Paperwork Reduction Act of 1995, Public Law 104–13. In addition, therefore, it does not contain any proposed information collection burden ''for small business concerns with fewer than 25 employees,'' pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(c)(4).

Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. *See* 47 CFR 1.1204(b) for rules governing permissible *ex parte* contacts.

For information regarding proper filing procedures for comments, see 47 CFR 1.415 and 1.420.

**List of Subjects in 47 CFR Part 73**

Television, Television broadcasting.

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

## PART 73—RADIO BROADCAST SERVICES

1. The authority citation for part 73 continues to read as follows:

**Authority:** 47 U.S.C. 154, 303, 334, 336.

**§ 73.202 [Amended]**

2. Section 73.622(i), the DTV Table of Allotments under California, is amended by substituting channel 35 for channel 45.

Federal Communications Commission.

**Clay C. Pendarvis,**

*Associate Chief, Video Division, Media Bureau.*

[FR Doc. E8–4909 Filed 3–10–08; 8:45 am]

**BILLING CODE 6712–01–P**

## DEPARTMENT OF THE INTERIOR

## Fish and Wildlife Service

## 50 CFR Part 17

**[FWS–R6–2008–0029; 1111 FY07 MO–B2]**

## Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List the North American Wolverine as Endangered or Threatened

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of 12-month petition finding.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list as an endangered or threatened species under the Endangered Species Act of 1973, as amended (Act), the population of the North American wolverine (*Gulo gulo luscus*) that occurs in the contiguous United States. After a review of the best available scientific and commercial information, we have determined that the population of North American wolverine occurring in the contiguous United States does not constitute a listable entity under the Act. Therefore, we find that the petition to list the North American wolverine (*Gulo gulo luscus*) that occurs in the contiguous United States is not warranted for listing. The Service will continue to seek new information on the taxonomy, biology, ecology, and status of the North American wolverine and we will continue to support cooperative conservation of wolverines in the contiguous United States.

**DATES:** This finding was made on March 11, 2008.

**ADDRESSES:** This finding is available on the Internet at *http://www.regulations.gov*. Supporting documentation we used to prepare this finding is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Montana Field Office, 585 Shepard Way, Helena, MT 59601; telephone (406) 449–5225. Please submit any new information, materials, comments, or questions concerning this finding to the above street address.

**FOR FURTHER INFORMATION CONTACT:** Mark Wilson, Field Supervisor, U.S. Fish and Wildlife Service, Montana Field Office (see **ADDRESSES**). If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

**SUPPLEMENTARY INFORMATION:**

### Background

Section 4(b)(3)(B) of the Act (16 U.S.C. 1531 et seq.) requires that, for any petition containing substantial scientific and commercial information that listing may be warranted, we make a finding within 12 months of the date of receipt of the petition on whether the petitioned action is: (a) Not warranted, (b) warranted, or (c) warranted, but that immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether species are threatened or endangered, and expeditious progress is being made to add or remove qualified species from the Lists of Endangered and Threatened Wildlife and Plants. Section 4(b)(3)(C) of the Act requires that we treat a petition for which the requested action is found to be warranted but precluded as though resubmitted on the date of such finding, that is, requiring a subsequent finding to be made within 12 months. We must publish these 12-month findings in the **Federal Register**.

### Previous Federal Actions

We received a petition dated August 3, 1994, from the Predator Project (now named the Predator Conservation Alliance) and Biodiversity Legal Foundation to list the North American wolverine in the contiguous United States as a threatened or endangered species under the Act and to designate critical habitat concurrent with listing. On April 19, 1995, we published a finding (60 FR 19567) that the petition did not provide substantial scientific or commercial information indicating that listing the North American wolverine in the contiguous United States may be warranted. We did not make a determination as to whether the contiguous United States population of the North American wolverine constituted a distinct population segment or other listable entity.

On July 14, 2000, we received another petition dated July 11, 2000, submitted by the Biodiversity Legal Foundation, Predator Conservation Alliance, Defenders of Wildlife, Northwest Ecosystem Alliance, Friends of the Clearwater, and Superior Wilderness Action Network, to list the North American wolverine within the contiguous United States as a threatened or endangered species under the Act and to designate critical habitat for the species concurrent with the listing.

On October 21, 2003, we published a 90-day finding that the petition to list the North American wolverine in the contiguous United States did not present substantial scientific and commercial information indicating that listing as threatened or endangered may be warranted (68 FR 60112). We did not determine whether the contiguous United States population of the North American wolverine constituted a distinct population segment (or other listable entity), because sufficient information was not available at the time.

On September 29, 2006, as a result of a complaint filed by Defenders of Wildlife and others alleging we used the wrong standards to assess the wolverine petition, the U.S. District Court, Montana District, ruled that our 90-day

petition finding was in error and ordered us to make a 12-month finding for the wolverine (*Defenders of Wildlife et al.* v. *Norton and Hogan* (9:05cv99 DWM; D. MT)). On April 6, 2007, the Court approved an unopposed motion to extend the deadline for this 12-month finding to February 28, 2008, so that we would be able to use information published in the September 2007 edition of the *Journal of Wildlife Management* containing a special section on North American wolverine biology. On June 5, 2007, we published a notice initiating a status review for the wolverine (72 FR 31048).

**Species Biology**

The currently accepted taxonomy classifies wolverines worldwide as a single species, *Gulo gulo*. The wolverine has a holarctic distribution. Old and New World wolverines are divided into separate Old World and New World subspecies. Wolverines of Eurasia (Old World) comprise the subspecies *G. g. gulo*. Wolverines in the contiguous United States are a part of the New World or North American (United States and Canada) subspecies, *G. g. luscus* (Kurten and Rausch 1959, p. 19; Pasitschniak-Arts and Lariviere 1995, p. 1). The two subspecies differ in minor aspects of skull morphology (Kurten and Rausch 1959, p. 19), but significant differences in ecology, behavior, demography, or natural history do not appear to exist. Most authors, when discussing these aspects of wolverine biology, refer to New and Old World wolverines interchangeably (e.g., Pasitschniak-Arts and Lariviere 1995, entire). We consider the Old and New World subspecies to be similar and reliable enough to refer to information on Old World wolverines (*G. g. gulo*) as a surrogate for the North American wolverine in this finding when such information is not available specifically for the North American subspecies.

The wolverine is the largest terrestrial member of the family *Mustelidae*. Adult males weigh 12 to 18 kilograms (kg) (26 to 40 pounds (lb)), and adult females weigh 8 to 12 kg (17 to 26 lb) (Banci 1994, p. 99). The wolverine resembles a small bear with a bushy tail. It has a broad, rounded head; short, rounded ears; and small eyes. Each foot has five toes with curved, semi-retractile claws used for digging and climbing (Banci 1994, p. 99).

Wolverines are opportunistic feeders and consume a variety of foods depending on availability. They primarily scavenge carrion, but also prey on small animals and birds, and eat fruits, berries, and insects (Hornocker and Hash 1981, p. 1290; Hash 1987, p. 579; Banci 1994, pp. 111–113). Wolverines have an excellent sense of smell that enables them to find food beneath deep snow (Hornocker and Hash 1981, p. 1297). Wolverines consume large ungulate carrion when available. The most important food items in wolverine diets are large ungulate species, followed by small animals such as beaver, marmots, ground squirrels, rabbits, hares, porcupine, voles, ground nesting birds, and insects (Banci 1994, p. 112; Pasitschniak-Arts and Lariviere 1995, pp. 498–499). The large ungulates in wolverine diets are assumed to be the result of scavenging, although wolverines are able to occasionally kill large ungulates in deep snow conditions when ungulate mobility is impaired (Pasitschniak-Arts and Lariviere 1995, pp. 498–499). Large ungulates comprise a larger proportion of the diet in winter than in snow-free seasons (Banci 1994, Table 5). The availability of large ungulate herds is of paramount importance for wolverines and the availability of large mammals underlies the wolverine's distribution, survival, and reproductive success (Banci 1994, p. 111).

Wolverines have delayed onset of reproduction in females and small litter sizes. Studies of wolverine carcasses from trapper harvest have provided some useful data on reproductive parameters (Rausch and Pearson 1972, pp. 253–267; Liskop et al. 1981, pp. 472–476; Banci and Harestad 1988, pp. 266–268). These carcass studies indicate that a large number of female wolverines (40 percent) are apparently capable of giving birth at 2 years old, become pregnant most years, and produce average litter sizes of approximately 3.4 kits. However, carcass studies are subject to overestimating frequency of reproduction and the number of kits per litter, and underestimating the age at first reproduction because embryos are often resorbed by females that are energetically unable to complete pregnancy (Persson *et al.* 2006, p. 75; Inman et al. 2007c, p. 70). These aborted pregnancies result in corpora lutea (uterine scarring) in the female reproductive tract, leading to the erroneous conclusion that a female had reproduced at an early age and that litter sizes are relatively large.

Field studies using radio telemetry are better able to determine the actual age at first reproduction and the actual number of kits successfully raised to weaning. Based on these studies, average age at first reproduction is likely more than 3 years (Inman et al. 2007c, p. 70). Pregnant females commonly resorb or spontaneously abort litters when food availability is so low as to prevent successful completion of pregnancy or lactation to the time of weaning (Magoun 1985, pp. 30–31; Copeland 1996, p. 43; Persson et al. 2006, p. 77; Inman et al. 2007c, p. 70). Supplemental feeding of females increases reproductive potential (Persson 2005, p. 1456) and success at raising kits to the time of weaning, and indicates that food availability is likely to be a limiting factor for wolverine populations. In one study of known-aged females, none reproduced at age 2; 3 of 10 first reproduced at age 3; and 2 did not reproduce until age 4. The average age at first reproduction for this study was 3.4 years (rather than 2 years for the carcass studies above) (Persson et al. 2006, pp. 76–77). From these studies, we conclude that, by age three, nearly all female wolverines become pregnant every year, but energetic constraints resulting from low food availability result in loss of pregnancy about every other year. It is likely that, in many places in the range of wolverines in the lower 48 States, it takes 2 years of foraging for a female to store enough energy to successfully reproduce (Persson 2005, p. 1456; Inman et al. 2007c, Table 3).

Breeding generally occurs from late spring to early fall (Magoun and Valkenburg 1983, p. 175; Mead et al. 1991, pp. 808–811). Females undergo delayed implantation until the following winter to spring, when active gestation lasts from 30 to 40 days (Rausch and Pearson 1972, pp. 254–257). Litters are born between February and April and contain 1 to 5 kits, with an average in North America of between 1 and 2 kits (rather than 3.4 kits, as indicated by carcass studies) (Magoun 1985, pp. 28–31; Copeland 1996, p. 36; Krebs and Lewis 1999, p. 698; Copeland and Yates 2006, pp. 32–36; Inman et al. 2007c, p. 68).

Several aspects related to reproductive denning are significant to wolverine reproductive success (Banci 1994, p. 110; Magoun and Copeland 1998, p. 1319; Inman et al. 2007c, p. 71). Female wolverines use two kinds of dens for reproduction. Females use natal (birthing) dens to give birth and raise kits early postpartum, and in some cases females may raise kits to weaning in the natal den. However, in most situations prior to weaning, females may move kits to one or multiple alternative den sites, which are referred to as maternal dens. The female then raises her kits to weaning in the maternal den. The movement of kits from natal to maternal dens may be a response by the female to den disturbance, better food

availability in the new location, predation risk, or deteriorating den conditions in the natal den (Magoun and Copeland 1998, pp. 1316–1319).

Female wolverines use natal dens that are excavated in snow. Persistent, stable snow greater than 1.5 meters (m) (5 feet (ft)) deep appears to be a requirement for natal denning, presumably because it provides security for offspring and buffers cold winter temperatures (Pulliainen 1968, p. 342; Copeland 1996, pp. 92–97; Magoun and Copeland 1998, pp. 1317–1318; Banci 1994, pp. 109–110; Inman et al. 2007c, pp. 71–72). Female wolverines go to great lengths to find secure den sites, suggesting that predation is a concern (Banci 1994, p. 107). Natal dens consist of tunnels that contain well-used runways and bed sites, and that may naturally incorporate shrubs, rocks, and downed logs as part of their structure (Magoun and Copeland 1998, pp. 1315–1316; Inman et al. 2007c, pp. 71–72). In Idaho, natal den sites occur above 2,500 m (8,200 ft) on rocky sites, such as north-facing boulder talus or subalpine cirques in forest openings (Magoun and Copeland 1994, pp. 1315–1316). In Montana, natal dens occur above 2,400 m (7,874 ft) and are located on north aspects in avalanche debris, typically in alpine habitats near timberline (Inman et al. 2007c, pp. 71–72).

Dens (natal and maternal) are typically used from early February through late April or early May (Myrberget 1968, p. 115; Magoun and Copeland 1998, pp. 1314–1317; Inman et al. 2007b, pp. 55–59). Occupation of natal dens is variable, ranging from approximately 9 to 65 days depending on whether or not the female wolverine perceives the need to move her kits (Magoun and Copeland 1998, pp. 1316–1317). Females may use multiple secondary (maternal) dens (Pulliainen 1968, p. 343; Myrberget 1968, p. 115), or use of maternal dens may be minimal (Inman et al. 2007c, p. 69). Timing of den abandonment is related to accumulation of water in dens (snow melt), the maturation of offspring, disturbance, and geographic location (Myrberget 1968, p. 115; Magoun 1985, p. 73). Post-weaning dens are called rendezvous sites. These dens may be used through early July. Females leave their kits at rendezvous sites while foraging, and return periodically to provide food for the kits. These sites are characterized by natural (unexcavated) cavities formed by large boulders, downed logs (avalanche debris), and snow (Inman et al. 2007c, pp. 55–56).

**Habitat and Home Range**

In North America, wolverines occur within a wide variety of arctic, sub-arctic and alpine habitats, primarily boreal forests, tundra, and western mountains throughout Alaska and Canada; however, the southern portion of their range extends into the contiguous United States, including Washington, Idaho, Montana, and Wyoming (Wilson 1982, p. 644; Hash 1987, p. 576; Banci 1994, p. 102, Pasitschniak-Arts and Lariviere 1995, p. 499; Aubry et al. 2007, p. 2152). In the contiguous United States, wolverines are restricted to high-elevation habitats in the Rocky Mountains and North Cascades containing the arctic and sub-arctic conditions they require.

Home ranges of wolverines are large, but vary greatly depending on availability of food, gender, age, and differences in habitat. The availability and distribution of food is likely the primary factor in determining wolverine movements and home range size (Hornocker and Hash 1981, p. 1298; Banci 1994, pp. 117–118). Wolverines travel long distances over rough terrain and deep snow, and adult males generally cover greater distances than females (Hornocker and Hash 1981, p. 1298; Banci 1994, pp. 117–118). Home ranges of adult wolverines are approximately 100 square kilometers ($km^2$) to over 900 $km^2$ (38.5 square miles ($mi^2$) to 348 $mi^2$) (Banci 1994, p. 117). Average home ranges of resident adult females in central Idaho are 384 $km^2$ (148 $mi^2$), and average home ranges of resident adult males are 1,522 $km^2$ (588 $mi^2$) (Copeland 1996, p. 50). Wolverines in Glacier National Park have average male home ranges of 496 $km^2$ (193 $mi^2$) and female home ranges of 141 $km^2$ (55 $mi^2$) (Copeland and Yates 2006, p. 25). Wolverines in the Greater Yellowstone Area have average adult male home ranges of 797 $km^2$ (311 $mi^2$) and average adult female home ranges of 329 $km^2$ (128 $mi^2$) (Inman et al. 2007a, p. 4). Home ranges for carnivores of similar body size are smaller than wolverine home ranges at their southern range terminus. Canada lynx in the United States Rocky Mountains average 122 $km^2$ (47 $mi^2$) (Aubry et al. 2000, pp. 383–384), and coyote home ranges extend from 2.5 to 15 $km^2$ (1 to 5.8 $mi^2$) (Chronert 2007, p. 2).

Wolverine home ranges at the southern terminus of the current range are large for mammals of the size of wolverines, and may indicate that wolverines have high energetic requirements and at the same time occupy relatively unproductive niches (Inman et al. 2007a, p. 11). In addition, wolverines naturally occur in low densities that average about one wolverine per 150 $km^2$ (58 $mi^2$) (Hornocker and Hash 1981, pp. 1292–1295; Hash 1987, p. 578; Copeland 1996, pp. 31–32; Copeland and Yates 2006, p. 27; Inman et al. 2007a, p. 10; Squires et al. 2007, p. 2218).

**Wolverine Status in Canada and Alaska**

The bulk of the range of North American wolverines is found in Canada and Alaska. Wolverines inhabit alpine tundra, boreal forest, and arctic habitats in western Canada and Alaska (Slough 2007, p. 78). Wolverines in Canada have been divided into two populations for management by the Canadian government: an eastern population in Labrador and Quebec; and a western population that extends from Ontario to the Pacific coast, and north to the Arctic Ocean. The eastern population is currently listed as endangered under the Species At Risk Act in Canada, and the western population is designated as a species of special concern (COSEWIC 2003, p. 8).

The current status of wolverines in eastern Canada is uncertain. Wolverines have not been confirmed to occur in Quebec since 1978 (Fortin et al. 2005, p. 4). Historical evidence of wolverine presence in eastern Canada is also suspect because no evidence exists to show that wolverine pelts attributed to Quebec or Labrador actually came from that region; possibly animals were trapped elsewhere and the pelts were shipped through the eastern provinces (COSEWIC 2003, p. 20). Wolverines in eastern Canada may currently exist in an extremely low-density population, or may be extirpated. Wolverines in eastern Canada, both historically and currently, could represent migrants from western populations that never became resident animals (COSEWIC 2003, pp. 20–21). The government of Canada has completed a recovery plan for the eastern population with the goal of establishing a self-sustaining population through reintroduction and protection (Fortin et al. 2005, p. 16).

Wolverines in western Canada and Alaska inhabit a variety of habitats from sea level to high elevations in mountains (Slough 2007, pp. 77–78). In Canada, they occur in Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon, Northwest Territories, and Nunavut (Slough 2007, pp. 77–78). Since European colonization, a generally recognized range contraction has taken place in boreal Ontario and the aspen parklands of Manitoba, Saskatchewan, and Alberta (COSEWIC 2003, pp. 20–21; Slough 2007, p. 77). This range contraction

occurred concurrently with a reduction in wolverine records for the Great Lakes region in the lower 48 States (Aubry et al. 2007, pp. 2155–2156). Causes of these changes are uncertain, but may be related to increased harvest, habitat modification, or climate change (COSEWIC 2003, pp. 20–21; Aubry et al. 2007, pp. 2155–2156; Slough 2007, pp. 77–78). Analysis supports climate change as a contributing factor to declines in wolverine populations in southern Ontario, because snow conditions necessary to support wolverines do not currently exist in the Great Lakes region of the lower 48 States, and are marginal in southern Ontario (Aubry et al. 2007, p. 2154). Wolverines occurred historically on Vancouver Island and have been given status as a separate subspecies by some (Hall 1981, p. 109). The Vancouver Island population is now regarded as possibly extirpated; no sightings have occurred since 1992 (COSEWIC 2003, p. 18).

Wolverines in western Canada and Alaska appear to persist where habitat and climate conditions are favorable (COSEWIC 2003, pp. 13–21; Aubry et al. 2007, pp. 2152–2155; Slough 2007, p. 79). Throughout this area, wolverines are managed by regulated harvest at the Province and State level. Population estimates for Canada and Alaska are approximate because no wolverine surveys have taken place at the State or national scale. However, the population in western Canada includes an estimated 15,089 to 18,967 individuals, based on population densities and occupied area (COSEWIC 2003, p. 22). The number of wolverines in Alaska is unknown, but they appear to exist at naturally low densities in suitable habitats throughout Alaska (Alaska Department of Fish and Game 2004, pp. 1–359). We have no information to indicate that wolverine populations have been reduced in numbers or geographic range in Alaska.

**Wolverine Status in the Contiguous United States**

The delineation of the historical and present distribution of wolverine is inherently difficult for several reasons. Wolverines tend to live in remote and inhospitable places away from human populations. Wolverines naturally occur at low densities and are rarely and unpredictably encountered where they do occur. Wolverines often move long distances in short periods of time when dispersing from natal ranges (Aubry et al. 2007, p. 2147), making it difficult to distinguish with confidence between occurrence records that represent established populations and those that represent short-term occupancy without the potential for establishment of home ranges and reproduction. These natural attributes of wolverines make it difficult to determine their present range, or trends in range expansion or contraction that may have occurred in the past. Therefore, we must be cautious when trying to determine where past wolverine populations occurred, and where application of conservation actions may be possible in the future.

Aubry et al. (2007, entire) represents the best available science on the wolverine's geographic range in the contiguous United States. This study (2007, pp. 2147–2148) used verifiable and documented records from museum collections, literature sources, and State and Federal institutions to trace changes in geographic distribution of wolverines in the historic record. Aubry et al.'s (2007) focus on verifiable and documented records corrected past overly broad approaches to wolverine range mapping (Nowak 1973, p. 22; Hall 1981, p. 1009; Wilson 1982, p. 644; Hash 1987, p. 576) that used a more inclusive but potentially misleading approach when dealing with extralimital records (i.e., records from outside of established, reproducing populations). Aubry et al. (2007, p. 2155) concluded that these records represent individuals dispersing from natal ranges that often end up in habitats that cannot support wolverines, and their use in determining the potential range of wolverine can overestimate the area that can actually be used by wolverines for home ranges and breeding.

Aubry et al. (2007, pp. 2147–2148) divided records into ''historical'' (recorded prior to 1961), ''recent'' (recorded between 1961 and 1994), and ''current'' (recorded after 1994). Historical records occurred before systematic surveys and encompass the time during which wolverine numbers and distribution were hypothesized to be at their lowest, in the first half of the 1900s (Wright and Thompson 1935; Grinnell et al. 1937; Allen 1942; Newby and Wright 1955, all as cited in Aubry et al. 2007, p. 2148). The recent time interval covers a hypothesized population expansion and rebound from an earlier low (Aubry et al. 2007, pp. 2148–2149). Current records are considered by Aubry et al. (2007, p. 2148) to be a reliable depiction of where populations occur now.

**Wolverine Distribution in the Contiguous United States**

Using data from Aubrey et al. 2007, we assessed the historical, recent, and current distribution data for each of six geographical regions to determine the likelihood of the presence of historical populations (rather than extralimital dispersers). Table 1 illustrates wolverine numbers in the six geographic areas assessed by Aubry et al. (2007, Table 1). More detail on wolverine distribution over time is included in the text that follows.

TABLE 1.—VERIFIABLE AND DOCUMENTED RECORDS OF WOLVERINE OCCURRENCE IN THE CONTIGUOUS UNITED STATES BY REGION AND STATE

[Reproduced from Aubrey et al. 2007, p. 2151]

| Region and State | Historical records | | | | | | | Recent records | | | Current records | Most recent verifiable record |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1800s | 1901–1910 | 1911–1920 | 1921–1930 | 1931–1940 | 1941–1950 | 1951–1960 | 1961–1970 | 1971–1980 | 1981–1994 | 1995–2005 | |
| Pacific Coast Mountains: | | | | | | | | | | | | |
| Washington | 17 | 3 | 7 | 0 | 0 | 1 | 1 | 10 | 3 | 4 | 7 | 2003 |
| Oregon | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 1992 |
| California | 11 | 7 | 9 | 30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1922 |
| Rocky Mountains: | | | | | | | | | | | | |
| Idaho | 6 | 5 | 5 | 2 | 0 | 3 | 4 | 5 | 5 | [a] 31 | [b] 16 | 2005 |
| Montana | 6 | 1 | 1 | 0 | 4 | 9 | 39 | 14 | [c] 121 | [d] 149 | [e] 187 | 2005 |
| Wyoming | 10 | 6 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | [f] 12 | 2005 |
| Utah | 8 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1921 |
| Nevada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1972 |
| Colorado | 22 | 7 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1919 |
| New Mexico | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1860 |
| Central Great Plains: | | | | | | | | | | | | |
| North Dakota | 35 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None |
| South Dakota | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1962 |
| Nebraska | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1887 |
| Great Lakes: | | | | | | | | | | | | |
| Minnesota | 6 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1899 |
| Wisconsin | 12 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | [g] 1800s |
| Michigan | 11 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1868 |
| Upper Midwest: | | | | | | | | | | | | |
| Iowa | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1960 |
| Indiana | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None |
| Ohio | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1943 |
| Northeast: | | | | | | | | | | | | |
| Pennsylvania | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None |
| New York | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1811 |
| New Hampshire | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None |
| Vermont | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None |
| Maine | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None |

[a] Includes 16 initial capture locations obtained from 1992 to 1994 during a radiotelemetry study.

[b] Includes 3 initial capture locations obtained in 1995 during a radiotelemetry study and 4 initial capture locations obtained from 2003 to 2005 during a radiotelemetry study.

[c] Includes 94 harvest records from 1974 to 1980 compiled by the MT Department of Fish, Wildlife, and Parks and 24 wolverines that were radiocollared by Hornocker and Hash (1981) in northwestern MT from 1972 to 1977.

[d] Includes 146 harvest records from 1981 to 1994 compiled by the MT Department of Fish, Wildlife, and Parks.

[e] Includes 115 harvest records from 1995 to 2004 compiled by the MT Department of Fish, Wildlife, and Parks and 49 initial capture locations obtained from 2002 to 2005 during radiotelemetry studies.

[f] Includes 9 initial capture locations obtained from 1998 to 2005 during telemetry studies.

[g] Jackson (1954) found 2 wolverine specimens in a cave in southwestern WI in 1920 that he estimated had been in the deposit for > 50 years.

*Northeast and Upper Midwest*. The low number of records and the scattered nature of their distribution suggest that wolverines were likely to have been occasional transients to the area and not present as a reproducing population after 1800.

*Great Lakes*. The low number of verifiable records in this area of relatively high human population density (compared with, for example, the Rocky Mountains) suggests that wolverines did not exist in this area as a viable population after 1900. Widely scattered records generally before 1900, with an occasional record after that year, suggest that if a reproducing population existed in the Great Lakes, it predated 1900, and that post-1900 records represent dispersal from a receding Canadian population. Wolverine distribution in Ontario, Canada appears to have receded north from the Great Lakes region beginning in the 1800s, and currently wolverines occupy only the northern portion of the province, a distance of over 650 km (404 mi) from the U.S. border (COSEWIC 2003, p. 9). The pattern of declining numbers of records for the Great Lakes region illustrated in Aubry et al. (2007, p. 2152) is consistent with what would be expected if those records were of dispersing individuals from a Canadian population that receded progressively farther north into Canada after 1900.

*Central Great Plains*. The lack of verifiable and mappable records from the Great Plains States leaves little evidence on which to determine if reproducing populations of wolverines ever inhabited this area. Thirty-five of 36 records from North Dakota are from the journals of a single fur trader, and it is not clear that the records represent actual collection localities or localities where trades or shipments occurred (Aubry et al. 2007, entire). The habitat relationships of wolverines include the Hudsonian life zone, subarctic, and tundra with persistent spring snow, all features that the Central Great Plains lack and lacked throughout the historic period (Aubry et al. 2007, pp. 2151–2152). Therefore, it is unlikely that these records represent established wolverine individuals or populations, or that this area contained wolverine habitat.

*Rocky Mountains*. Five Rocky Mountains States (Idaho, Montana, Wyoming, Colorado, and Utah) as a region contain numerous wolverine records over all time intervals. Mappable records appear to coalesce around several areas that may have been population centers, such as central Colorado, the Greater Yellowstone Area, and northern Idaho/northwestern Montana. The large number of verifiable and mappable records for this region, along with the suggestion of population centers or strongholds, suggests that wolverines existed in reproducing populations throughout much of the Rocky Mountains during the historical interval. During the recent interval, the lack of records for Colorado and Utah suggest that the southern Rocky Mountain population of wolverines was extirpated by the middle 1900s, concurrent with widespread systematic predator control by government agencies and livestock interests. The northern Rocky Mountain population (north of Wyoming) was reduced to historic lows during the early 1900s, and then increased dramatically in the second half of the 1900s as predator control efforts subsided and trapping regulations became more restrictive (Aubry et al. 2007, p. 2151). This increase may indicate that the population rebounded from historic lows in this period, but we cannot rule out that the apparent rebound is an artifact of improved monitoring of wolverine trapping by government agencies. Wolverine records from 1995 to 2005 show that wolverine populations currently exist in the northern Rocky Mountains. Ongoing legal trapping in Montana removes an average of 10.5 individuals from this population each year (Montana Department of Fish, Wildlife, and Parks 2007, p. 2). During all time periods, populations of wolverines in British Columbia and Alberta may have been a source of surplus wolverines during population lows (COSEWIC 2003, pp. 18–19).

*Pacific Coast*. Historically, records from Washington, Oregon, and California clearly coalesced around two population centers in the North Cascades and the Sierra Nevada. Records from these areas are separated by a lack of historic records in southern Oregon and northern California, indicating that the distribution of wolverines in this area is best represented by two disjunct populations rather than a continuous peninsular extension from Canada. This conclusion is supported by genetic data indicating that the Sierra Nevada and North Cascades wolverines were separated for at least 2,000 years prior to extirpation of the Sierra Nevada population (Schwartz et al. 2007, p. 2174). One Sierra Nevada record exists from after 1930, indicating that this population was extirpated in the first half of the 1900s concurrent with widespread systematic predator control programs. Records from the North Cascades continue into present times in relatively small numbers, indicating a population persists in this area. Records from British Columbia, Canada indicate that the North Cascades population may be connected with, and possibly dependent on, the larger Canadian population for viability over the long term.

**Summary of Wolverine Distribution Patterns in the Contiguous United States**

Historical wolverine records were found across the northern tier of the lower 48 States with peninsular extensions south into the southern Rockies and the Sierra Nevada (Aubry et al. 2007, p. 2152).

Currently, wolverines appear to be distributed in two regions in the lower 48 States: the North Cascades in Washington (and possibly Oregon), and the northern Rocky Mountains in Idaho, Montana, and Wyoming. Wolverines were extirpated in historical times from the Sierra Nevada and the southern Rocky Mountains. We conclude that the current range of the species in the contiguous United States includes the North Cascades Mountains and the northern Rocky Mountains.

We also conclude that wolverines likely either did not exist as established populations or were extirpated prior to settlement and the compilation of historical records in the Great Lakes region. The widely scattered records from this region are consistent with dispersing individuals from a Canadian population that receded north early in the 1800s. We cannot rule out the possibility that wolverines existed as established populations prior to the onset of trapping in this area, but we have no evidence that they did.

No evidence in the historical records suggests that wolverines were ever present as established populations in the Great Plains, Midwest, or Northeast.

**Habitat Relationships and Wolverine Distribution in the Contiguous United States**

Aubry et al. (2007, pp. 2152–2156) compared several broad-scale habitat types to historic, recent, and current wolverine records to investigate correlations in habitat use and determine what habitat types might best predict wolverine occurrence. Spring snow cover (April 15 to May 14) is the best overall predictor of wolverine occurrence. Snow cover during the denning period is essential for successful wolverine reproduction rangewide (Hatler 1989, p. iv; Magoun and Copeland 1998, p. 1317; Inman et al. 2007c, pp. 71–72; Persson 2007, p. 1). Wolverine dens tend to be in areas of high structural diversity such as logs

and boulders with deep snow (Magoun and Copeland 1998, p. 1317; Inman et al. 2007c, pp. 71–72; Persson 2007, entire). Reproductive females dig deep snow tunnels to reach the protective structure of logs and boulders where they produce offspring. This behavior presumably protects the vulnerable kits from predation by large carnivores, including other wolverines (Pulliainen 1968, p. 342; Zyryanov 1989, pp. 3–12), but may also have physiological benefits for kits by buffering them from extreme cold, wind, and desiccation (Pullianen 1968, p. 342; Bjärvall et al. 1978, p. 23).

All of the areas in the lower 48 States for which good evidence of persistent wolverine populations exists (i.e., Cascades, Sierra Nevada, northern and southern Rockies) contain large and well-distributed areas with deep snow cover that persists through the wolverine denning period (Brock et al. 2007, pp. 36–53; Aubry et al. 2007, p. 2154). The Great Plains, Great Lakes, Midwest, and Northeast lack the spring snow conditions thought to be required by wolverines for successful reproduction (Aubry et al. 2007, p. 2154). This finding supports the exclusion of the Great Plains, Great Lakes, Midwest, and Northeast from the current range of wolverines. Whether wolverines once existed as established populations in any of these regions is unknown, but the consistent lack of deep spring snow in these regions appears to currently preclude the wolverine's presence as a reproducing population.

Large areas of habitat with characteristics suitable for wolverines still occur in the southern Rocky Mountains and Sierra Nevada where wolverines have been extirpated (Aubry et al. 2007, p. 2154; Brock et al. 2007, p. 26). The occurrence data suggest that wolverine extirpations in these areas were coincidental with systematic predator eradication efforts in the early 1900s, which have been discontinued for many years. Wolverines failed to recolonize these areas since the cessation of eradication programs, by the mid-20th century, of widespread predator control efforts. This may be the result of the long dispersal distance between these areas and extant populations.

We conclude that areas of wolverine historical occurrence can be placed in one of three categories: (1) Areas where wolverines are extant as reproducing and potentially self-sustaining populations (North Cascades, northern Rocky Mountains); (2) areas where wolverines historically existed as reproducing and potentially self-sustaining populations prior to human-induced extirpation, and where reestablishment of populations is possible given current habitat conditions and management (the Sierra Nevada mountains in California and southern Rocky Mountains in Colorado); and (3) areas where historical presence of wolverines in reproducing and potentially self-sustaining populations is doubtful, and where the current habitat conditions preclude the establishment of populations in the foreseeable future (Great Plains, Midwest, Great Lakes, and Northeast). Further, on the basis of the historic and current records and distribution of suitable habitat, we consider the current range of wolverines to include suitable habitat in the North Cascades of Washington and Oregon, and northern Rocky Mountains of Idaho, Wyoming, and Montana.

**Wolverine Population Estimate for the Contiguous United States**

Current population level and trends remain unknown because no systematic population census exists over the entire current range of the wolverine in the lower 48 States. However, we can estimate the potential carrying capacity of a population in a given region by using available data on population density, extent of habitat, and wolverine distribution. Using the projections of wolverine habitat found in Brock et al. (2007, pp. 36–53), Montana, Idaho, and Wyoming could potentially support between 499 and 655 individual wolverines (Inman 2007a, entire). This range is almost certainly an overestimate of actual wolverine numbers because it assumes that all suitable habitat is currently occupied, which is not the case (Murphy et al. 2007, p. 2). Therefore, we consider the lower range estimate of about 500 wolverines from Inman (2007a, entire) to be a reasonable estimate of the current wolverine population in the northern Rocky Mountains. The three northern Rocky Mountain States provide the bulk of currently occupied habitat in the contiguous United States, with the only additional known occupied area being the North Cascades mountain range in Washington State. The size of the North Cascades population is unknown, but is likely to be much smaller than the northern Rocky Mountain population due to the small size of the occupied area (Aubry et al. 2007, Fig. 4) and is unlikely to increase the estimated population significantly.

**Distinct Vertebrate Population Segment (DPS)**

Under section 4(a)(1) of the Act, we must determine whether any species is an endangered species or a threatened species because of any of the five threat factors identified in the Act. Section 3(16) of the Act defines ''species'' to include ''any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature'' (16 U.S.C. 1532 (16)). To interpret and implement the distinct population segment portion of the definition of a species under the Act and Congressional guidance, the Service and the National Marine Fisheries Service (now the National Oceanic and Atmospheric Administration-Fisheries) published, on February 7, 1996, an interagency Policy Regarding the Recognition of Distinct Vertebrate Population Segments under the Act (DPS Policy; 61 FR 4722). The policy allows for more refined application of the Act that better reflects the conservation needs of the taxon being considered, and avoids the inclusion of entities that may not warrant protection under the Act.

Under our DPS Policy, three elements are considered in a decision regarding the status of a possible DPS as endangered or threatened under the Act. These are applied similarly for additions to the Lists of Endangered and Threatened Wildlife and Plants, reclassification, and removal from the Lists. They are: (1) Discreteness of the population segment in relation to the remainder of the taxon; (2) the significance of the population segment to the taxon to which it belongs; and (3) the population segment's conservation status in relation to the Act's standards for listing (i.e., whether the population segment is, when treated as if it were a species, endangered or threatened). Discreteness refers to the isolation of a population from other members of the species, and we evaluate this based on specific criteria. If a population segment is considered discrete, we must consider whether the discrete segment is ''significant'' to the taxon to which it belongs by using the best available scientific information. If we determine that a population segment is discrete and significant, we then evaluate it for endangered or threatened status based on the Act's standards. The DPS evaluation in this finding concerns the segment of the wolverine species occurring within the contiguous United States, including the northern Rocky Mountains and the North Cascades.

**Analysis for Discreteness**

Under our DPS Policy, a population segment of a vertebrate species may be considered discrete if it satisfies either one of the following conditions: (1) It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors (quantitative measures of genetic or morphological discontinuity may provide evidence of this separation); or (2) it is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act (see ''International Border Issues'' section below for a discussion of the standard set by section 4(a)(1)(D)). Below is our discussion of the wolverine population within the contiguous 48 United States relative to the discreteness criterion of the DPS policy.

**Markedly Separated From Other Populations of the Taxon**

The population of the North American wolverine addressed in the petition, and that we have evaluated for consideration as a DPS, incorporates wolverine populations south of the international border with Canada, inclusive of the States of Idaho, Montana, Washington, and Wyoming (hereafter referred to as the U.S. population). The U.S. population is connected to wolverine populations in Canada and is likely dependent on them to some degree for maintaining genetic diversity. Therefore, the U.S. population of the North American wolverine does not meet the markedly separated criterion of the DPS Policy.

**International Border Issues**

A population segment of a vertebrate species may also be considered discrete if it is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act. Section 4(a)(1)(D) of the Act is the factor concerning the adequacy of existing regulatory mechanisms in the Act's ''5-factor'' analysis for determining whether a species is threatened or endangered. In assessing a population for discreteness based on delimitation by international governmental boundaries, we focus specifically on whether the factors named above are significantly different between the two countries because of the inadequacy of existing regulatory mechanisms. In order to demonstrate that a population is discrete based on international governmental boundaries, it is not enough that there are differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms across the international boundary; the differences must be significant and relate to inadequate regulatory mechanisms.. Following is our assessment of the U.S. population and wolverines in the rest of North America in terms of differences in control of exploitation, management of habitat, conservation status, and regulatory mechanisms.

**Differences in Management of Habitat**

Wolverine habitat in North America occurs in arctic, sub-arctic, and alpine habitats, and typically in areas remote from human presence and development. In the contiguous United States, wolverines are restricted to high-elevation habitats in the Rocky Mountains and North Cascades containing the arctic and sub-arctic conditions that they require (Wilson 1982, p. 644; Hash 1987, p. 576; Banci 1994, p. 102, Pasitschniak-Arts and Lariviere 1995, p. 499; Aubry et al. 2007, p. 2152). Wolverine habitat is generally characterized by the absence of human presence and development (Hornocker and Hash 1981, p. 1299; Banci 1994, p 114; Landa et al. 1998, p. 448; Rowland et al. 2003 p. 101; Copeland 1996, pp. 124–127; Krebs et al. 2007, pp. 2187–2190). In both the contiguous United States and Canada, little habitat management occurs in areas frequented by wolverines. Therefore, we find that there are no significant differences in management of habitat for wolverines that relate to the status of the species between the contiguous United States and Canada.

**Differences in Conservation Status**

*Biological Status*

Throughout its current range in Canada and Alaska, wolverines exist in well-distributed, interconnected, large populations. Conversely, wolverines in the contiguous United States appear to exist in small, fragmented, and semi-isolated populations that put them at greater risk of being lost due to catastrophic or stochastic events than those populations to the north in Canada and Alaska. These risks result from three main factors: (1) Small total population size, (2) effective population size below that needed to maintain genetic diversity and demographic stability, and (3) the fragmented nature of wolverine habitat in the contiguous United States that results in smaller, isolated, ''sky island'' patches separated by unsuitable habitats. These three factors are explained in more detail below; in addition, we summarize how they relate to section 4(a)(1)(D) of the Act.

*Small Total Population Size*

The total population sizes for wolverines in Canada and Alaska, and the contiguous United States, differ by more than an order of magnitude. As explained in the ''Wolverine Population Estimate for the Contiguous United States'' section above, the contiguous U.S. population likely numbers approximately 500 adult individuals (Inman 2007a, entire). This total population is divided into smaller sub-populations inhabiting semi-isolated habitat fragments in major mountain ranges (Aubry et al. 2007, Figs. 2b, 4). The population in western Canada is much larger—estimated at 15,089 to 18,967 individuals (COSEWIC 2003, p. 22). Wolverine population size in Alaska is unknown; however, the average annual harvest consistently exceeds 500 individuals, and the population does not appear to be in decline based on trapper reports and the assessments of State wildlife managers (ADF&G 2004, entire). If the population is truly not declining, it is likely to number over 8,000 individuals, calculated using demographic data in Lofroth and Ott (2007, pp. 2196–2198), and assuming sustainable annual harvest of 6 percent (if 500 represents 6 percent of the population, total population equals 8,333). Wolverine populations number 2,089 to 3,567 in British Columbia and 1,500 to 2,000 in Alberta (COSEWIC 2003, p. 22), the two provinces immediately adjacent to the contiguous U.S. population. Small populations, such as the contiguous U.S. population, face higher extinction risk than large ones such as the Canada and Alaska population (Pimm et al. 1988, p. 762).

*Effective Population Size*

Population ecologists use the concept of a population's ''effective'' size as a measure of the proportion of the actual population that contributes to future generations (for a review of effective population size, see Schwartz et al. 1998, entire). Effective population size may be less than actual population size if the population has any of the following characteristics: (1) Unequal sex ratio, (2) individuals have a disproportionate probability of contributing offspring to the next generation, (3) population size

fluctuates over time, and (4) generations overlap such that individuals may reproduce in more than one generation. Effective population size is important because it determines rates of loss of genetic variation, fixation of deleterious alleles, and the rate of inbreeding. Populations with small effective population sizes show reductions in population growth rates and increases in extinction probabilities (Leberg 1990, p. 194; Jimenez et al. 1994, pp. 272–273; Newman and Pilson 1997, p. 360; Saccheri et al. 1998, p. 492; Reed and Bryant 2000, p. 11; Schwartz and Mills 2005, p. 419; Hogg et al. 2006, pp. 1495, 1498; Allendorf and Luikart 2007, pp. 338–342). Franklin (1980, as cited in Allendorf and Luikart 2007, p. 359) proposed an empirically based rule suggesting that the short-term effective population size should not be less than 50, and the long-term effective population size should not be less than 500 (for appropriate use of this rule and its limitations, see Allendorf and Luikart 2007, pp. 359–360). There are two main ways to estimate the effective population size of populations: demographic and genetic. Demographically-based methods incorporate life history parameters, such as unequal sex ratios, fluctuations in population size over time, and variance in reproductive success, into abundance and demographic models of a species. Genetically-based methods use multi-locus genetic data to estimate an effective population size (Tallmon et al. 2004, p. 979; Waples 2006, pp. 171–178; Tallmon et al. 2007, entire).

Effective population for wolverines in the Rocky Mountains averaged 39 (Schwartz 2007, entire). This effective population size is exceptionally low (Schwartz 2007, entire), and is below what is required for short-term maintenance of genetic diversity.

The concern with the low effective population size is highlighted by recent research determining that at least 400 breeding pairs would be necessary to sustain the long-term genetic viability of the contiguous U.S. wolverine population (Cegelski et al. 2006, p. 197). However, the entire population is estimated to consist of only 500 individuals (Inman 2007a, entire), with a substantial number of them being nonbreeding subadults. Furthermore, the contiguous U.S. population appears to be split into at least five smaller subpopulations (North Cascades, Crazybelts, Idaho, Greater Yellowstone Area, and northern Montana) which are semi-isolated from each other, meaning that genetic exchange does not occur frequently enough to prevent genetic drift and loss of genetic diversity (Cegelski et al. 2006, p. 206).

Genetic studies have highlighted the essential role that genetic exchange plays in maintaining genetic diversity in small wolverine populations. Genetic drift has occurred in the remaining populations in the contiguous United States where wolverines contain four of nine haplotypes found in Canadian populations (Kyle and Strobeck 2001, p. 343; Cegelski et al. 2003, pp. 2914–2915; Cegelski et al. 2006, p. 208; Schwartz et al. 2007, p. 2176). The reduced number of haplotypes indicates not only that genetic drift is occurring, but also that there is some level of genetic separation; if these populations were freely interbreeding, they would share more haplotypes (Cegelski et al. 2006, p. 205). The reduction of haplotypes is likely a result of the fragmented nature of wolverine habitat in the United States and is consistent with an emerging pattern of reduced genetic variation at the southern edge of the range documented in a suite of boreal forest carnivores (Schwartz et al. 2007, p. 2177). As stated previously, the low effective population size and accompanying reduction in genetic diversity is a concern because populations with low genetic diversity are more vulnerable to extinction.

No effective population size estimate exists for populations in Canada or Alaska. However, none of the Canadian or Alaskan populations tested show signs of genetic drift or inbreeding (Kyle and Strobeck 2001, p. 343; Cegelski et al. 2006, p. 209), and all Canadian and Alaskan populations contain higher genetic variation than the U.S. northern Rocky Mountain populations (Kyle and Strobeck 2001, p. 341). In addition, because of the large and contiguous nature of the populations (based on habitat contiguity and genetic similarity, see ''Habitat Availability and Connectivity'' below) (Kyle and Strobeck 2002, p. 1146; Cegelski et al. 2006, p. 209), and the relatively high genetic diversity in Canada and Alaska, we conclude that the effective population size is large enough to not be a cause for conservation concern. This information indicates that the populations in Alaska and Canada are less vulnerable to extinction pressures associated with a low effective population size.

The small effective population size in the contiguous U.S. wolverine population has led to inbreeding and consequent loss of genetic diversity (Cegelski et al. 2006, p. 208). Over time, if the current effective population size remains stable, the population will be at risk of extinction due to inbreeding depression or stochastic demographic effects (Frankham 1995, p. 795). The small effective population size in the contiguous United States contrasts with the situation in Canada and Alaska where wolverines are relatively abundant and exist in habitats with a high level of connectivity (COSEWIC 2003, p. 8; Slough 2007, p. 78). Due to the lack of inbreeding reported for these populations, it is likely that effective population sizes are much larger than in the contiguous United States. Although these differences in biological conservation status between the United States and Canadian wolverine populations exist, they are not significant in light of section 4(a)(1)(D).

*Habitat Availability and Connectivity*

Wolverine habitat in the contiguous United States consists of small, isolated ''islands'' of high-elevation, alpine habitats containing sufficient depth of snow during the denning period, separated from each other by low valleys of unsuitable habitats (Copeland 2007, Map 1). The large distances between suitable wolverine habitats result in wolverines existing in an archipelago of semi-isolated, suitable habitats near mountain tops, surrounded by a sea of unsuitable habitats. Wolverines occupy habitat in a high-elevation band from 2,100 m to 2,600 m (6,888 ft to 8,528 ft) in the mountains of the lower 48 States. The intervening valleys in this area range from 975 m to 1,500 m (3,198 ft to 4,920 ft), and are unsuitable for long-term wolverine habitat because they do not have the snow conditions or other habitat features required by wolverines (Aubry et al. 2007, pp. 2151–2153).

The low population densities and reduced genetic diversity of wolverines in the contiguous United States means that, to avoid further inbreeding or local extirpation due to demographic stochasticity, regular exchange of individual wolverines between islands of habitat must occur. Intermountain valleys are increasingly the sites of human residential and commercial developments and transportation corridors, and represent semi-permeable barriers to wolverines. Although crossings of valleys, primarily by males (e.g., Packila et al. 2007, Fig. 2, 3), have been documented, these crossings are not common, and movements within valleys occur less frequently than movements in suitable wolverine habitats (Packila et al. 2007, p. 110).

Wolverine populations in the Canadian Rockies also exist on habitat islands, but the islands are much larger (Copeland 2007, p. 24) and host larger populations so that exchange of

individuals is likely to be less critical for short-term maintenance of genetic diversity and demographic stability. Farther north into Canada and Alaska, the climate becomes progressively colder and persistent spring snow and Hudsonian/arctic/sub-arctic habitat associations occur progressively lower on mountain slopes, until near the Arctic Circle where these conditions are found at sea level. Wolverines track these latitudinal and elevation gradients by inhabiting progressively lower elevations in northern Canada and Alaska until valley bottom habitats become suitable habitat and wolverines exist over large expanses of contiguous habitat in well-connected populations (COSEWIC 2003, pp. 7–8). In the far north of Canada, wolverine habitat extends into low-elevation valleys and the vast expanses of low-elevation boreal forest and tundra. Although these differences in biological conservation status between the United States and Canadian wolverine populations exist, they are not significant in light of section 4(a)(1)(D).

In the contiguous United States, wolverines must cross unsuitable habitats to achieve connectivity among subpopulations, which is required to avert further genetic drift and continued loss of genetic diversity (Cegelski et al. 2006, p. 208; Copeland 2007, entire; Brock et al. 2007, pp. 36–53). The highly fragmented nature of the habitat in the contiguous United States contributes to the low effective population size for wolverines in this area by dividing the population among semi-isolated subpopulations, making the continued persistence of the population precarious relative to the Canadian population. Canadian habitats are generally contiguous blocks that have few or no impediments to demographic or genetic connectivity. The fragmented nature and distribution of wolverine habitat in the lower United States results in a contiguous U.S. population that is more vulnerable to extirpation because of lack of connectivity between subpopulations, which contributes to inbreeding and reduces the chances of recolonization of habitat patches after local extinction. Although these differences in biological conservation status between the United States and Canadian wolverine populations exist, they are not significant in light of section 4(a)(1)(D).

*Legal Status Conveyed by National, State and Provincial Governments*

The United States currently confers no Federal status on the wolverine. Each State regulates the species relative to its existing populations. In Washington, the wolverine is listed as State Endangered (State of Washington 2007, p.3); Idaho and Wyoming designate it as a protected nongame species (State of Idaho 2006, p. 9; State of Wyoming 1996, pp. 151–154); and in Montana it is a regulated furbearer (State of Montana 2007, p. 2). Oregon, while currently not considered to have any individuals other than possible unsuccessful dispersers, has a closed season on trapping of wolverines (State of Oregon 2006, p. 2).

The Canadian government has listed its eastern population of wolverine in Quebec and Labrador, where it may be extirpated due to trapping and hunting, and declining caribou herds, as Endangered under the Species at Risk Act (SARA) (*www.speciesatrisk.gc.ca*). Because wolverines in this area appear to have been extirpated since the early 1900s, we do not consider this area to be in the wolverine's current range, and thus its status is not relevant to the question of whether significant differences in status exist between Canada and the contiguous 48 United States. The Western population of wolverine occurs in eight Canadian Provinces, two of which (British Columbia and Alberta) are contiguous to the lower 48 United States. This population in Canada has no status under SARA, but has a designation of Special Concern (Vulnerable) under the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) (*http://www.speciActtrisk.gc.ca*). British Columbia and Alberta have Provincial species conservation lists, which are priority-setting tools for establishing baseline ranks and conservation activities (Province of British Columbia 2002, p. 1). Both Provinces include the wolverine on their provincial ''blue list,'' indicating that it may be at risk (Petersen 1997, p. 1), except on Vancouver Island where the wolverine is possibly extirpated and is ''red listed'' (threatened, endangered, or candidate; not harvested) (Lofroth and Ott 2007, p. 2193; Province of British Columbia 2002, p. 2).

Because British Columbia and Alberta are contiguous to a larger, and currently more robust, portion of the wolverine's range in northwestern Canada, documented declines in wolverine populations in the southern portions of both Provinces have not raised the status of the species to a level of concern that would result in its consideration under SARA (Lofroth and Krebs 2007, pp. 2164–2165; Lofroth and Ott 2007, p. 2193; Petersen 1997, pp. 4–5).

**Summary of Differences in Conservation Status**

As described above, the wolverine has a range of legal statuses under State regulations in the United States and Canadian Provincial designations. The differences in legal conservation status conveyed by the States and Provinces are mixed in each country, but do not appear significantly different from each other. Some differences exist in terms of biological conservation status related to small and effective population sizes, and habitat availability and connectivity. When evaluating whether these differences are significant enough to use the international boundary under the discreteness criterion, our policy directs that these differences must be significant in light of 4(a)(1)(D) of the Act (61 FR 4725). We have concluded that the differences in biological conservation status between the United States and Canadian wolverine populations are not significant in light of section 4(a)(1)(D) of the Act because these differences appear to be a result of the relatively small and patchy distribution of wolverine habitat at the southern terminus of its range in the contiguous United States rather than as a result of inadequate regulatory mechanisms. Therefore, we determine that the contiguous United States population of wolverine is not discrete due to differences in conservation status.

**Differences in Control of Exploitation and Regulatory Mechanisms**

Contiguous U.S. populations are largely not harvested, with the exception being an average of 10.5 wolverines taken a year in Montana. In Canada and Alaska, harvest is widespread within the current range. Although we do not have comprehensive numbers for the annual wolverine harvest in Canada, we have estimated a total annual harvest of 719 animals (see Table 2) based on the best information available to us. The numbers below are likely underestimates because they are based on reported harvests, which in Canadian territories likely accounts for only one-fifth to one-third of the total harvest because of unreported harvest by local communities (Melchoir et al. 1987 as cited in Banci 1994, p. 101).

TABLE 2.—ESTIMATED ANNUAL WOLVERINE HARVEST IN CANADA

| Province or territory | Estimated annual harvest | Source |
|---|---|---|
| British Columbia | 175 | Lofroth and Ott, 2007, pp. 2196–2197. |
| Alberta | 37 | Province of Alberta 2006, p. 14. |
| Saskatchewan | 10 | COSEWIC 2003, Table 1. |
| Manitoba | 48 | COSEWIC 2003, Table 1. |
| Ontario | 8 | COSEWIC 2003, Table 1. |
| Yukon | 150 | COSEWIC 2003, Table 1. |
| Northwest Territories | 209 | COSEWIC 2003, Table 1.* |
| Nunavut | 82 | COSEWIC 2003, Table 1.^ |
| Total | 719 | |

*Corrected to adjust for majority being unreported in pelt production statistics.
^ Corrected using Dumond and Krizan 2002 as cited in COSEWIC 2003 p. 17.

Based on these harvest numbers and a minimum population estimate of 15,089 (COSEWIC 2003, p. 22), we conservatively estimate that harvest in Canada is a minimum of 4.7 percent of the population annually. Human-caused mortality of wolverines is likely additive to natural mortality due to the low reproductive rate and relatively long life expectancy of wolverines (Krebs et al. 2004, p. 499; Lofroth and Ott 2007, pp. 2197–2198; Squires et al. 2007, pp. 2218–2219).

An estimated 15,089 to 18,967 wolverines occur in Canada where suitable habitat is plentiful (COSEWIC 2003, pp. 14–22). Because of this abundance of habitat, protection and intensive management are not necessary to conserve wolverines in western Canada. This situation contrasts with the situation in the contiguous United States, where habitat is fragmented and limited to higher elevations over portions of four States (Washington, Idaho, Montana, and Wyoming).

Of the four lower 48 States where the wolverine currently persists, trapping and hunting of the species is prohibited in all except Montana where the bulk of the species resides. Montana trapping and hunting regulations define the wolverine as a furbearer, and establish a 2.5-month season for both hunting and trapping that runs from December 1 to February 15. A quota of 1 animal per person, up to a total of 12 wolverines per season across all Wolverine Management Units is established; the quota limits the number of wolverines that may be taken in each of three Management Units so that take of animals is distributed across drainages (State of Montana 2007, pp. 2–3, 5, 8).

Across the border from the U.S. wolverine population, the Canadian Province of British Columbia defines the wolverine as a commercial furbearer, and assigns it a Regulated Harvest status as a Class 2 Species under its Fur Management Program, which means it is regulated regionally in consultation with local trappers. No quotas are established, but reporting and inspection of carcasses is required in most regions of the Province. The trapping season is open for 3 to 4 months, from November 1 through January or February, depending on the region (Province of British Columbia 2007, pp. 90–96). Approximately 175 wolverines are harvested each year under this system (out of a total estimated population of 3,532), equating to a harvest of 5 percent (Lofroth and Ott 2007, pp. 2196–2197). However, as stated above, in Canada, due to local use, a significant portion of the harvest may go unreported.

The Canadian Province of Alberta has regulated wolverine trapping since 1989. An average of 37 animals per year is harvested within the Province (Province of Alberta 2006, p. 14). Trapping seasons are established for Fur Management Zones (FMZs) within the Province and run for 3 months, from November 1 to January 31. Quotas are designated in 6 FMZs, and establish an annual trap limit of 1 wolverine per trapper in each Wildlife Management Unit (Province of Alberta 2006, p. 8). Two additional FMZs, that comprise a large area of southeastern Alberta, are closed to trapping (Province of Alberta 2006, pp. 8, 11, 14); however, these areas are outside the species' normal range (Petersen 1997, p. 5) and, although they are adjacent to the United States, are not adjacent to wolverine populations in the United States.

The regulation of exploitation of wolverines is mixed within its current range in the contiguous United States, Alaska, and Canada. Controls on the exploitation of wolverine exist in the contiguous United States, with an average of 10.5 wolverine taken in Montana (2.1 percent of the estimated U.S. population of 500), the only State allowing trapping or hunting of wolverine. In Alaska, an average of 500 wolverines are harvested per year from a population of unknown size (assuming a 6 percent harvest rate, the population would be approximately 8,000 individuals). In Canada, an average of 719 wolverines are harvested per year (4.7 percent of a population of approximately 15,000; see table 2).

We conclude that differences in control of exploitation and regulatory mechanisms between the contiguous United States and Canada are not significantly different. When evaluating whether differences are significant enough to use the international boundary under the discreteness criterion, our policy directs that these differences must be significant in light of 4(a)(1)(D) of the Act (61 **Federal Register** 4725). We conclude that the differences in control of exploitation between the United States and Canadian wolverine populations are not significant in light of section 4(a)(1)(D) of the Act because in both countries exploitation appears to be adequately regulated according to what the overall population can sustain. This conclusion is supported by the fact that wolverine populations appear to be able to sustain the current rate of mortality due to trapping and hunting (approximately 6 percent in Alaska, 4.7 percent throughout western Canada, and 2.1 percent in the contiguous United States). Therefore, we determine that the contiguous United States population of wolverine is not discrete due to differences in control of exploitation.

*Summary for Discreteness*

The international boundary between Canada and the United States currently leads to some differences in the control of exploitation and conservation status of the wolverine. However, we find that these differences between Canada and the contiguous United States do not

result in significant differences in light of section 4(a)(1)(D) of the Act because they are not the result of inadequate regulatory mechanisms that place the U.S. population at risk. Therefore, we have determined that the U.S. portion of the range does not meet the discreteness criteria in our DPS Policy (61 FR 4725).

The Service finds that the existing data do not indicate that North American wolverines in the contiguous United States are ''markedly separated'' from those in Canada and Alaska. Consequently, the Service is unable to conclude at this time that the petitioned entity is discrete according to our DPS policy. Therefore, the North American wolverine in the contiguous United States does not qualify as a distinct population segment and is not a listable entity under the Act. Because we have determined that the population of the North American wolverine in the contiguous United States is not discrete and therefore not a DPS and a listable entity under the Act, we do not need to consider whether the population is significant with regards to the DPS policy or the conservation status pursuant to Section 4(a)(1) of the Act.

**Significant Portion of the Range Analysis**

Because the petitioned action was to list the wolverine in the contiguous United States, after determining that the wolverine in this portion of its range is not a distinct population segment (DPS), we analyzed whether it would constitute a significant potion of the range of the North American subspecies. On March 16, 2007, a formal opinion was issued by the Solicitor of the Department of the Interior, ''The Meaning of 'In Danger of Extinction Throughout All or a Significant Portion of Its Range' '' (DOI 2007). A portion of a species' range is significant if it is part of the current range of the species and is important to the conservation of the species because it contributes meaningfully to the representation, resiliency, or redundancy of the species. The contribution must be at a level such that its loss would result in a decrease in the ability of the species to persist.

In determining whether the petitioned entity warranted listing as threatened or endangered throughout a significant portion of its range, we first determine whether there is substantial information indicating that (1) the petitioned entity constitutes a significant portion of the range, and (2) the species may be in danger of extinction there or likely to become so within the foreseeable future. In practice, a key part of this analysis is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats applies only to portions of the range that are unimportant to the conservation of the species, such portions will not warrant further consideration.

If we identify any portions that warrant further consideration, we then determine whether the species is threatened or endangered in any significant portion. If we determine that a portion of the range is not significant, we do not determine whether the species is threatened or endangered there.

The terms ''resiliency,'' ''redundancy,'' and ''representation'' are intended to be indicators of the conservation value of portions of the range. Resiliency of a species allows it to recover from periodic disturbances. A species will likely be more resilient if large populations exist in high-quality habitat that is distributed throughout its range in a way that captures the environmental variability available. A portion of the range of a species may make a meaningful contribution to the resiliency of the species if the area is relatively large and contains particularly high-quality habitat, or if its location or characteristics make it less susceptible to certain threats than other portions of the range. When evaluating whether or how a portion of the range contributes to resiliency of the species, we evaluate the historical value of the portion and how frequently the portion is used by the species, if possible. The range portion may contribute to resiliency for other reasons; for instance, it may contain an important concentration of certain types of habitat that are necessary for the species to carry out its life-history functions, such as breeding, feeding, migration, dispersal, or wintering.

Redundancy of populations may be needed to provide a margin of safety for the species to withstand catastrophic events. This concept does not mean that any portion that provides redundancy is per se a significant portion of the range of a species. The idea is to conserve enough areas of the range so that random perturbations in the system only act on a few populations. Therefore, we examine each area based on whether that area provides an increment of redundancy that is important to the conservation of the species.

Adequate representation ensures that the species' adaptive capabilities are conserved. Specifically, we evaluate a range portion to see how it contributes to the genetic diversity of the species. The loss of genetically based diversity may substantially reduce the ability of the species to respond and adapt to future environmental changes. A peripheral population may contribute meaningfully to representation if there is evidence that it provides genetic diversity due to its location on the margin of the species' habitat requirements.

Because the petition to list the wolverine only specified the portion of the subspecies' range in the contiguous United States, we assessed whether this portion is important to the conservation of the subspecies because it contributes meaningfully to the representation, resiliency, or redundancy of the species.

For resiliency, we evaluated whether the contiguous U.S. wolverine population occupies relatively large or particularly high-quality habitat, or if its location or characteristics make it less susceptible to certain threats than other portions of the range. We determined that the contiguous U.S. wolverine population constitutes a relatively small area of patchily distributed lower-quality habitat when compared to the *Gulo gulo luscus* range overall. Additionally, we find that the characteristics of the contiguous U.S. wolverine population make it more susceptible to certain threats than other portions of the range because of the isolated patchy ''sky island'' habitats at the southern terminus of its range. Additionally, we evaluated the historical value of the contiguous U.S. portion of the wolverine range and how frequently the portion is used by the species, and whether the portion contains an important concentration of certain types of habitat that are necessary for the species to carry out its life-history functions, such as breeding, feeding, migration, dispersal, or wintering. We found that the contiguous U.S. wolverine population does not meaningfully contribute to resiliency because the habitats necessary for breeding, feeding, migration, dispersal, or wintering are found distributed throughout its range and are not solely found in the contiguous United States. Therefore, we conclude that the contiguous U.S. wolverine population does not contribute meaningfully to the resiliency of *G. g. luscus*.

In analyzing redundancy, we evaluated whether the contiguous U.S. portion of the wolverine range is necessary to provide a margin of safety for the species to withstand catastrophic events. We also examined the contiguous U.S. portion of the wolverine range to determine whether that area provides an increment of

redundancy that is important to the conservation of the species. In North America, wolverines occur within a wide variety of arctic, sub-arctic and alpine habitats, primarily boreal forests, tundra, and western mountains throughout Alaska and Canada, with two small peninsulas of habitat extending into the North Cascades and the Northern Rocky Mountains in the contiguous United States. The portion of the range that extends into the contiguous United States is small in relation to the entire range of the subspecies. Additionally, the actual area amount of habitat in the contiguous United States is more fragmented in nature than habitat found elsewhere throughout the range, which results in a smaller proportion of actual habitat in the contiguous U.S. portion than what is generally indicated on ''range'' maps (see ''*Habitat Availability and Connectivity*'' section above). Finally, a small proportion of the total wolverine population occurs in the contiguous United States. Assuming 8,333 wolverine occur in Alaska (as described in the control of exploitation section above), 15,089 wolverine occur in Canada, and 500 wolverine occur in the contiguous United States, the contiguous United States portion accounts for only 2 percent of the entire *G. g. luscus* population. Thus, we determined that the contiguous U.S. wolverine population does not significantly contribute to the redundancy of *G. g. luscus*.

In determining whether the contiguous U.S. wolverine population contributed to representation, we evaluated whether it contributes to the genetic diversity of the species. Adequate representation ensures that the species' adaptive capabilities are conserved. Wolverines in the contiguous United States contain a subset of the genetic haplotypes found in the Canadian populations, and therefore do not represent a unique population. Thus, the species does not meaningfully contribute to representation of *Gulo gulo luscus*. The populations in Canada and Alaska are relatively large and contiguous, and are not dependent on connectivity to the contiguous U.S. population.

Based on the discussion above, we determined that the contiguous United States portion of the current range of the North American wolverine is not significant to the *Gulo gulo luscus* subspecies, and therefore does not warrant further consideration to determine if it is a significant portion of the range that is threatened or endangered. In addition, we find that historical habitat in the contiguous United States that is no longer occupied would not raise the status of this portion of the range as being significant to the subspecies.

### Finding

We have carefully assessed the best scientific and commercial information available regarding threats to the contiguous United States population of the wolverine. We reviewed the petition, and available published and unpublished scientific and commercial information. This 12-month finding reflects and incorporates information that we received during the public comment period or that we obtained through consultation, literature research, and field visits.

On the basis of this review, we have determined that the contiguous United States population of the North American wolverine does not constitute a distinct population segment (DPS) under the Act and therefore a listable entity unto itself. We also find that the contiguous United States population of the North American wolverine is not a significant portion of the range of the North American subspecies and does not warrant further consideration under the Act. Therefore, we find that the petition to list the North American wolverine that occurs in the contiguous United States is not warranted for listing.

### References Cited

A complete list of all references cited is available upon request from the Supervisor, at the U.S. Fish and Wildlife Service, Montana Field Office (see **ADDRESSES**).

### Author

The primary author of this document is staff of the Mountain-Prairie Region of the U.S. Fish and Wildlife Service, 134 Union Blvd., Ste. 145, Lakewood, Colorado 80228 (also see **ADDRESSES**).

### Authority

The authority for this action is section 4 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Dated: February 28, 2008.

**H. Dale Hall,**

*Director, U.S. Fish and Wildlife Service.*

[FR Doc. E8–4197 Filed 3–10–08; 8:45 am]

**BILLING CODE 4310–55–P**

## DEPARTMENT OF COMMERCE

## National Oceanic and Atmospheric Administration

## 50 CFR Parts 223 and 224

**RIN 0648–XF03**

## Listing Endangered and Threatened Wildlife and Designating Critical Habitat; 90-day Finding for a Petition to Reclassify the Loggerhead Turtle in the Western North Atlantic Ocean

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

**ACTION:** 90-day petition finding; request for information and comments; correction.

**SUMMARY:** This document corrects the fax number in the **ADDRESSES** section of a proposed rule published in the **Federal Register** of March 5, 2008.

**FOR FURTHER INFORMATION CONTACT:** Marta Nammack at 301–713–1401.

**SUPPLEMENTARY INFORMATION:**

### Correction

In proposed rule FR Doc. E8–4231, beginning on page 11849 in the issue of March 5, 2008, make the following correction, in the Preamble. On page 11849, column two, line 8 of the **ADDRESSES** section, replace ''978–281–9394'' with ''301–713–0376''.

Dated: March 6, 2008.

**John Oliver,**

*Deputy Assistant Administrator for Operations, National Marine Fisheries Service.*

[FR Doc. 08–1000 Filed 3–6–08; 2:54 pm]

**BILLING CODE 3510–22–S**

## DEPARTMENT OF COMMERCE

## National Oceanic and Atmospheric Administration

## 50 CFR Part 648

**[Docket No. 071017601–7812–02]**

**RIN 0648–AW17**

## Magnuson-Stevens Act Provisions; Fisheries of the Northeastern United States; Northeast Multispecies Fishery; 2008 Georges Bank Cod Fixed Gear Sector Operations Plan and Agreement, and Allocation of Georges Bank Cod Total Allowable Catch

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