portion of the range being considered to the conservation of the species.

For the purposes of this analysis, we will evaluate all five factors currently affecting, or that are likely to affect, the wood bison to determine whether the currently listed species is endangered or threatened.

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Loss of Foraging Habitat

Fire Suppression

Wood bison depend on a landscape that includes sufficient grasslands and meadows for foraging habitat (Larter and Gates 1991b, p. 133). It appears that primarily through fire suppression, there was an overall loss of meadow habitat in Canada through the 1900s. More intensive fire management began in Canada in the early 1900s, with the philosophy that fire was destructive and should be eliminated to protect property and permit proper forest management (Stocks *et al.* 2003, p. 2). However, wildfire is an integral component of boreal forest ecology (Weber and Flannigan 1997, p. 146; Rupp *et al.* 2004, p. 213; Soja *et al.* 2007, p. 277). Without fire, trees encroach on meadows and eventually the meadow habitat is lost and replaced by forest.

Fire alone, or in combination with grazing, can facilitate the conversion and maintenance of grasslands (Lewis 1982, p. 24; Chowns *et al.* 1997, p. 205; Schwarz and Wein 1997, p. 1369). Burning by Native groups within the range of wood bison was apparently a common practice through the 1940s outside WBNP but ended within the park when it was established in 1922 (Lewis 1982, pp. 22–31; Schwarz and Wein 1997, p. 1369). An examination of aerial photographs taken at WBNP over time showed that a semi-open grassland that covered about 85 ha (210 ac) in 1928 supported a grassland of only 3 ha (7.4 ac) in 1982 (Schwarz and Wein 1997, p. 1369). In addition, a number of sites previously identified as prairie are now dominated by trembling aspen (Schwarz and Wein 1997, p. 1369). Although not quantified, it is likely that because of fire suppression and forest encroachment on meadows, there was a net loss of suitable open meadow habitat for wood bison throughout their range through about 1990. More recently, several factors may be counteracting the loss of open meadow habitat including controlled burns, timber harvest, oil and gas development, agricultural development, and the effects of climate change, as discussed below.

Controlled Burns

Controlled burns have been implemented since 1992 in wood bison habitat in the Northwest Territories to increase meadow habitat (Chowns *et al.* 1997, p. 206). Approximately 4,400 to 26,900 ha (10,873 to 66,471 ac) were burned from 1992 to 1997, with some sites being burned up to three times (Chowns *et al.* 1997, pp. 206–207). In addition, lightning fires burned 300,000 ha (741,316 ac), or almost 20 percent of the wood bison range in this area, from 1994 to 1996 (Chowns *et al.* 1997, p. 209). Plants favored by bison were more abundant in unburned areas and in meadows that had burned only once (Quinlan *et al.* 2003, p. 348), indicating that prescribed burns must be used judiciously to be effective in creating foraging habitat for wood bison. A study of vegetation recovery and plains bison use after a wildfire near Farewell, Alaska (Campbell and Hinkes 1983, p. 18), showed that grass and sedge-dominated communities increased from 38 percent to approximately 97 percent of the study area. Plains bison use also increased in subsequent years after the fire, and winter distribution of the Farewell herd expanded due to fire-related habitat changes (Campbell and Hinkes 1983, pp. 18–19). Because sedges are important winter forage for wood bison, the amount of such habitat has a major influence on herd size. Newly created habitats will be used by wood bison when these habitats are contiguous with existing summer or winter ranges (Campbell and Hinkes 1983, p. 20).

In summary, studies that have looked at the exclusion of fire or the effect of wildfire on wood bison habitat have concluded that fire is a necessary component of the landscape to maintain clearings and create conditions that favor forage preferred by wood bison. Controlled burns can have the same effect as wildfire by creating openings in the forest. However, repeated burns in the same location can be detrimental to creating suitable forage.

Timber Harvest

The volume of timber logged in Canada rose 50 percent from 1970 to 1997; in Alberta, the logging rate increased 423 percent, from 3.4 to 17.8 million meters (m)^3 (120 to 628 million feet (ft)^3) per year during the same time (Timoney and Lee 2001, p. 394). These values are conservative because forests logged on private land and those harvested on government land after fire, insect outbreaks, or disease may go unrecorded (Timoney and Lee 2001, p. 395). The primary method of harvest is clearcutting (Timoney and Lee 2001, p. 394). Compared to a closed canopy forest, clearcuts improve the amount of suitable habitat available to wood bison because they create openings and increase the amount of summer forage available. However, the quantity and quality of forage is less than what is

found in preferred wood bison foraging habitats, and the increased productivity seen after a clearcut is not maintained, as woody vegetation becomes more dominant over time (Redburn *et al.* 2008, p. 2233). In addition, clearcuts do not provide adequate winter forage because wood bison's preferred food, sedges, typically do not colonize these areas. Clearcutting is not being used as a management tool to increase wood bison habitat currently, and whatever gains in habitat that have occurred from clearcutting are most likely low.

In summary, although timber harvest occurs throughout the range of wood bison, it is unclear to what extent it is creating suitable habitat. Clear cuts can increase summer forage, but they need to be in proximity to sedge meadows (wintering habitat) to increase the annual carrying capacity for wood bison, and the openings created by the clear cuts must be maintained over time. Although timber harvest has the potential to increase the amount of suitable habitat for wood bison, the amount that may have been created is most likely low and is undocumented.

Oil and Gas Development

Oil and gas exploration and production in Canada has increased in the last 20 years (Timoney and Lee 2001, pp. 397–398). Seismic mapping to determine the oil and gas reserves below the surface involves cutting paths 5 to 8 m (16.4 to 26 ft) wide across the landscape. The seismic lines become persistent features in the forested boreal landscape (Lee and Boutin 2006, p. 249). Approximately 70 percent of landscape disturbance for non-renewable resource extraction in Alberta is due to seismic lines (Timoney and Lee 2001, p. 397). There are an estimated 1.5 to 1.8 million km (932,000 to 1,100,000 mi) of seismic lines in Alberta (Timoney and Lee 2001, p. 397). Lee and Boutin (2006, p. 244) found that only 8.2 percent of seismic lines in Alberta's northeastern forested stands recovered to greater than 50 percent woody vegetative cover after 35 years, and 64 percent of these seismic lines maintained a cover of grasses and herbs. In terms of creating forest openings, more suitable foraging habitat, and linear paths, seismic lines may be beneficial for wood bison. However, because vehicular routes were established in 20 percent of the seismic lines, they also become corridors for off-road vehicles, recreationalists, and poachers (Trombulak and Frissell 2000, pp. 19–20; Timoney and Lee 2001, p. 400; Lee and Boutin 2006, p. 244). Although wood bison are known to occupy linear clearings such as roads, and seismic lines have increased dramatically within their range, potentially creating suitable habitat, we do not have documentation of wood bison use of this type of habitat.

Agricultural Development

The popularity of bison as an alternative to beef in human diets has led to a growth of commercial bison ranches in Canada and the United States (Gates *et al.* 1992, p. 155). Exports of bison meat from Canada doubled to over 2 million kilograms (2.3 tons) from 2001 to 2006 (Statistics Canada 2009a, unpaginated). Plains bison dominate agricultural production in Canada because commercial production of this subspecies has been in place much longer than it has been for wood bison (Gates *et al.* 1992, p. 156; Harper and Gates 2000, p. 919). Bison production in Canada is concentrated in the western provinces, within the historical range of wood bison. In 2006, there were 195,728 plains bison on 1,898 farms reporting in the Canadian National Census; this amounts to an increase of 35 percent from 2001 (Statistics Canada 2009b, unpaginated). Thus, plains bison represented approximately 95 percent of the total bison on the landscape in Canada in 2006. Existence and expansion of commercial plains bison production reduce the amount of land available for wild wood bison populations and increase the risk of hybridization when plains bison escape captivity (Harper and Gates 2000, p. 919; Gates *et al.* 2001, pp. 24, 29). Demand currently exceeds supply; therefore, expansion of commercial plains and wood bison operations is expected to continue (Gates *et al.* 2001, p. 24).

Escape of plains bison from fenced enclosures within the range of the wood bison in Canada poses a threat to the genetic integrity of wood bison (Gates *et al.* 1992, p. 156; Gates *et al.* 2001, p. 24). Because of their size, strength, and undomesticated nature, typical fences are insufficient to restrain bison (FEAP 1990, p. 29; Harper and Gates 2000, p. 919). Maintenance of fences can be a challenge in harsh environments where tree-fall, snow, ice, and frost heave can impair the integrity of the fence and necessitate frequent repairs. The import of plains bison to a private ranch near Pink Mountain, British Columbia, led to the establishment of a free-ranging herd of plains bison after they escaped their enclosure (Gates *et al.* 1992, p. 156).

In addition to commercial production, free-ranging, publicly managed plains bison herds have been established outside their historical range and within the historical range of wood bison in Alaska and Canada (Gates *et al.* 2010, p. 56). Because of the potential for hybridization, these herds limit where wood bison can be reintroduced. Five plains bison herds occur in Alaska and one occurs in British Columbia, Canada (Gates *et al.* 2010, p. 56). None of these plains bison herds occur in close proximity to free-ranging wood bison herds with the exception of one herd—the Pink Mountain herd, British Columbia—which also occupies habitat that could have been used for wood bison (Harper *et al.* 2000, p. 11). Preventing interbreeding between free-ranging plains bison and wood bison is a management objective in British Columbia and is accomplished by maintaining a large physical separation between the herds and having a management zone around the plains bison herd that allows harvest of plains bison within this zone (Harper *et al.* 2000, p. 23).

Agricultural development, including plains bison ranching, is the least compatible land use for wood bison recovery (Harper and Gates 2000, p. 921). Loss of habitat for agricultural production is a threat to wood bison because of the large areas involved. Agricultural development near Fort St. John and Fort Nelson, British Columbia, has reduced habitat for wood bison, and continuing expansion of agriculture in the north will further limit the ability to meet population recovery objectives (Harper and Gates 2000, p. 921). Based on a conservative estimate of historical habitat only in Canada, Gates *et al.* (1992, p. 154) estimated that human activities and development exclude wood bison from approximately 34 percent of their historic range. When an updated Canadian historical range (Stephenson *et al.* 2001, p. 136) and the Alaskan historical range are included in the calculation, the amount of compromised habitat drops to approximately 16.5 percent if only Canada is considered, and 13 percent if the historical habitat in Canada and Alaska are combined (Stephenson 2010, pers. comm.). Sanderson *et al.* (2002, pp. 894–896; 2008, p. 257) found that the level of human influence in the range occupied by wood bison to be extremely low (less than 10 percent). Although human development and influence is very low over the majority of range occupied by wood bison, we assume that because of human population growth, increased commercial production of plains bison, and increased agricultural production, there will be continued loss of suitable wood bison habitat into the foreseeable future.

Climate Change

Climate change models project that the largest temperature increases will occur in the upper latitudes of the northern hemisphere, and that there will be an increase in extreme climate events in these areas (IPCC 2007, p. 11.5.3.1). This area includes the boreal forest of Canada and Alaska in the range of wood bison. Some of the predicted outcomes of climate change are: An increase in temperature; an increase in insect outbreaks; an increase in wildfire severity, area burned, and fire season length with potential landscape-scale ecotype effects; and a shift northward of boreal forest (Hamann and Wang 2006, pp. 2780–2782; Soja *et al.* 2007, p. 277). These aspects of climate change have the potential to increase the amount of habitat suitable for wood bison over the next 100 years.

The mean annual temperature of interior Alaska and northern Canada has increased by 2 degrees Celsius (°C) (3.6 degrees Fahrenheit (°F)) in the last four decades (Serreze *et al.* 2000, p. 163). Warming has triggered bark beetle outbreaks in western North America, including south-central Alaska and British Columbia. In British Columbia, by the end of 2006, 130,000 km^2 (50,193 mi^2) of forested lands were affected (Kurz *et al.* 2008, p. 987). The outbreak in British Columbia was an order of magnitude greater in area and severity than all previous recorded outbreaks (Kurz *et al.* 2008, p. 987).

The effect of insect outbreaks on wood bison habitat includes a potential increase in suitable wood bison habitat, and an increase in susceptibility to fire. In insect-infested plots studied on the Kenai Peninsula, cover of bluejoint grass (*Calamagrostis canadensis*), a summer forage species, increased to more than 50 percent compared to uninfested forest stands (Werner *et al.* 2006, p. 198). These results indicate forests affected by beetle kill may become more suitable to wood bison by creating openings and changing the vegetative composition. This would be particularly true in areas where, because of climate change, there was a permanent change in landscape cover from forest to grassland (Rizzo and Wiken 1992, p. 53; Flannigan *et al.* 2000, pp. 226–227). Werber and Flannigan (1997, p. 157), and Malmström and Raffa (2000, p. 36), indicate that insect outbreaks increase an area's susceptibility to fire ignition and spread.

Since the mid-1980s, wildfire frequency in western forests has nearly quadrupled compared to the average frequency during the period 1970–1986. The total area burned is more than six and a half times the previous level (Westerling *et al.* 2006, p. 941). In addition, the average length of the fire season during 1987–2003 was 78 days longer compared to that during 1970–1986, and the average time between fire discovery and control was 29.6 days longer (Westerling *et al.* 2006, p. 941). In Alaska, the largest fire on record was in 2004, and the third largest was in 2003 (Soja *et al.* 2007, p. 281).

The area burned by forest fires in Canada has increased over the past four decades (Stocks *et al.* 2003, p. 2; Gillett *et al.* 2004, p. 4; Soja *et al.,* 2007, p. 281). In Canada, weather/climate is the most important natural factor influencing forest fires (Gillett *et al.* 2004, p. 2; Flannigan *et al.* 2005, p. 1). Projections based on the Canadian and Hadley General Circulation Models, which predict future carbon dioxide and temperature increases, indicate that the area burned in boreal forests of Canada will double by the end of the century (Flannigan *et al.* 2005, pp. 11–12), the area exhibiting high to extreme fire danger will increase substantially, and the length of the fire season will increase (Stocks *et al.* 1998, pp. 5–11).

In the absence of fire, vegetation changes would occur relatively slowly in response to relatively slow changes in the climate. Because of its immediate and large-scale effect, fire is seen as an agent of change that will hasten the modification of the landscape to a new equilibrium with climate. Area burned may overshadow the direct effects of climate change on plant species distribution and migration (Werber and Flannigan 1997, p. 157). The new fire regime is expected to affect the age class distribution, species composition, landscape mosaics, and boundaries, including a retraction of the southern boreal forest (Werber and Flannigan 1997, pp. 157, 160).

The increase in temperature, predicted by the Canadian and Hadley General Circulation Models described above, is expected to cause major shifts in ecosystems (Rizzo and Wiken 1992, p. 37; Hogg and Schwarz 1997, p. 527). The amount of grassland in Canada may increase by about 7 percent and shift northward (Rizzo and Wiken 1992, p. 52). Several modeling efforts suggest that boreal forests will shift northward into the area now characterized as subarctic (Rizzo and Wiken 1992, pp. 48–50; Rupp *et al.* 2002, p. 214). These changes may favor the expansion of suitable habitat for wood bison over the next century. Because one of the anticipated outcomes under climate change and the new fire regime is a retraction of the southern boreal forest and expansion of grasslands, we anticipate that habitat for wood bison, which require meadows intermixed with forest, will increase over the next century.

Summary of Factor A

Our analysis of habitat threats to wood bison under Factor A includes management actions that are being taken (controlled burns, timber harvest, oil and gas development), anticipated changes to the landscape based on climate change (increased insect outbreaks, increased fire, ecotype transition), and agricultural development. In summary, most likely there was loss of suitable meadow foraging habitat for wood bison from fire suppression in the 20th century. Several factors, including fire, timber harvest, oil and gas exploration, and insect infestations, could create more forest openings and grassland habitat. However, neither the loss nor potential gain in habitat from these sources has been quantified, and the suitability of habitat for wood bison created as a by-product of resource development is largely unknown. The primary loss of habitat for wood bison has occurred from agricultural development (including commercial production of plains bison). Although the current level of human influence in the range of wood bison is low, we anticipate human population growth will continue, and loss of suitable habitat from agricultural development is expected in the foreseeable future. In the short term, habitat loss is expected to outstrip gain because of the increasing demand and production of commercial bison. Based on model projections of the effects of climate change, it is anticipated that there will be increased insect infestations, increased fire frequency and area burned, and warmer temperatures, leading to shifts in ecosystems. In the long term, these changes will likely create more forest openings and landscapes in early successional stages and may increase the amount of suitable habitat available to wood bison. Whether the potential gain in habitat will offset the loss from development in the long term is unknown. Consequently, based on the best scientific and commercial data available, we conclude that loss of habitat remains a threat to wood bison in the foreseeable future.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Overharvesting for the fur trade and westward expansion by Europeans resulted in near extinction of wood bison by the late 1800s (Gates *et al.*

1992, pp. 143–145). Currently, the utilization of free-ranging, disease-free wood bison populations is closely regulated and managed for sustainability. Under the SARA, a species listed as threatened may not be killed on Federal lands such as National Parks or National Wildlife Areas, except where permitted under a national recovery strategy (GNT 2010, p. 10). Harvest is used as a recovery management tool to regulate herd size when other limiting factors, such as predation or disease, do not. Without harvest, herd size can expand beyond the carrying capacity of the landscape, may grow to the point where overlap with either plains bison or diseased herds is more likely, or may expand into areas such as highway rights-of-way. Regulated harvest is allowed from the disease-free Mackenzie herd, Nahanni herd (quota of two bison annually), the Aishihik herd, and the Hay-Zama herds under permit systems controlled by the respective territorial wildlife agencies, and is managed on a conservative sustained-yield basis. The regulated harvests for the Mackenzie, Aishihik, and Hay-Zama herds are described below.

Hunting of the Mackenzie wood bison herd is regulated under a quota system based on population size, with consideration given to Native community interests in subsistence hunting through a co-management process with the Fort Providence Resource Management Board. Regulated hunting was initiated in 1987. Non-resident hunting licenses were first issued for the winter hunt in 1992–1993. The quota for resident and non-residents has been adjusted over time based on herd size and community input. The allowable quota for harvest has never been taken and has ranged from 20 to 93.6 percent of the quota (Reynolds *et al.* 2004, p. 39). The current annual allowable harvest is 118 bison (*http://www.justice.gov.nt.ca/PDF/REGS/WILDLIFE/Big%20Game%20Hunting.pdf,* viewed January 23, 2012).

Sport hunting is the primary method of regulating the growth of the Aishihik herd because natural predation on the herd is low. The Yukon Wood Bison Technical Team provides advice on wood bison management that is sensitive to local conditions (i.e., to remove wood bison from highway rights-of-way, competition of bison with other native ungulates) and consistent with the National Wood Bison Recovery Plan (Yukon Environment 2009, p. 1). The annual allowable harvest is determined each year based on population size and calf recruitment rate. Harvest from 1999 to 2007–2008 winter season ranged from 65 to 75 animals. In the 2008–2009 winter season, the allowable harvest increased to 200 because the population continued to grow under the old quota. Increased harvest is expected to restrict the movement of wood bison away from their traditional range, address highway safety concerns, and achieve bison management objectives (Government of Yukon 2009, p. 1). Resident, non-resident, and First Nations hunters are required to have a permit to hunt wood bison. Harvest regulations are strictly enforced by Yukon Department of Environment conservation officers, often in collaboration with local First Nations Game Guardians.

Hunting in the Hay-Zama herd began in 2008. Hunting was initiated to regulate the population size, reduce wood bison conflicts with humans in the communities of Zama City and Chatey, reduce wood bison-vehicle collisions on two highways, and limit wood bison distribution eastward, preventing potential contact with diseased bison from WBNP (Government of Alberta 2010a, unpaginated). Harvest removed 128 and 155 animals in the 2008–2009 and 2009–2010 seasons, respectively (Government of Alberta 2010b, unpaginated). Three hundred licenses were issued each year, 200 to Aboriginal hunters and 100 to recreational hunters. Because the objectives of reducing herd size and human conflicts have been met, the total number of licenses has been reduced in the 2010–2011 season to 105 (Government of Canada 2010b, unpaginated). Based on the success rate of the past two seasons, approximately 50 animals will likely be harvested. It is estimated that a population objective of 400–600 wood bison can be sustained by harvesting approximately 60 to 70 animals per season (Government of Canada 2010b, unpaginated).

In addition to regulating herd size, harvest is also used to prevent the spread of bovine tuberculosis and brucellosis infection in wood bison. Under the Northwest Territories Big-Game Hunting Regulations, hunters may shoot any bison sighted within the Bison Control Area (BCA), an area located between the WBNP diseased herd and the Mackenzie and Nahanni disease-free herds. The goal is to reduce the risk of bovine tuberculosis and brucellosis infection of the Mackenzie and Nahanni herds by removing infected animals dispersing from WBNP (see discussion under Factor C, below). Thirteen bison were removed from the BCA in the mid-1990s (Nishi 2002, pp. 12–13). There is currently no authorized harvest of wood bison in British Columbia.

Under Canada's SARA, all collection of listed species such as wood bison for scientific purposes is closely regulated. Scientific research on disease, genetics, diet, and other aspects of wood bison life history can and has been done using animals that have been legally taken by hunters, animals that died through natural factors, or road kill (e.g., Tessaro *et al.* 1990, p. 175). Scientific research must relate to the conservation of the species and be conducted by qualified persons; the activity must benefit the species or enhance its chance of survival in the wild. In addition, activities affecting the species must be incidental to carrying out an otherwise lawful activity. Researchers must demonstrate awareness of the provisions of SARA, that measures are being taken to minimize harm to listed species, and that the most effective measures for minimizing harm are adopted.

Commercial harvest of free-ranging wood bison does not occur and only a small number of wood bison have been sporadically taken from disease-free herds for display in zoos or wildlife parks. This occurs only when surplus animals are available, and these surplus animals have typically come from Elk Island National Park (Gates *et al.* 2010, p. 81).

The wood bison was placed in Appendix I of CITES on July 1, 1975, when the treaty first went into effect. CITES is an international agreement between governments to ensure that the international trade of CITES-listed plant and animal species does not threaten their survival in the wild. There are currently 175 CITES Parties (member countries or signatories to the Convention). Under this treaty, CITES Parties regulate the import, export, and reexport of CITES-listed plant and animal species (also see discussion under Factor D, below). Trade must be authorized through a system of permits and certificates that are provided by the designated CITES Scientific and Management Authorities of each CITES Party (CITES 2010, unpaginated). Species included in CITES Appendix I are considered threatened with extinction, and international trade is permitted only under exceptional circumstances, which generally precludes commercial trade.

Beginning in 1993, the European Economic Community CITES Working Group authorized the import of wood bison trophies from the Mackenzie population, one of the disease-free herds with regulated harvest. On September 18, 1997, the wood bison was transferred to Appendix II of CITES

based on a proposal from Canada, which described progress made in recovery plan implementation (Government of Canada 1997, entire). The United States supported this change. Appendix II allows for regulated trade, including commercial trade, as long as the exporting country issues a CITES permit based on findings that the specimen was legally acquired and the export will not be detrimental to the survival of the species.

Data obtained from the United Nations Environment Programme–World Conservation Monitoring Center (UNEP–WCMC) CITES Trade Database show that, from July 1975, when the wood bison was listed in Appendix I, through 2009, a total of 23,344 specimens of this subspecies were reported to UNEP–WCMC as (gross) exports. Of those 23,344 specimens, 264 were live animals, 36 were skins, 10 were skin pieces, 5 were bodies, 26 were shoes, 21,300 were horn products, 461 were teeth, 46 were carvings, 5 were garments, 14 were leather products, 1,074 were scientific specimens, 31 were trophies, 59 were parts of trophies (horns, skulls, bones, feet, tails, and hair), and 13 were unspecified specimens. An additional 1,930 kilograms of meat were reported as exports.

In analyzing these data, it appears that several records may be over-counts due to slight differences in the manner in which the importing and exporting countries reported their trade. It is likely that the actual number of wood bison specimens in international trade during this period was 23,210, plus 1,074 kilograms of meat. Of the 23,210 specimens, 264 were live animals, 34 were skins, 10 were skin pieces, 5 were bodies, 26 were shoes, 21,300 were horn products, 461 were teeth, 46 were carvings, 4 were garments, 14 were leather products, 945 were scientific specimens, 30 were trophies, 58 were parts of trophies (horns, skulls, bones, feet, tails, and hair), and 13 were unspecified specimens.

With the information obtained from the UNEP–WCMC CITES Trade Database, 1,606 specimens and 1,910 kilograms of meat were reported in international trade since the wood bison was transferred from Appendix II to Appendix I in 1997. 1,398 of these specimens (87 percent) were reported as imported into the United States and 20 (1 percent) were reported as exported from the United States. Also, 1,900 of the total of 1,910 kilograms of meat (99 percent) were reported as imported into the United States. Of the 264 live wood bison reported in international trade between 1975 and 2009, 235 were traded since the subspecies was transferred from Appendix II to Appendix I in 1997. Of these 235 live specimens, 174 (74 percent) were reported as captive-bred or captive born, 13 (6 percent) were reported as ranched specimens, and 48 (20 percent) were reported as having been obtained from the wild. There has been no trade in live, wild wood bison since 2006.

As a species listed in Appendix II of CITES, commercial trade of wood bison is allowed. However, the Appendix-II listing requires that before an export can occur, a determination must be made that the specimens were legally obtained (in accordance with national laws) and that the export will not be detrimental to the survival of the species in the wild. Because CITES requires that all international shipments of wood bison must be legally obtained and not detrimental to the survival of the species, we believe that international trade controlled via valid CITES permits is not a threat to the species. Furthermore, we have no information indicating that illegal trade is a threat to this species.

Summary of Factor B

It is possible that, with the ongoing recovery actions, a status review of wood bison in Canada could lead to delisting under SARA within the next 10 years. If this were to happen, we expect that regulations for recreational hunting, import of wood bison trophies, and permitting would change. Our ability to predict how these changes would affect the status of the species is limited; consequently, we can only reliably project for a short time into the future.

Because harvest rates of free-ranging wood bison are based on sustainability, harvest is closely monitored and regulated, scientific collecting is tightly controlled, commercial harvest does not occur in wild populations, and import and export are controlled via CITES permits, we have determined that overutilization for commercial, recreational, scientific, or educational purposes is not a threat to wood bison now or in the foreseeable future.

C. Disease or Predation

Disease

In the early 1920s, 6,673 plains bison were introduced into WBNP, Alberta, Canada, where approximately 1,500 disease-free wood bison resided (FEAP 1990, p. 6; Gates *et al.* 1992, pp. 146–147). Although initially separated by fairly large distances, the plains bison eventually co-occurred and interbred with the wood bison and also transmitted bovine tuberculosis and brucellosis to them (FEAP 1990, p. 6; Gates *et al.* 1992, pp. 146–147). By the late 1940s and early 1950s, the population of wood bison in WBNP increased to between 12,500 and 15,000 animals (Fuller, 1950, p. 450). From that level, wood bison numbers began to decline from 11,000 in 1971, to approximately 2,300 by 1998 (Carbyn *et al.* 1998, p. 464). The reasons for the population decline are not known with certainty, but disease, predation by wolves, and habitat condition may all have played a role (Carbyn *et al.* 1998, pp. 467–468; Joly and Messier 2004, pp. 1165–1166). Population numbers at WBNP have stabilized at about 4,000 to 5,000 since 2002 (see Table 1, above).

Bovine tuberculosis and bovine brucellosis receive special attention because they cause production losses in domestic animals, can potentially infect humans, and are required to be reported under the Canadian Food and Inspection Agency's (CFIA) Health of Animals Act and Regulations (FEAP 1990, p. 7). Although wildlife is not under their jurisdiction, the CFIA recognizes the threat of reportable diseases to the commercial livestock industry and international trade. The CFIA follows a strict testing and eradication program for bovine tuberculosis and brucellosis in domestic animals, requiring that all infected animals and all exposed susceptible animals be destroyed (Canadian Food Inspection Agency 2002, unpaginated). Consequently, there is great concern from the Canadian cattle industry, which is currently recognized as disease-free, that disease will spread from wood bison to domestic cattle (GNT 2010, p. 8). The goal of the CFIA's National Bovine Tuberculosis/Brucellosis Eradication Program is to detect and eradicate tuberculosis and brucellosis in farmed animals in Canada in order to protect the health of food-producing and companion animals, safeguard human health, and safeguard the health of free-roaming wildlife. Canada recognizes an obligation to detect, identify, report, and contain important diseases in wildlife, especially those with the potential to impact biodiversity, human and livestock health, the environment, and the economy within and beyond their borders.

Wood bison in and around WBNP are a reservoir for bovine brucellosis and bovine tuberculosis. Because there is a risk that these diseases could spread to uninfected free-ranging bison herds or to commercial cattle and bison operations, limits are placed on herd expansion to minimize the chance that

the diseased animals come into contact with either free-ranging, disease-free herds, or with domestic cattle or bison operations. In addition, the diseased herds occupy suitable habitat that could be used for the establishment of disease-free herds of wood bison. Therefore, the existence of diseased bison herds in and around WBNP compromises further recovery of wood bison in northern Alberta, the Northwest Territories, and British Columbia (Gates *et al.* 2001, p. 29). The total area compromised by diseased herds is approximately 218,516 km^2 (84,369 mi^2) or about 12 percent of the original range of the wood bison in Canada (Gates *et al.* 2001, p. 24). As mentioned earlier, there are no effective vaccines for the treatment of animals in free-ranging populations.

The disease-free herds most at risk from infection from animals at WBNP are the Mackenzie, Hay-Zama, and Nahanni. Regulated harvest is allowed from the Mackenzie herd, Nahanni herd, and the Hay-Zama herd under permit systems (as described above under Factor B), in part to prevent overlap with the diseased herd. In addition, the Governments of the Northwest Territories, Alberta, and British Columbia have designated management zones to reduce the risk of dispersing animals transmitting disease to disease-free herds in their provinces. In 1987, the Government of the Northwest Territories implemented a program to reduce the risk of contact between infected bison in and around WBNP and disease-free bison in the Mackenzie and Nahanni herds by establishing a Bison Free Management Area (BFMA) (Nishi 2002, pp. 5–6). The BFMA (39,000 km^2 (15,058 mi^2)) encompasses the area between the Alberta–Northwest Territories border and southern shoreline of the Mackenzie River. In 1992, the Government of the Northwest Territories established the Nuisance Bison Control Regulations under the Northwest Territories Wildlife Regulations Act, permitting eligible hunters to legally shoot any bison sighted in the BFMA. All bison within this area are presumed disease carriers. The objectives of the program are to detect and remove any bison, and to prevent establishment of herds in the management area (Nishi 2002, p. 6). No bison were observed in the area during annual aerial surveys in the period 1988–2006, but 13 bison were killed in the mid-1990s (Nishi 2002, pp. 12–13; Hartop *et al.* 2009, p. 41). Aerial surveillance occurs annually.

In 1995, the Government of Alberta established a 36,000-km^2 (13,900-mi^2) bison management area around the Hay-Zama herd to protect all bison from hunting. Within this area, all wood bison are legally protected under Alberta's Wildlife Act; outside of the area they are not protected and can be hunted. The area outside of the protected management area creates a large buffer zone between the disease-free Hay-Zama herd and the diseased herds within WBNP (Gates *et al.* 2001, p. 38).

Control areas and buffer zones between diseased and non-diseased populations may not prevent disease transmission (Canadian Food Inspection Agency 2002, unpaginated) because they are sporadically patrolled and imperfectly enforced. As discussed earlier, fences are an ineffective method to contain herds long term, especially those in large areas (FEAP 1990, p. 29). Consequently, a long-term, more sustainable solution is needed to address this problem.

A Federal Environmental Assessment Panel (FEAP) was assembled to evaluate four courses of action to address the diseased herds at WBNP. These actions were initially proposed by the Bison Disease Task Force: (1) Do nothing; (2) fence WBNP to contain the diseased bison and prevent the spread of disease; (3) use a combination of strategically placed fences, buffer zones exterior to the Park from which all bison would be eliminated, and land-use restrictions on cattle grazing; and (4) phased elimination of the diseased herd and replacement with disease-free wood bison (FEAP 1990, p. 15). After public hearings, and consultation with technical experts, the panel recommended eradication of the existing diseased bison population to eliminate the risk of transmission of disease from bison in and around WBNP to domestic cattle, wood bison, and humans (FEAP 1990, p. 2). Public response to this recommendation was largely negative (Carbyn *et al.* 1998, p. 464). The recommendation was not implemented; consequently, control of disease spread currently depends on the buffer zones.

Annual examinations and serological studies of bison harvested from the Mackenzie herd indicate that the herd continues to be disease-free (Nishi 2002, p. 23). Over 220 samples were received from harvested bison from the Hay-Zama herd that could be tested for disease. All samples tested negative (Government of Canada 2010a, unpaginated). There is also no evidence of bovine brucellosis and bovine tuberculosis in reintroduced herds in the Yukon Territory, British Columbia, western Alberta, or Manitoba. Free-ranging, disease-free herds currently include approximately 4,414 wood bison (see Table 1, above). Because of their distance from WBNP, the Aishihik and Chitek Lake herds are the most secure from disease.

Recovery and conservation efforts for wood bison emphasize the importance of preventing the spread of tuberculosis and brucellosis to disease-free populations and eliminating diseases in infected populations (Gates *et al.* 2001, p. 30). The focus on disease prevention and control is consistent with the recovery goals of increasing the number of disease-free populations. Parks Canada, through Elk Island National Park, has worked with the recovery team and others to develop and maintain a disease-free, captive-breeding herd, which has provided healthy stock for several restoration projects (Gates *et al.* 2001, p. 18).

Because the northern latitudes are experiencing the greatest changes in climate, this area may also be at the greatest risk for the emergence of diseases and parasites that may threaten the stability of wildlife populations (Kutz *et al.* 2004, pp. 109, 114). Warming may be of particular concern for wildlife in northern regions because the life-history patterns of most hosts and parasites are currently constrained by climatic conditions (Kutz *et al.* 2004, p. 114). Researchers have hypothesized that climate change will accelerate pathogen development rates, lead to greater overwinter survival of pathogens, and modify host susceptibility to infection in such a way that the effects of disease will increase (Ytrehus *et al.* 2008, p. 214). Wood bison are susceptible to many diseases and parasites (Reynolds *et al.* 2003, pp. 1030–1032). How climate change may affect the number of animals infected, a pathogen's virulence, and, consequently, wood bison viability is unknown.

One potential effect of climate change may be an increase in anthrax outbreaks because of increased summer air temperatures. Between 1962 and 1993, nine anthrax outbreaks were recorded in northern Canada, killing at least 1,309 wood bison (Dragon *et al.* 1999, p. 209). Additional outbreaks continued to occur through at least 2010 (GNT 2010, p. 9). Wood bison appear most susceptible to outbreaks when they are stressed, including heat stress and high densities of biting insects (Dragon *et al.* 1999, p. 212; Gates *et al.* 2010, p. 28). In addition, if climate change leads to widespread or intense drought, there could be changes in the quality and availability of forage that may cause animals to concentrate around available food and water. These factors could contribute to stress levels and increase

susceptibility to anthrax (Dragon *et al.* 1999, p. 212; Gates *et al.* 2010, p. 28). Although isolated anthrax outbreaks occur currently, it is possible that outbreaks may become more frequent, become more widespread, or affect a greater number of animals in the future. Thus far, anthrax outbreaks have occurred sporadically when the necessary factors have come together to affect portions of one herd at a time. Anthrax is not currently having a population-level effect, and we do not have enough information to predict with confidence if anthrax will have a population-level effect on wood bison in the future as a result of climate change.

Predation

Wolf predation can be a significant limiting factor for diseased populations of wood bison (Reynolds *et al.* 1978, p. 581; Van Camp 1987, p. 25). Wood bison were the principle food of two wolf packs from 1975 to 1977 in the Slave River lowlands (Van Camp 1987, pp. 29, 32). Of the adult and subadult wood bison that died in 1976–1977, wolves killed 31 percent; however, hunters killed 39.3 percent (Van Camp 1987, p. 33). Joly and Messier (2004, p. 1173) found that productivity of the diseased WBNP herd was insufficient to offset losses to both predation and disease, but that in the absence of either factor, positive population growth was possible. Presence of disease likely increased the killing success of wolves through bison debilitation (Joly and Messier 2004, p. 1174). Wood bison evolved with wolves, and we have no data showing that predation by wolves is limiting the recovery of any of the disease-free herds or would cause the extirpation of a herd (ADF&G 2007, p. 98).

Summary of Factor C

The presence of disease and diseased herds is recognized as a factor limiting recovery (Mitchell and Gates 2002, p. 12). The effectiveness of current management actions such as maintaining spatial separation between diseased and disease-free herds by limiting herd size is yet to be determined over long timeframes. Research is continuing on creation of disease-free herds. No effective vaccines exist for brucellosis, tuberculosis, or anthrax for free-ranging populations. In addition, although recommendations for the management of the diseased herds in and around WBNP have been suggested (FEAP 1990, p. 2), they have not yet been implemented, it is unknown if they will be implemented, and it is unknown how implementation of the recommendations would affect the status of the subspecies.

Predation by wolves is a natural threat that will persist indefinitely into the future. Although diseased herds may be more susceptible to predation, healthy herds, which now represent approximately half of the free-ranging wood bison, are not. As long as wolves are present on the landscape, they will present an ongoing, low level of threat, especially to diseased herds.

The presence of disease in the largest potential donor population of wood bison (WBNP herd) has limited the number of animals available for establishing or augmenting herds throughout the wood bison's historical range and has removed otherwise optimal habitat from consideration for expansion of wild populations. The presence of reportable diseases will continue to lead to actions that impact conservation, in particular restriction of herd expansion and the reintroduction of herds in particular areas. Although brucellosis and tuberculosis may limit wood bison population growth and productivity in some herds, they are unlikely to cause extirpation of any population (Bradley and Wilmshurst 2005, p. 1204; Gates *et al.* 2010, p. 60), but when combined with predation, herd size can be limited. Anthrax outbreaks occur sporadically when critical factors come together. Climate change could affect the frequency of outbreaks if increased temperatures or drought cause increased levels of stress in the animals, especially during the rut. Because disease constrains and inhibits full recovery of the species, until a solution for the diseased animals at WBNP is found, or effective vaccines are discovered and used, disease will continue to be a threat to wood bison now and in the foreseeable future.

D. The Inadequacy of Existing Regulatory Mechanisms

Canada's Federal Regulatory Mechanisms

The first protective legislation for wood bison, making it illegal for anyone to molest the species, was passed by the Canadian Government in 1877, but not until the law was enforced beginning in 1897 did the population increase (Soper 1941, pp. 362–363; Gates *et al.* 2001, p. 12).

Canada's Species at Risk Act (SARA), enacted on December 12, 2002, became fully effective on June 1, 2004, and is the Canadian counterpart to the U.S. Endangered Species Act. The purpose of SARA is to prevent listed wildlife species from becoming extinct or lost from the wild (extirpated); to help in the recovery of extirpated, endangered, or threatened species; and to ensure that species of special concern do not become endangered or threatened. The SARA also requires the development of recovery strategies and action plans for covered species. In the SARA, the COSEWIC was established as the scientific body that identifies and assesses a species' status; however, the government makes the final decision on whether to list a species.

Species such as wood bison that were designated as endangered or threatened by the COSEWIC before SARA was enacted had to be reassessed before being included on the official list of wildlife species under SARA. The wood bison is currently listed as a threatened species under Schedule 1 of SARA. The National Recovery Plan for wood bison was published in 2001 (Gates *et al.* 2001) and is currently under revision. As discussed in the Recovery Actions section above, many recovery actions have been implemented and more are in progress. As discussed under Factor B (above), SARA requires permits for all scientific collection of listed species.

The SARA covers all species on Federal lands such as national parks, national wildlife areas, Prairie Farm Rehabilitation Administration pastures, aboriginal reserve lands, and military training areas. It prohibits the killing, harming, harassing, or taking of extirpated, endangered, or threatened species, and the destruction of their residences (e.g., nest or den) on Federal lands, except where permitted under a national recovery strategy (GNT 2010, p. 10). Because the recovery strategy includes managing herd size for the health of the habitat and herds (Gates *et al.* 2001, pp. 35–39), bison hunting is allowed under a quota system in the Nahanni, MacKenzie, and Aishihik herds (described above under Factor B). The Northwest Territories *Big Game Hunting Regulations* consider bison in the Slave River Lowlands to be hybrids, which General Hunting License holders may hunt without limit or closed season. In the Yukon, the Aishihik herd size is managed through hunting. In Alberta, Hay-Zama herd size is managed by hunting to reduce the likelihood that the herd will come into contact with animals from WBNP (GNT 2010, p. 7).

Habitat protection within the range of the Mackenzie bison herd is facilitated through the SARA and the Mackenzie Valley Resource Management Act of 1998. Although the Mackenzie Valley Resource Management Act does not specifically provide protection to wood bison, it did create a Land and Water Board (LWB), which is given the power to regulate the use of land and water,

including the issuance of land use permits and water licenses. The LWB's Environmental Impact Review Board is the main instrument in the Mackenzie Valley for the examination of the environmental impact of proposed developments. The LWB's Land Use Planning Board is given the power to develop land use plans and to ensure that future use of lands is carried out in conformity with those plans.

As described below, several wood bison herds occur wholly or partially in National Parks, ecological reserves, or Provincial Parks (Table 2). In 1922, WBNP was established in Alberta and the Northwest Territories for the protection of wood bison. Habitat protection of 44,807 km^2 (17,300 mi^2) within WBNP occurs through the Canada National Parks Act, the purpose of which is to maintain or restore the ecological integrity of parks, through the protection of natural resources and natural processes. With respect to a park, ecological integrity means a condition characteristic of its natural region, including abiotic (nonliving) components and the composition and abundance of native species and biological communities. Renewable harvest activities can be regulated or prohibited, and is enforced through this legislation (Canada National Parks Act, 2000). National parks are protected by Federal legislation from all forms of extractive resource use such as mining, forestry, agriculture, and sport hunting. Only activities consistent with the protection of park resources are allowed. Efforts are directed at maintaining the physical environment in as natural a state as possible. Sport hunting is prohibited; however, traditional subsistence-level harvesting by First Nations is allowed in some areas as long as the resources are conserved (The Canadian Encyclopedia 2010a, unpaginated).

TABLE 2—FREE-RANGING WOOD BISON HERDS AND LAND MANAGEMENT UNITS THAT PROVIDE PROTECTION TO THEM

Herd category and name	Canadian province	Protected area
Free-ranging, disease-free herds:		
Mackenzie	Northwest Territories	Mackenzie Bison Sanctuary.
Aishihik	Yukon	None identified, but occupied habitat is government-owned.
Hay-Zama	Alberta	Wildlife Management Area.
Nahanni	Northwest Territories, southeast Yukon, northeast British Columbia.	None identified, but occupied habitat is government-owned.
Nordquist	British Columbia	Portage Brule Rapids Ecological Reserve, Smith River Ecological Reserve, Smith River Falls–Fort Halkett Park, Liard River Corridor Park, Liard River Hotsprings Park, Liard River West Corridor Park, Liard River Corridor Protected Area, Hyland River Park, Muncho Lake Park, and Milligan Hills Park.
Etthithun	British Columbia.	
Chitek Lake	Manitoba	Chitek Lake Reserve.
Free-ranging, diseased herds:		
Wood Buffalo National Park	Alberta, Northwest Territories	Wood Buffalo National Park.

Ecological reserves are established in part for the protection of rare and endangered plants and animals in their natural habitat; preservation of unique, rare, or outstanding botanical, zoological, or geological phenomena; and perpetuation of important genetic resources. Research and educational functions are the primary uses for ecological reserves, but are open to the public for non-consumptive, observational uses. Plans are developed by the Ministry of Environment to provide protection and management to ensure long-term maintenance. Resource use, such as tree cutting, hunting, fishing, mining, domestic grazing, camping, lighting of fires and removal of materials, plants or animals, and the use of motorized vehicles are prohibited (British Columbia 2010, unpaginated).

Although there are numerous parks and ecological reserves throughout the range of the wood bison, these areas do not necessarily encompass all of the individuals of a herd. Individuals frequently move into and out of these areas; therefore, wood bison herds are only afforded protection while within the boundaries of the park or ecological reserve.

The Federal Environmental Assessment and Review Process (EARP) was introduced in Canada in 1973. In 1995, the Canadian Environmental Assessment Act replaced EARP and strengthened the Environmental Impact Assessment (EIA). The Canadian Environmental Assessment Act outlines responsibilities and procedures for the EIA of projects for which the Canadian Government holds decision-making authority. The purposes of EIAs are to minimize or avoid adverse environmental effects before they occur and to incorporate environmental factors into decision making. All projects in National Parks must have an EIA. An EIA is also required under the law of the provinces and territories. Municipalities and corporations are subject to the EIA requirements of their respective provincial, territorial, or land claim jurisdictions, and are also subject to the Canadian Environmental Assessment Act if the Canadian Government holds some decision-making authority concerning the proposed development or the acceptability of its impacts. This legislation ensures that any projects conducted on Canada's government-owned lands, including National Parks, are carefully reviewed before Canadian authorities take action so that projects do not cause significant adverse environmental effects, including areas surrounding the project. It encourages Canadian authorities to take actions that promote sustainable development (Canadian Environmental Assessment Agency 2010, unpaginated). If a project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances, even after taking into account appropriate mitigation measures, the project will not be carried out in whole or in part (Canadian Environmental Assessment Act (20)(b) and (37)(b)).

Canada's Provincial and Territorial Regulatory Mechanisms

Provincial and territorial governments within Canada can use the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade

Act (WAPPRIITA) to control transport of wood bison across their borders. This law applies to wood bison because it is on the CITES control list (CITES is discussed below, under ''International Regulatory Mechanisms''). The WAPPRIITA prohibits the import, export, and interprovincial transportation of CITES-listed species or any Canadian species whose capture, possession, and transportation are regulated by provincial or territorial laws, unless the specimens are accompanied by the appropriate documents (licenses, permits). In all cases, the WAPPRIITA applies to the animal, alive or dead, as well as to its parts and any derived products (Environment Canada 2010, p.1).

In addition to national-level legislation that provides protection to wood bison, there is also protection at the provincial level. Alberta, the Northwest Territories, British Columbia, Manitoba, and the Yukon Territory classify wood bison as wildlife, which is the property of the provincial or territorial government. In 1995, the Government of Alberta established a Wildlife Management Area to protect the Hay-Zama herd and listed the wood bison as endangered within the protected area under the Alberta Wildlife Act (Gates *et al.* 2010, p. 71). In this area, all wood bison are legally protected from hunting; outside of the area they are not protected.

The Northwest Territories Wildlife Act enables the Minister of Environment and Natural Resources to prohibit the importation of any wildlife into the Northwest Territories without a permit. This prohibits uncontrolled importation of plains bison. In May 1964, wood bison were declared in danger of becoming extinct under the Northwest Territories Act and are now designated as a protected species in the Northwest Territories. As such, sport hunting and subsistence hunting by aboriginal people may occur, but is regulated.

Wood bison are on British Columbia's Red List of species and subspecies that are candidates for legal designation as endangered or threatened under the Wildlife Act (Harper 2002, p. 3). Wood bison are an endangered species under the Yukon Act, a ''specially protected species'' under the Wildlife Act (Yukon legislation), and are listed as protected under Manitoba's Wildlife Act. Bison are considered domestic when held in captivity under permit or license for game farming purposes. If a wood bison escapes captivity, the provincial or territorial government acquires ownership of the animal, and it, therefore, becomes protected (Harper and Gates 2000, p. 919).

Other Canadian Regulatory Mechanisms

Although there is tight control over the transmission of disease across the Canadian border, control of disease within Canada is more challenging. As explained above (Factor C), there is a program to detect and eradicate tuberculosis and brucellosis in farmed animals in Canada in order to protect the health of food-producing and companion animals, safeguard human health, and safeguard the health of free-roaming wildlife. In addition, buffer zones in which dispersing animals may be harvested have been created around the diseased herds to reduce the risk of bovine tuberculosis and brucellosis infection of the Mackenzie and Nahanni herds, which are most at risk from infection from animals at WBNP. In addition, the Governments of the Northwest Territories, Alberta, and British Columbia have designated management zones to reduce the risk of dispersing animals transmitting disease to disease-free herds in their provinces. However, as noted above, buffer zones are not ideal for preventing the spread of disease because they are sporadically patrolled and imperfectly enforced. Existing regulations and policies address the transmission of disease within Canada, but it is impossible to regulate the movement of wild animals across a large, mostly uninhabited landscape. Thus, we conclude that regulatory mechanisms are in place to minimize the spread of disease but because of the difficulty in containing herds of wild animals, the mechanisms are inadequate to prevent the spread of disease.

Under Factor E, we conclude that loss of genetic integrity through hybridization is a threat to wood bison. Preventing hybridization between plains bison and free-roaming wood bison is a goal of the recovery plan and is important to the conservation of the subspecies (Gates *et al.* 2001, p. 33). There is one free-ranging plains bison herd in Canada, in British Columbia, which was established as a result of the plains bison escaping from their enclosure. Preventing interbreeding between free-ranging plains bison and wood bison is a management objective in British Columbia and is accomplished by maintaining a large physical separation between the herds and having a management zone around the plains bison herd that allows harvest of plains bison within this zone (Harper *et al.* 2000, p. 23).

As discussed earlier under Factor A, plains bison presence on the landscape is increasing and commercial plains bison operations in Canada are expanding. The presence of plains bison within the historical range of wood bison increases the probability that wood bison will come into contact with them. Ranchers are most likely highly motivated by economics to prevent the escape of their animals and to recapture them if they do escape. It is unlikely that additional government regulations would improve on this basic incentive; therefore, although there may not be specific regulations regarding how plains bison should be contained, such regulations are not viewed as necessary or effectual. As mentioned above, buffer zones are not ideal for preventing the movement of free-ranging bison. Thus, although regulations are in place by which the Pink Mountain plains bison herd (a free-ranging herd) can be managed, and there is no indication that they have not been effective, they may not be 100 percent effective in preventing hybridization in the future because of the difficulty of managing wild animals over large areas of forested landscape.

U.S. Regulatory Mechanisms

In the United States, as an endangered species under the Act, pure wood bison can be imported only by permit for scientific research or enhancement of propagation or survival of the species. Wood/plains bison hybrids, however, are not protected by the Act and can be imported if the required CITES Foreign Export Permits are obtained from Canada prior to the import. When the wood bison is reclassified to threatened (see **DATES**, above), import of trophies legally taken and properly permitted can also occur. Because of the regulations in place in Canada for all hunts and the permits required for import and export under CITES, we do not anticipate that reclassification will cause any increase in the number of animals killed or have any effect on the herds that are hunted.

International Regulatory Mechanisms

The wood bison is listed on Appendix II of CITES. CITES, an international treaty among 175 nations, including Canada and the United States, became effective in 1975. In the United States, CITES is implemented through the U.S. Endangered Species Act. The Secretary of the Interior has delegated the Department of the Interior's responsibility for CITES to the Director of the Service and established the CITES Scientific and Management Authorities to implement the treaty.

CITES provides varying degrees of protection to more than 32,000 species of animals and plants that are traded as whole specimens, parts, or products.

Under this treaty, member countries work together to ensure that international trade in animal and plant species is not detrimental to the survival of wild populations by regulating the import, export, and reexport of CITES-listed animal and plant species (USFWS 2010, unpaginated). Under CITES, a species is listed on an Appendix and receives varying levels of regulation of international trade through permit and certification requirements depending upon the particular Appendix in which the species is listed (CITES 2010b, unpaginated). CITES Appendix-II species are not necessarily considered to be threatened with extinction now but may become so unless trade in the species is regulated. Appendix II allows for regulated trade, including commercial trade, as long as the exporting country issues a CITES permit based on findings that the specimen was legally acquired and the export will not be detrimental to the survival of the species. As discussed above under Factor B, we do not consider international trade to be a threat impacting the wood bison. Therefore, protection under this treaty is an adequate regulatory mechanism.

Summary of Factor D

The wood bison is currently protected through a variety of regulatory mechanisms, and we anticipate those protections to continue. The wood bison and its habitat is protected by Canadian Federal, provincial, and territorial law. Internationally, its trade is regulated by CITES. International trade is limited to animals surplus to recovery needs in Canada, as determined under guidance of the National Wood Bison Recovery Team. In the United States, activities involving wood bison are regulated by the Endangered Species Act, and with reclassification, they will continue to be regulated. Federal agencies will need to consult with the Service on activities within the United States that may affect the species, and Federal permits will be required for scientific collection or any other form of take.

Disease and hybridization have been identified as threats to wood bison. Although buffer zones have been established and regulations implemented for the management of the buffer zones to minimize the potential of disease spread and hybridization, buffer zones have limitations and are an imperfect means by which to prevent animal movement. Therefore, we conclude that existing regulatory mechanisms are inadequate to completely protect wood bison from these threats.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Accidental Mortality

Because bison follow linear landmarks and prefer open areas, vehicles on roads and other linear developments, such as railroad lines, present a hazard to wood bison. Collisions with vehicles are the largest source of known mortality for individuals in the Hay-Zama herd (Mitchell and Gates 2002, p. 9). For the Nordquist herd, vehicle collisions are a significant mortality factor (Wildlife Collision Prevention Program. 2010, pp. 22–23). The herd was established in the Nordquist Flats area, near the Liard River in northeastern British Columbia; however, individuals, and then the majority of the herd, moved to the Alaska Highway corridor. In January 2007, a limited aerial survey counted 97 wood bison, all of which were on the highway right-of-way, except for four bulls, which were observed within 500 m (1,640 ft) of the road (Reynolds *et al.* 2009, p. 6). Three of 15 wood bison introduced to the Etthithun Lake area in 1996 were killed in collisions with industrial road traffic during the first winter (Harper and Gates 2000, p. 921). The Yukon government has a ''bison-free'' policy in the vicinity of the Alaska Highway that includes deterrence, capture, and ultimately the destruction of problem animals (Yukon Fish and Wildlife Co-management undated, p. 1). During the growth phase of the Aishihik herd from 1988 to 1993, 49 wood bison were removed from the Alaska Highway right-of-way because of vehicle collisions and problem wildlife complaints (Boyd 2003, p. 187). Of these, 36 were captured and moved to a game farm, 8 were killed in collisions, and 5 were intentionally killed (Wildlife Collision Prevention Program 2010, unpaginated). From 1989 to 2007, collisions with vehicles killed from 1 to 30 wood bison annually from three herds combined in the Northwest Territories; fewer than 10 were killed annually in 11 of the 18 years (Wildlife Collision Prevention Program 2010, unpaginated).

Because of continued or increased resource development, tourism, and off-road vehicle use, it is anticipated that mortality from collisions with vehicles will be a source of individual mortality for several populations. Because mortality from road collisions represents a small portion of the total subspecies population, and efforts are made to reduce bison/highway conflicts, this source of mortality is not expected to have a significant impact at the subspecies population level.

Spring flooding in the Peace-Athabasca River Delta in 1958, 1961, and 1974 killed approximately 500, 1,100, and 3,000 wood bison, respectively (Reynolds *et al.* 2003, p. 1029). Autumn flooding in the same area in 1959 killed an estimated 3,000 wood bison (Reynolds *et al.* 2003, p. 1029). This region is within WBNP where the diseased herds reside. Most likely a small number of animals drown each year when caught by floods or when they break through ice (Soper 1941, p. 403; Larter *et al.* 2003, p. 411). Large drowning events have not been documented from other rivers, and no large mortality events have been documented in recent years. Drowning is also recognized as a cause of mortality in the Chitek Lake, Mackenzie, and Nahanni herds (Larter *et al.* 2003, p. 411). Because mortality due to drowning typically affects only a portion of a herd and herd sizes are increasing (see Table 1, above), drowning does not appear to be having a population-level effect on wood bison.

Although wood bison are hardy and very cold tolerant (Gates *et al.* 2010, p. 24), above-average snowfall, long periods of sub-zero temperatures, and midwinter thaws followed by freezing can cause mortality. Such severe winter conditions reduce forage availability (Reynolds *et al.* 2003, p. 1030). Rain-on-snow events can also form an ice layer that creates a barrier to forage for herbivores (Putkonen 2009, p. 221). Freezing rain in autumn that causes ground-fast ice to form before snow cover accumulates, ice layering in the snow cover, crusting of the snow, and the formation of ground-fast ice in spring increase the energy required to obtain forage or make forage unobtainable (Gunn and Dragon 2002, p. 58). Soper (1941, pp. 403–404) recounts several stories in which excessive snowfall caused mass mortalities of wood bison, and Van Camp and Calef (1987, p. 23) report that 33 percent of the diseased wood bison herd in the Slave River lowlands was lost during the severe winter of 1974–1975. Starvation in bad winters is recognized as a source of mortality for wood bison in the Chitek Lake herd. We have no information indicating that starvation is having a population-level effect on any of the herds currently.

Rain-on-snow events may increase in the face of climate change (Rennert *et al.* 2009, p. 2312). A doubling of carbon dioxide is estimated to cause a 40 percent increase in the area impacted by rain-on-snow events in the Arctic by 2080 (Rennert *et al.* 2009, p. 2312). Rain-on-snow events may become more prevalent primarily in northwestern

Canada, Alaska, and eastern Russia (Rennert *et al.* 2009, p. 2312). We have no reports that rain-on-snow events have led to the deaths of bison, but they could be susceptible to starvation by such events.

Genetic Issues

Genetic diversity in wood bison has been reduced through the large historic reduction in overall population size and the starting of new populations with very few individuals (founder effect). Genetic diversity is the primary means by which organisms can adapt to changing environmental conditions over time. Low levels of genetic diversity can reduce the ability of a population to respond to environmental changes. Current wood bison herds were established from relatively few founders (Wilson and Strobeck 1999, pp. 484–486). For example, the Elk Island National Park herd was started from 11 individuals, and the Mackenzie herd was started from 16 (Gates *et al.* 1992, p. 150; Wilson and Strobeck 1999, p. 494). Inbreeding, the mating of related individuals, can lead to lower fecundity, increased abnormalities, reduced growth rates, and other issues. Although inbreeding is more likely to occur in small herds or in herds that are isolated, it has not been documented in wood bison. Starting new populations with multiple groups of animals is one way to avoid or minimize the founder effect as was done in the establishment of the Aishihik and Nahanni herds. Moving disease-free animals from one herd to another is another method to maintain genetic diversity. One of the wood bison recovery goals is to ensure that the genetic integrity of wood bison is maintained. Because no effects of inbreeding have been documented and management actions have been shown to be effective, we conclude that loss of genetic diversity is not a threat to wood bison now or in the foreseeable future.

Hybridization occurs when individuals from genetically distinct groups such as wood bison and plains bison interbreed. The introduction of plains bison to WBNP in the 1920s put the two distinct subspecies in contact with each other and threatened the genetic purity of wood bison (Gates *et al.* 2010, p. 17). The discovery of an isolated subpopulation of wood bison in 1957, and subsequent translocation of individuals, created the Mackenzie and Elk Island National Park herds, which were thought to be pure wood bison. Genetic analysis has indicated that these bison did have limited contact with plains bison, but it was minimal enough that the animals exhibit predominantly wood bison traits and wood bison herds originating from these founders are genetically more similar to one another than they are to plains bison (van Zyll de Jong *et al.* 1995, pp. 401–404; Wilson and Strobeck 1999, p. 493). Although recovery actions emphasize maintaining the genetic integrity of wood bison (i.e., recovery goal number 3) (Gates *et al.* 2001, p. 33), as discussed earlier under Factor A, the presence of plains bison on the landscape is increasing. Commercial plains bison operations in Canada are expanding, and the Pink Mountain plains bison herd was established in British Columbia as a result of plains bison escaping from an enclosure. The commercial plains bison operations and plains bison herds remove potential habitat for wood bison, and the presence of plains bison within the historical range of wood bison increases the probability that wood bison will come into contact with them. For these reasons, loss of genetic integrity through hybridization is a threat to wood bison and will remain so in the foreseeable future.

Summary of Factor E

Accidental mortality typically occurs randomly and cannot be predicted. We expect accidents to continue at the same rate and scale as they have in the past, into the future, but only expect this to affect individuals and not be significant enough to affect the species as a whole. Relative to genetic diversity, inbreeding in wood bison has not been documented, and management actions are in place to prevent further loss of genetic diversity. The status of genetic issues relating to hybridization could change relatively rapidly, especially if plains bison were to escape from captivity in close proximity to a wood bison herd. Currently, free-ranging wood bison and plains bison herds are widely separated from one another, but as herd size grows, the separation shrinks, increasing the odds that they may come into contact with one another. Furthermore, bison are difficult animals to contain, they can travel long distances, and the wood and plains bison can readily interbreed.

In summary, accidental mortality will continue to occur regularly, primarily through collisions with vehicles and drowning. In addition, climate change may create localized weather conditions such as above-average snowfall, long periods of sub-zero temperatures, or ground-fast ice formation that can lead to winter mortality of portions of herds. Given the number of herds and their wide distribution across the landscape, we conclude that accidental mortality and starvation are not threats to wood bison now or in the foreseeable future. It is recognized that genetic diversity in wood bison is relatively low, and that the herds must be managed to maintain genetic diversity. Loss of genetic diversity is a factor that may limit the ability of wood bison to adapt to changing conditions in the future, but the magnitude of that limitation, if it exists, is unknown. Lack of genetic diversity is potentially limiting over the long term, depending on the magnitude of environmental change wood bison may face. Because no effects of inbreeding have been documented and management actions have been shown to be effective, we conclude that loss of genetic diversity is not a threat to wood bison now or in the foreseeable future. Hybridization with plains bison is a threat that most likely will increase in the future. Because of consumer demand for bison meat, we expect commercial bison production will continue to expand, removing suitable habitat for wood bison recovery herds, and increasing the probability that escaped plains bison will be free on the landscape. Hybridization is a threat to wood bison now and in the foreseeable future.

Finding

As required by the Act, we considered the five factors in assessing whether the wood bison is endangered or threatened throughout all or a significant portion of its range. We reviewed the petition, information available in our files, comments and information we received after the publication of our 90-day finding (74 FR 5908, February 3, 2009), comments and information we received after the publication of our proposed rule to reclassify wood bison (76 FR 6734, February 8, 2011), and other available published and unpublished information. We also consulted with recognized experts. We have carefully assessed the best available scientific and commercial data regarding the past, present, and future threats faced by wood bison. We found that threats to wood bison are still present in factors A, C, D, and E. Habitat loss has occurred from agricultural development, and we expect losses will continue in concert with human growth and expansion of agriculture, including commercial bison production. The presence of bovine brucellosis and bovine tuberculosis constrains herd growth as: Managers attempt to maintain physical separation between diseased and disease-free wood bison and cattle herds, the diseased herds are occupying habitat that could be restored with disease-free herds, and disease in the largest potential donor population (WBNP herd) prevents those animals from being used in

reintroduction projects. Plains bison are commercially produced in historical wood bison habitat. These operations remove potential habitat from wood bison recovery efforts, and the escape of plains bison poses a threat to wood bison because of hybridization and the loss of genetic integrity. Finally, we found that regulatory mechanisms are inadequate to prevent disease transmission and hybridization within Canada.

In addition to the five-factor analysis, we took into consideration the conservation actions that have occurred, are ongoing, and are planned. Since listing, the subspecies' status has improved as a result of the following:

- Enactment and enforcement of national and international laws and treaties have minimized the impacts of hunting and trade.
- Reintroduction of disease-free herds has increased the number of free-ranging herds from 1 population of 300 in 1978, to 7 populations totaling 4,414 bison in 2008.
- Diseased and disease-free, free-ranging populations are stable or increasing.

In sum, the continued reintroduction of disease-free herds, the ongoing development and updating of management plans, the active management of herds, the ongoing research, and the protections provided by laws and protected lands provide compelling evidence that recovery actions have been successful in reducing the risk of extinction associated with the threats identified. We anticipate that continued growth and expansion of the herds would further reduce the risk of extinction in the future.

The primary factor that led to the listing of the wood bison was the small number of free-ranging, disease-free animals on the landscape. However, the trend today is towards increasing numbers of disease-free herds and population sizes. We find that the threats identified under factors A, C, D, and E, when combined with the increase in number of herds and population sizes, ongoing active management, and protections provided by laws, are not of sufficient imminence, intensity, or magnitude to indicate that the wood bison is presently in danger of extinction. The wood bison therefore no longer meets the definition of endangered under the Act. However, threats to wood bison still exist and will likely continue into the foreseeable future. In particular, there are no easy solutions for dealing with the diseased animals. No effective vaccines exist for brucellosis, tuberculosis, or anthrax for free-ranging populations. In addition, although recommendations for the management of the diseased herds in and around WBNP have been suggested (FEAP 1990, p. 2), they have not yet been implemented, it is unknown if they will be implemented, and it is unknown how implementation of the recommendations would affect the status of the subspecies. Therefore, we have determined that the wood bison meets the definition of threatened under the Act. Consequently, we are reclassifying the wood bison's listing status from endangered to threatened with this rule.

In our February 8, 2011, proposed rule (76 FR 6734), we determined that the Aishihik and Chitek Lake herds are discrete under our Distinct Vertebrate Population Segment policy (61 FR 4722, February 7, 1996), but are not significant, and therefore, did not qualify as a distinct population segment. In that proposed rule, we also considered whether there is a significant portion of the range where the wood bison is in danger of extinction and did not identify any area or herd whose loss would result in a decrease in the ability to conserve the species as a whole. Consequently, as described in the proposed rule, we are not listing a distinct population segment of wood bison and we have not identified a portion of the range that is so significant to the species that threats there imperil the species as a whole.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and encourages and results in conservation actions by Federal governments, private agencies and groups, and individuals. The Act encourages cooperation with the States and requires that recovery actions be carried out for all listed species. The protection measures required of Federal agencies and the prohibitions against certain activities are discussed, in part, below.

Section 7(a) of the Act, as amended, and as implemented by regulations at 50 CFR part 402, requires Federal agencies to evaluate their actions within the United States or on the high seas with respect to any species that is proposed or listed as endangered or threatened, and with respect to its critical habitat, if any is being designated. If a species is listed subsequently, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. However, given that there are no wild populations of wood bison in the United States, critical habitat is not being designated for this species under section 4 of the Act.

Section 8(a) of the Act authorizes limited financial assistance for the development and management of programs that the Secretary of the Interior determines to be necessary or useful for the conservation of endangered and threatened species in foreign countries. Sections 8(b) and 8(c) of the Act authorize the Secretary to encourage conservation programs for foreign endangered species and to provide assistance for such programs in the form of personnel and the training of personnel.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered and threatened wildlife. As such, these prohibitions are, and will continue to be when this rule is effective (see **DATES**, above), applicable to the wood bison. These prohibitions, under 50 CFR 17.21 (50 CFR 17.31 for threatened wildlife species), make it illegal for any person subject to the jurisdiction of the United States to ''take'' (take includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt any of these) within the United States or upon the high seas, import or export, deliver, receive, carry, transport, or ship in interstate or foreign commerce in the course of a commercial activity, or to sell or offer for sale in interstate or foreign commerce, any endangered wildlife species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken in violation of the Act. Certain exceptions apply to agents of the Service and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered and threatened wildlife species under certain circumstances. Regulations governing permits are codified at 50 CFR 17.22 for endangered species, and at 50 CFR 17.32 for threatened species. With regard to endangered wildlife, a permit must be issued for the following purposes: for scientific purposes, to enhance the propagation or survival of the species, and for incidental take in connection with otherwise lawful activities. For threatened species, a permit may be issued for the same activities, as well as zoological

exhibition, education, and special purposes consistent with the Act.

Effects of This Rule

This final rule revises 50 CFR 17.11(h) to reclassify the wood bison from endangered to threatened. This rule formally recognizes that this species is no longer presently in danger of extinction throughout all or a significant portion of its range. However, this reclassification does not significantly change the protection afforded this species under the Act. The regulatory protections of section 9 and section 7 of the Act remain in place. Anyone taking, attempting to take, or otherwise possessing a wood bison, or parts thereof, in violation of section 9 of the Act is still subject to a penalty under section 11 of the Act, unless their action is covered under a special rule under section 4(d) of the Act. We are not currently publishing a special rule under section 4(d) of the Act for the wood bison at this time. However, section 9(c)(2) of the ESA sets out an exemption to the general import prohibition for threatened, Appendix-II wildlife, both live and dead, when: (1) The taking and export meet all provisions of CITES; (2) all other import and reporting requirements under section 9 of the ESA are met; and (3) the import is not made in the course of a commercial activity. Since the wood bison is currently listed in Appendix II of CITES, upon the effective date of this publication, and the reclassification of the wood bison from endangered to threatened, this ESA exemption is generally applicable. Because a sport-hunted trophy is not a specimen obtained or imported in the course of a commercial activity, the section 9(c)(2) ESA exemption would typically apply to the import of sport-hunted trophies, provided that all other requirements of section 9(c)(2) of the ESA are met.

Under section 7 of the Act, Federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of the wood bison. Because no free-ranging herds of wood bison occur in Alaska or any other State, we do not anticipate that there will be an additional regulatory responsibility because of this rule.

Required Determinations

Paperwork Reduction Act

This rule does not contain any new information collections or recordkeeping requirements for which Office of Management and Budget (OMB) approval is required under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). We may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act

We have determined that we do not need to prepare an environmental assessment or environmental impact statement, as defined under the authority of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

A complete list of the references cited is available at *http://www.regulations.gov* at Docket No. FWS–R9–IA–2008–0123 or upon request from the Alaska Regional Office (see **ADDRESSES**).

Author

The primary author of this rule is Marilyn Myers, Ph.D., Fisheries and Ecological Services, Alaska Regional Office, 1011 E. Tudor Road, Anchorage, AK 99503; 907–786–3559.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

Accordingly we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

■ 1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

■ 2. Amend § 17.11(h) by revising the entry for ''Bison, wood'' under MAMMALS in the List of Endangered and Threatened Wildlife to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS							
*	*	*	*	*	*	*	
Bison, wood	*Bison bison athabascae*.	Canada, Alaska	Entire	T	3,803	NA	NA
*	*	*	*	*	*	*	

Dated: April 24, 2012.

Daniel M. Ashe,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 2012–10635 Filed 5–2–12; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 111213751–2102–02]

RIN 0648–XC013

Fisheries of the Exclusive Economic Zone Off Alaska; Atka Mackerel in the Bering Sea and Aleutian Islands Management Area

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; closure.

SUMMARY: NMFS is prohibiting directed fishing for Atka mackerel in the Central Aleutian district (CAI) of the Bering Sea and Aleutian Island management area (BSAI) by vessels participating in the BSAI trawl limited access fishery. This action is necessary to prevent exceeding the A season allowance of the 2012 Atka mackerel total allowable catch (TAC) in the CAI allocated to vessels participating in the BSAI trawl limited access fishery.

DATES: Effective 1200 hrs, Alaska local time (A.l.t.), April 30, 2012, through 1200 hrs, A.l.t., June 10, 2012.

FOR FURTHER INFORMATION CONTACT: Steve Whitney, 907–586–7269.

SUPPLEMENTARY INFORMATION: NMFS manages the groundfish fishery in the BSAI exclusive economic zone according to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

The A season allowance of the 2012 Atka mackerel TAC, in the CAI, allocated to vessels participating in the BSAI trawl limited access fishery was established as a directed fishing allowance of 476 metric tons by the final 2012 and 2013 harvest specifications for groundfish in the BSAI (77 FR 10669, February 23, 2012).

In accordance with § 679.20(d)(1)(iii), the Administrator, Alaska Region, NMFS, finds that this directed fishing allowance has been reached. Consequently, NMFS is prohibiting directed fishing for Atka mackerel in the CAI by vessels participating in the BSAI trawl limited access fishery.

After the effective dates of this closure, the maximum retainable amounts at § 679.20(e) and (f) apply at any time during a trip.

Classification

This action responds to the best available information recently obtained from the fishery. The Acting Assistant Administrator for Fisheries, NOAA, (AA) finds good cause to waive the requirement to provide prior notice and opportunity for public comment pursuant to the authority set forth at 5 U.S.C. 553(b)(B) as such a requirement is impracticable and contrary to the public interest. This requirement is impracticable and contrary to the public interest as it would prevent NMFS from responding to the most recent fisheries data in a timely fashion and would delay the closure of the Atka mackerel fishery in the CAI for vessels participating in the BSAI trawl limited access fishery. NMFS was unable to publish a notice providing time for public comment because the most recent, relevant data only became available as of April 27, 2012. The AA also finds good cause to waive the 30-day delay in the effective date of this action under 5 U.S.C. 553(d)(3). This finding is based upon the reasons provided above for waiver of prior notice and opportunity for public comment.

This action is required by § 679.20 and is exempt from review under Executive Order 12866.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: April 30, 2012.

Emily H. Menashes,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2012–10682 Filed 4–30–12; 4:15 pm]

BILLING CODE 3510–22–P