Southern Mountain Caribou
(Rangifer tarandus caribou) Distinct Population Segment

5-Year Review
Summary and Evaluation

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Boise, Idaho

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5-YEAR REVIEW

Species reviewed: Southern Mountain Caribou Distinct Population Segment (*Rangifer tarandus caribou*)

TABLE OF CONTENTS

5-YEAR REVIEW
Southern Mountain Caribou Distinct Population Segment/*Rangifer tarandus caribou*

1.0 GENERAL INFORMATION

1.1 Reviewers

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Lead Field Office: Idaho Fish and Wildlife Office, Boise, Idaho

Cooperating Field Office(s): Washington Ecological Services Field Office
Montana Ecological Services Field Office

Cooperating Regional Office(s): Region 6, Denver, Colorado

1.2 Methodology used to complete the review:

In accordance with section 4(c)(2) of the Endangered Species Act of 1973, as amended (Act), the purpose of a 5-year review is to assess each threatened and endangered species to determine whether its status has changed, and if it should be classified differently or removed from the Lists of Endangered and Threatened Wildlife and Plants. In completing this review, the U.S. Fish and Wildlife Service (Service) utilized available scientific information regarding southern mountain caribou, specifically the species life history, habitat requirements, and factors affecting its continued existence. We began the process with a Federal Register Notice of Review (89 FR 19861-19864, March 20, 2024) and a "Dear Partners in Conservation" letter on March 19, 2024, followed by a 60-day comment period. We utilized Federal and state documents, published literature, and contacted members of the Southern Caribou International Technical Working Group (SCITWG), which included members of state, Federal, Tribal, and provincial governments to request any data or information we should consider for this review.

Given the complex nomenclature of southern mountain caribou, this review will use specific terms for clarity: "caribou DPS" refers to the listed Distinct Population Segment that encompasses the southern group of southern mountain caribou. The term "southern mountain caribou" refers to all groups, including the northern, central, and southern mountain groups. The term "mountain caribou" refers to the subspecies of woodland caribou which includes northern, and southern ecotypes, while "caribou" refers to the species as a whole (Figure 1).

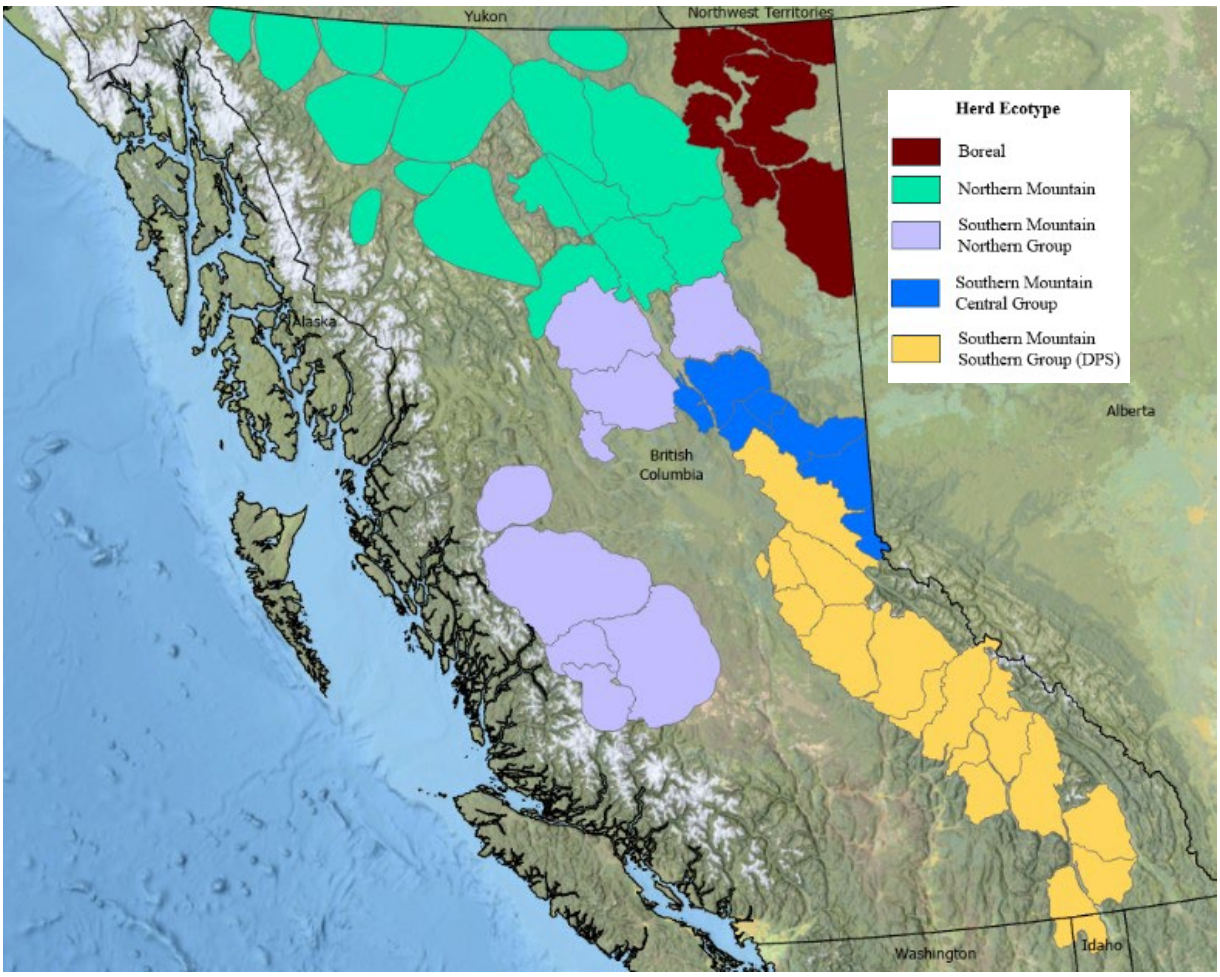

Figure 1. Distribution of caribou ecotypes in British Columbia and the United States. The southern group of southern mountain caribou, the listed DPS, is shown in yellow.

1.3 Background:

1.3.1 FR Notice citation announcing initiation of this review:

March 20, 2024. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status Reviews for 100 Species in American Sāmoa, California, Hawaii, Idaho, Oregon, and Washington. 89 FR 19861-19864.

1.3.2 Listing history

Original Listing
FR notice: 48 FR 1722-1726
Date listed: January 14, 1983
Entity listed: Southern Selkirk Mountain caribou population in Washington, Idaho, and Southern British Columbia
Classification: Emergency listed as endangered

Revised Listing
FR notice: 48 FR 49245-49249
Date listed: October 25, 1983
Entity listed: Southern Selkirk Mountain caribou population in Washington, Idaho, and Southern British Columbia
Classification: Emergency listed as endangered (extension of emergency protection).

FR notice: 49 FR 7390-7394
Date listed: February 29, 1984
Entity listed: Southern Selkirk Mountain caribou population in Washington, Idaho, and Southern British Columbia
Classification: Endangered

FR notice: 84 FR 52598-52661
Date listed: October 2, 2019
Entity listed: Southern Mountain Caribou Distinct Population Segment
Classification: Endangered

1.3.3 Associated rulemakings:

Final Designation of Critical Habitat
FR Notice: 77 FR 71041-71082
Date: November 28, 2012

1.3.4 Review History:

Southern Mountain Caribou DPS (*Rangifer tarandus spp. caribou*) 5-Year Review
Published: December 5, 2008
Recommendation: No change in status

12-Month Finding on a Petition to Delist the Southern Selkirk Mountains Population of Woodland Caribou and Proposed Rule to Amend the Listing; Proposed Rule
Published: May 8, 2014
Recommendation: No change in status

Endangered Species Status for Southern Mountain Caribou Distinct Population Segment; Final Rule
Published: October 2, 2019
Recommendation: No change in status

1.3.5 Species' Recovery Priority Number at start of this 5-year review:
3C

1.3.6 Current Recovery Plan or Outline

Name of plan or outline: Recovery Outline: Southern Mountain Caribou Distinct Population Segment of Woodland Caribou
Date issued: November 27, 2019
Dates of previous revisions: March 4, 1994, and April 12, 1985

2.0 REVIEW ANALYSIS

2.1 Application of the 1996 Distinct Population Segment (DPS) policy

2.1.1 Is the species under review a vertebrate?
_X__ **Yes**
_____ **No**

2.1.2 Is the species under review listed as a DPS?
__X__ **Yes**
____ **No**

2.1.3 Was the DPS listed prior to 1996?
____ **Yes**
__X__ **No**

2.1.4 Is there relevant new information for this species regarding the application of the DPS policy?
____ **Yes**
__X__ **No**

2.2 Recovery Criteria

2.2.1 Does the species have a final, approved recovery plan containing objective, measurable criteria?
____ **Yes**
_X__ **No**

2 .3 Updated Information and Current Species Status

2.3.1 Biology and Habitat

2.3.1.1 New information on the species' biology and life history:

Since the 2019 Final Rule (84 FR 52598-52661), which serves as the previous 5-year status review, studies have evaluated the spring migratory behavior and summer range use of southern mountain caribou. Lubenau (2024) found that individuals exhibit a two-step migration in the spring, moving across both planar and elevational gradients, with planar migration starting in April and May, and elevational migration in May and June. This research differs from our previous understanding that southern mountain caribou primarily migrate only across elevational gradients. Furthermore, Lubenau (2024) reported that the characteristics of southern mountain caribou spring migration are changing over time; specifically, individuals are beginning their planar migration earlier in the year, migrating for longer periods, and traveling greater distances. These changes in migratory behavior are driven by both anthropogenic disturbance and climate factors, such as warmer winters and reduced snowpack, which cue migratory individuals to initiate planar migration sooner. Further, in areas with high anthropogenic disturbance, migratory southern mountain caribou are more likely to migrate across elevational gradients and begin migration at lower elevations. New information about southern mountain caribou summer range use shows that migratory individuals select for high-elevation areas with high plant productivity, characterized by general to moderate slopes, southern and easterly aspects, short vegetation cover exceeding 50%, and tree cover greater than 20 meters in height (Lubenau 2024).

2.3.1.2 Abundance, population trends (e.g. increasing, decreasing, stable), or demographic trends and features (e.g., age structure, sex ratio, family size, birth rate, age at mortality, mortality rate, etc.):

The 2019 Final Rule stated that 15 of the 17 total herds were extant within the caribou DPS. However, at the time of this review, only eight extant herds remain, all of which are confined to British Columbia (Figure 2). Notably, the South Selkirk herd, the only herd known to have extended into the contiguous United States, was extirpated in 2019 when the last remaining female was relocated to a pen near Revelstoke, British Columbia. Extant herds are primarily located within the central and northern extent of the caribou DPS. Furthermore, population modeling conducted since the 2019 Final Rule demonstrates that only six of the remaining herds in the caribou DPS exhibit stable or increasing population trends, while one herd is declining and another is on the brink of

functional extirpation, with fewer than 10 females and a total herd size of less than 20 animals (Lamb et al. 2024).

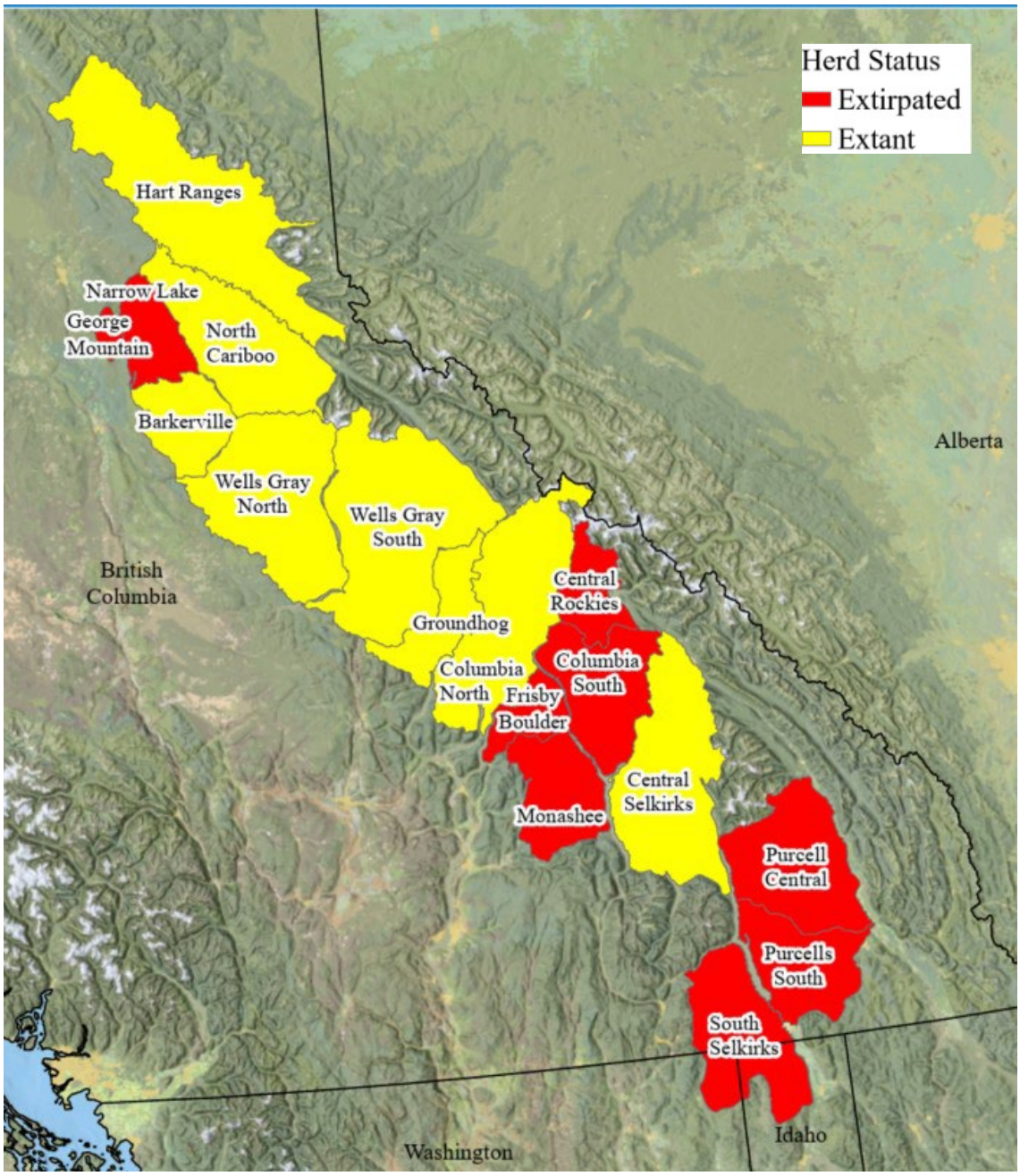

Figure 2. Geographic range and herd status of the caribou DPS. Extant herds as of March 30, 2025, are shown in yellow and extirpated herds are shown in red.

2.3.1.5 Spatial distribution, trends in spatial distribution (e.g. increasingly fragmented, increased numbers of corridors, etc.), or historical range (e.g. corrections to the historical range, change in distribution of the species within its historical range, etc.):

Since the 2019 Final Rule, natural resource extraction and forestry practices have continued within the caribou DPS (Palm et al. 2020, Lochhead et al. 2022). The extirpation of nine herds and continued population decline in the southern extent of the caribou DPS have decreased connectivity between the southernmost extant herds and the central and northern herds. Conversely, management efforts in the northern extent of the caribou DPS range have stabilized declining herds despite ongoing timber harvest, thereby likely preserving or enhancing connectivity between those herds (Lamb et al. 2024).

2.3.1.6 Habitat or ecosystem conditions (e.g., amount, distribution, and suitability of the habitat or ecosystem):

Despite ongoing management efforts, habitat quality, quantity, and distribution has continued to decline within the caribou DPS since the 2019 Final Rule (Palm et al. 2020, Nagy-Reis et al. 2021, Goward et al. 2024). Recent studies have further evaluated the complex relationship between habitat structure, climate conditions, predator-prey relationships, and survival, which are described below.

As stated in the 2019 Final Rule, anthropogenic disturbance directly and indirectly reduces and fragments contiguous tracts of late successional forest. Fragmentation of habitat increases predation risk, reduces forage availability – primarily through avoidance of disturbed and adjacent habitats – and decreases southern mountain caribou survival (Bergerud and Elliot 1986, Seip 1992, Apps et al. 2001, Williams et al. 2021, Goward et al. 2024). Since the 2019 Final Rule, timber harvest – the primary form of anthropogenic disturbance and habitat modification affecting the caribou DPS – has continued to expand into high-elevation and matrix habitats used during migration (Palm et al. 2020, Lochhead et al. 2022). In addition to direct removal of contiguous tracts of forest, timber harvest results in the creation of linear feature development, such as logging roads, which facilitates predator movement, improves predator line-of-sight, and fragments historical southern mountain caribou movement corridors (Dickie et al. 2023).

Climate-driven natural disturbance events, such as wildfire and drought, continue to exacerbate the effects of anthropogenic disturbance on southern mountain caribou persistence. Since the 2019 Final Rule, wildfire severity within the caribou DPS has increased (British Columbia Wildfire Service 2025), further limiting habitat availability and connectivity.

Studies since 2019 have concluded that natural disturbance events cause shifts in the availability of late successional forest and in plant phenology in summer ranges, negatively influencing southern mountain caribou forage access and availability (Goward et al. 2024, Lubenau 2024).

As stated in the 2019 Final Rule, landscape modification from activities such as forestry practices and natural resource extraction is believed to be the primary cause of southern mountain caribou decline (Seip 1992, Serrouya et al. 2021, Lamb et al. 2024). Natural resource extraction leads to disturbance-facilitated apparent competition, where moose (*Alces alces*) indirectly negatively impact southern mountain caribou by increasing the presence of their main predator, the gray wolf (*Canis lupus*). Since 2019, studies have further evaluated the relationship between anthropogenic-driven disturbance events and ecosystem structure and function. Dickie et al. (2023) found that linear features enhance predator access and hunting efficiency in southern mountain caribou habitat. Similarly, Blagdon and Johnson (2021) observed that during migration, southern mountain caribou experience more predation near disturbed habitats that are often preferred by moose, and Lochhead at al. (2022) noted that road construction and timber harvest altered southern mountain caribou abundance and distribution within matrix and core ranges. Further, Williams et al. (2024) found that southern mountain caribou have altered their migratory behavior as a result of unsustainable predation rates.

2.3.1.7 Other:

Several aspects of southern mountain caribou ecology and habitat discussed in the 2019 Final Rule warrant clarification. The Final Rule states that pregnant females move to lower elevations in the spring. However, non-pregnant females, juveniles, and males will also move to lower elevations in the spring, prior to their migration to their summer ranges (Apps and McLellan 2006, Blagdon and Johnson 2021). Additionally, the Final Rule stated that caribou within the DPS have entirely separate calving grounds from summer ranges. However, calving grounds and summer ranges are not always separate. Females may spatially segregate themselves when calving and shortly thereafter, but they often remain within the same general summer range as other individuals (Kinley and Apps 2001, Lubenau 2024).

The 2019 Final Rule also stated that arboreal lichens become the primary source of food for pregnant females during summer and that green forage is largely unavailable at higher elevations during calving. The diet composition of pregnant and lactating female southern mountain caribou has never been directly studied; therefore, it is unknown whether the statement is accurate. However, given the protein composition of arboreal lichen, it is unlikely that lichen alone provide sufficient nutrition to

support reproduction in medium and large-bodied ungulates, such as caribou (Robbins 1987, Parker et al. 2009). Further, arboreal lichen in high elevation forests is largely unreachable without deep snowpack due to snow scouring lower-level canopies (Goward et al. 2024). As such, it is unlikely that arboreal lichens are the primary or only food source for pregnant and lactating females.

The 2019 Final Rule stated that southern mountain caribou summer ranges are characterized by late successional forests. However, migratory southern mountain caribou summer ranges are also characterized by high-elevation, open areas with relatively abundant green forage (Lubenau 2024). Further, the 2019 Final Rule stated that the stand age required for *Bryoria spp*. and *Alectoria spp*., a large component of southern mountain caribou winter diet, must be greater than 250 years. However, recent research has shown that *Bryoria spp*. and *Alectoria spp*. can be found in stands as young as 60 years (Esseen and Coxson 2024, Goward et al. 2024), suggesting that southern mountain caribou habitat may be composed of late successional forests as young as 60 years old.

2.3.2 Five-Factor Analysis (threats, conservation measures, and regulatory mechanisms)

2.3.2.1 Present or threatened destruction, modification or curtailment of its habitat or range (Factor A):

Threats to habitat within the caribou DPS include both anthropogenic and climate-driven habitat alteration. Habitat alteration causes both direct and indirect impacts to southern mountain caribou, including, but not limited to, predation, increased physiological stress, a changing nutritional landscape, and displacement from important habitats. Direct and indirect impacts of habitat destruction, modification, and curtailment on southern mountain caribou persistence are described below.

Forestry practices and natural resource extraction have been the primary sources of habitat alteration within the caribou DPS range. Southern mountain caribou are habitat specialists that are dependent upon late successional (greater than 60 years) forests, high-elevation summer ranges, and matrix habitat to facilitate movement between seasonal habitats and avoid predation. However, removal of mature forests through timber harvest increases early seral forests, which also increases forage availability for moose and deer (*Odocoileus spp*.). Moose and deer use early seral forests, which facilitates their range expansion into southern mountain caribou habitats (Wittmer et al. 2007, Anderson et al. 2018). While caribou do not directly compete with moose or deer for forage, increased densities of alternative prey enhance predator populations within their range (Wittmer et al. 2007, Seip 2008, Apps et al. 2013, Anderson et

al. 2018). In response, southern mountain caribou avoid highly disturbed areas but are often unable to avoid predation in the surrounding area (Dickie et al. 2023, Williams et al. 2024). Further, linear feature development, as a result of forestry practices and natural resource extraction, improves predator hunting efficiency and access to core southern mountain caribou habitat (Latham et al. 2011, Dickie et al. 2017, 2023). Consequently, anthropogenic disturbance events frequently lead to unsustainable predation rates on southern mountain caribou, negatively influencing persistence.

Climate conditions exacerbate the effects of anthropogenic disturbance on southern mountain caribou habitat structure and quality. Historically, the effects of fire on southern mountain caribou habitat were limited because the species' range is largely comprised of inland temperate forests, which are characterized by high humidity and precipitation and reduced large scale wildfire risk (DellaSala et al. 2021). However, wildfire prevalence within the caribou DPS has increased substantially in recent decades as a result of warmer and drier seasons and historical fire suppression efforts (British Columbia Wildfire Service 2025). British Columbia, where the remaining caribou DPS herds reside, experienced its worst fire year in 2023, with more than 28,400 km^2 of forest and land burned (British Columbia Wildfire Service 2025). However, total estimates of habitat burned within the caribou DPS as a result of the 2023 season are currently unknown. Climate modeling suggests a continued increase in the frequency and severity of wildfires within boreal forests over the next 80 years (Gustine et al. 2014). Larger, more intense, and more frequent fires create openings in forest canopies, which decrease canopy cover and increase light availability, restarting forest succession processes and facilitating the presence of early seral forests (Goward et al. 2024). As a result, wildfires create a similar early seral forest structure to that produced by forestry practices, exacerbating unsustainable disturbance-mediated predation rates.

Anthropogenic and climate driven disturbance events also likely influences the nutritional landscape within the caribou DPS. Conversion of old growth to early successional forests reduce arboreal lichen availability, which comprises much of southern mountain caribou winter diets (Rominger and Oldemeyer 1989). Reductions in winter forage can negatively affect overwinter survival and reproductive success in medium and large-bodied ungulates such as caribou (Parker et al. 2009, Barboza et al. 2020). In addition to direct removal of old growth forests, increasing temperatures and drought events are rapidly altering plant phenology in alpine ecosystems. Specifically, earlier snow melt, decreased precipitation, and warmer summer temperatures leads to premature plant senescence (Ernakovich et al. 2014). Changes in plant phenology can have substantial negative impacts on the nutritional landscape and by extension, caribou

survival and recruitment (Post and Forchammer 2008, Brown et al. 2023). Indeed, research suggests that the temporal availability of forage within southern mountain caribou summer ranges is decreasing (Lubenau 2024). This decline may influence forage quality during calving and lactation, which has been shown to lower ungulate recruitment rates (Crête and Huot 1993, Post and Forchammer 2008, Brown et al. 2023).

2.3.2.2 Overutilization for commercial, recreational, scientific, or educational purposes (Factor B):

Southern mountain caribou have been an important game species for First Nations and Indigenous Americans for centuries. However, it is unlikely that historical harvest of southern mountain caribou has had a substantial influence on their decline, given limited hunting pressure and type of hunting implements that were used when declines began to be observed (Spalding 2000). Hunting of within the caribou DPS is currently not allowed in the United States or Canada. While illegal harvest of caribou within the DPS has been reported (Scott and Servheen 1985), incidents are rare, and data are insufficient to suggest that illegal harvest is affecting species persistence.

2.3.2.3 Disease or predation (Factor C):

Since the 2019 Final Rule, research has demonstrated that warming temperatures have facilitated the range expansion of white-tailed deer (*Odocoileus virginianus*) into caribou habitat (Dickie 2024), potentially affecting disease transmission processes. White-tailed deer often carry a meningeal nematode (*Parelaphostrongylus tenuis*), which has been documented to cause a fatal neurological disease in caribou (Bergerud and Mercer 1989). Additionally, white-tailed deer often carry chronic wasting disease (CWD), a fatal prion disease (Williams et al. 2002). In 2024, CWD was confirmed in white-tailed deer in the Kootenay Region of British Columbia, northwestern Montana, Bonners Ferry, Idaho, and Spokane, Washington, all of which are located within or near the caribou DPS (British Columbia Ministry of Forests 2024, Montana Fish Wildlife and Parks 2025, Idaho Fish and Game 2024, Washington Department of Fish and Wildlife 2024). While no known cases of CWD have been documented in North American caribou, the expansion of white-tailed deer into caribou habitat, along with increasing ungulate densities, can increase CWD prevalence and risk. However, disease is not currently believed to be a major factor influencing southern mountain caribou persistence.

Since the 2019 Final Rule, substantial research has reinforced the view that the decline of southern mountain caribou is primarily due to changes in habitat structure and trophic interactions, which have resulted in

unsustainable predation rates (Blagdon and Johnson 2021, McKay et al. 2021, Nagy-Reis et al. 2021, McNay et al. 2022, Dickie et al. 2023). Natural predators of caribou include gray wolf (*Canis lupus*), cougars (*Puma concolor*), grizzly bears (*Ursus arctos horribilis*), black bears (*Ursus americanus*), and wolverines (*Gulo gulo*). Disturbance-mediated predation by natural predators, particularly wolves and cougars, is believed to be a significant factor contributing to the decline of southern mountain caribou in recent decades (Seip 1992, Serrouya et al. 2021, Lamb et al. 2024). The presence of early seral forests increases moose densities, which in turn bolsters predator populations and increases predation rates for southern mountain caribou (Wittmer et al. 2005, 2007, Anderson et al. 2018). Linear feature development further increases predation risk by improving predator access and hunting efficiency in southern mountain caribou habitat (Dickie et al. 2017, 2023). The spatial overlap between predators and southern mountain caribou increases with decreasing elevation, with greater than 60% of predation occurring in late summer at low elevations (Stotyn et al. 2005, Wittmer et al. 2005, Apps et al. 2013). Furthermore, Blagdon and Johnson (2021) found that for migrating southern mountain caribou, the spatial overlap between species increases due to restrictive movement corridors between seasonal ranges. Consequently, habitat alteration results in unsustainable predation rates. Additionally, predation indirectly affects southern mountain caribou survival due to risk-sensitive foraging behavior and avoidance of otherwise suitable habitat surrounding early seral forests, which restricts resource availability and access to seasonal ranges (Heard and Zimmerman 2021, Williams et al. 2024).

2.3.2.4 Inadequacy of existing regulatory mechanisms (Factor D):

Federal, state, and provincial regulations remain largely unchanged since the 2019 Final Rule (84 FR 52598 – 52661). Existing regulatory mechanisms in the United States and Canada address some of the threats facing the caribou DPS. However, the mechanisms do not fully eliminate the identified threats nor their potential impacts on southern mountain caribou demography and habitat.

2.3.2.5 Other natural or manmade factors affecting its continued existence (Factor E):

Southern mountain caribou inhabit high-elevation habitats characterized by deep snowpack. As a result, southern mountain caribou are susceptible to environmental stochastic events such as avalanches. Avalanches have had substantial effects on the persistence of nearby central mountain caribou. For example, the nearby Banff herd was extirpated following an avalanche in 2009, and the Red Rock Prairie avalanche killed roughly a quarter of the population in 2019 (Hebblewhite et al. 2010, Alberta

Environment and Parks, unpublished data). Since the 2019 Final Rule, avalanches have remained a notable threat to southern mountain caribou within the Revelstoke area of British Columbia, where the terrain is particularly steep and rugged with very high snowfall (Seip and Cichowski 1996). Additionally, warming temperatures and stochastic snow events have continued to alter snowpack structure by altering the size, frequency, and severity of avalanches (Eckert et al. 2024). As such, avalanches are likely to remain a threat to southern mountain caribou, particularly for small, isolated herds.

Since 2019, participation in winter recreation has continued to rise. Backcountry skiing, heli-skiing, and snowmobiling have grown in popularity and are activities that are most likely to occur within southern mountain caribou winter ranges (Gill et al. 2023). Improved over-snow technologies have made higher elevations, steeper slopes, and remote forest more readily accessible by recreationists. Winter recreation activities affect short-term southern mountain caribou behavior, long-term habitat selection, and physiology (Freeman 2008, Gill et al. 2023). Recreational activities within winter ranges may increase southern mountain caribou vigilance behavior (Duchesene 2000), decrease winter range size, displace individuals into avalanche-prone areas (Simpson 1987, Seip and Cichowski 1996), increase energy demands associated with displacement or vigilance, and increase stress levels (Gill et al. 2023). Furthermore, motorized winter recreation activities can lead to trail compaction, which may increase predator presence within southern mountain caribou winter ranges (Simpson and Terry 2000, Cichowski et al. 2004).

Since the 2019 Final Rule, southern mountain caribou herds have continued to decline and become more isolated. As a result, genetic heterogeneity and demographic stochasticity may increase population decline, characterized by the Allee effect (Stephens et al. 1999). The Allee effect predicts that population growth rates decrease as populations become smaller. Since the 2019 Final Rule, the continued decline of southern mountain caribou has made the effects of small and isolated herds become an even greater concern for species persistence.

2.4 Synthesis

Without considerable management intervention, the caribou DPS remains in danger of extinction throughout all or a significant portion of its range Lamb et al. 2024). The primary threats to southern mountain caribou continue to be habitat disturbance (anthropogenic and natural), climate conditions, and unsustainable predation rates. The ongoing threat of habitat modification will likely continue to limit the persistence of the caribou DPS by altering the nutritional landscape, increasing moose and deer densities in southern mountain caribou habitat, and

amplifying predation risk. In addition, given that herds are increasingly isolated and have relatively low abundance, threats such as disease, avalanches, and human recreation may further limit species persistence.

Ongoing recovery efforts, such as wolf removal and maternal penning, have proven effective in ameliorating threats and stabilizing southern mountain caribou populations (Lamb et al. 2024). However, population persistence will also depend on long-term habitat restoration to stabilize predation rates, reduce sensory disturbance, and improve forage access and availability. The continued extirpation of herds within the caribou DPS, in addition to reductions in habitat quality and quantity, and unsustainable predation rates continues to lead to low resiliency, redundancy, and representation. As a result, the caribou DPS remains at risk of extinction and continues to meet the definition of an endangered species under the Act. Given the necessity for intensive on-going and increased management actions, long-term habitat protections to regenerate late successional forests, and limited population growth, we recommend maintaining endangered status for the caribou DPS.

In conclusion, our review of the best available information as documented in our 2019 Final Rule and summarized in this 5-year status review does not change our evaluation of the status of the caribou DPS and the threats affecting the caribou DPS under the factors in section 4(a)(1) of the Act. Therefore, we recommend no change in the status of the caribou DPS at this time.

3.0 RESULTS

3.1 Recommended Classification:

____ **Downlist to Threatened**
____ **Uplist to Endangered**
____ **Delist**
    ____ *Extinction*
    ____ *Recovery*
    ____ *Original data for classification in error*
__X__ **No change is needed**

3.2 New Recovery Priority Number:

6C

Brief Rationale:

The caribou DPS faces a high degree of threats, and while limiting factors to persistence are known, the feasibility of alleviating known threats within an adequate timeframe is limited. Currently, there are no known southern mountain caribou within the contiguous United States, and Canada manages the extant herds. Partnerships have facilitated substantial recovery efforts. However, ongoing efforts in Canada may face additional difficulties in the long term due to socioeconomic conflicts (e.g., resource extraction industries) and climate effects that are outside of the United States government's control. Consequently, the opportunity for and effectiveness of U.S. management efforts is limited. The caribou DPS has high threats, low recovery potential, and is in conflict with development, resulting in an updated recovery priority number of 6C.

4.0 RECOMMENDATIONS FOR FUTURE ACTIONS

Continue to implement habitat management and recovery efforts within the caribou DPS.

Effective recovery will require extensive efforts of forest management to reduce habitat fragmentation and alleviate predation pressure on southern mountain caribou. Recreation and habitat management in the caribou DPS in the U.S. is conducted by private, state, and Federal entities. Until 2023, when Idaho Department of Lands implemented off-trail restrictions, many non-Federal lands in the U.S. allowed unrestricted motorized use. Private industrial forestlands are also mainly closed to motorized use off designated routes. In British Columbia, there are both year-round and seasonal snowmobile and heliskiing closure areas throughout the caribou DPS. While the Colville National Forest prohibits motorized use in some areas, including over-snow use, the Forest lacks a formal winter travel plan. The Colville National Forest and Idaho Panhandle National Forests also include goals, standards, and objectives in their management plans. The objectives provide direct or indirect protections for southern mountain caribou and their habitat from access and other multiple-use activities such as timber harvest and other forestry practices. The Service recommends that existing protections remain in place to support the remaining late successional forests in the U.S. portion of the caribou DPS. Furthermore, the Service recommends that existing early to mid-seral forests within designated critical habitat are managed to ensure a conversion back to late successional status.

Currently, Idaho Department of Fish and Game and Washington Department of Fish and Wildlife work collaboratively with the Service to monitor and report any observations or illegal harvest of southern mountain caribou within either state. Further, Tribal partners, including the Kootenai Tribe of Idaho and Kalispel Tribe of Indians, continue to assist the Service with ongoing recovery planning and the organization of southern mountain caribou technical working groups. Collaborative

actions will collectively benefit effective recovery efforts should southern mountain caribou return to the contiguous U.S.

Continue to support ongoing recovery efforts carried out by international, academic, and Tribal partners.

The province of British Columbia, Environment and Climate Change Canada (ECCC), First Nations, Tribal partners in the United States, and researchers from academic institutions are implementing recovery actions throughout the Canadian portion of the caribou DPS. The actions include monitoring demographics and population trends, moose removal, wolf removal, maternal penning, habitat restoration, supplemental feeding trials, and research to better understand southern mountain caribou ecology and evaluate the effectiveness of management actions. These efforts have collectively helped stabilize herds in the central and northern extent of the caribou DPS. The Service has provided financial and personnel assistance for ongoing efforts and should continue to do so to best assist with Canadian recovery.

Develop a Species Status Assessment and update the existing Recovery Plan.

Currently, there is no Species Status Assessment (SSA) for the caribou DPS. Therefore, it is recommended that the Service completes an SSA to inform the development of an updated recovery plan. The existing recovery criteria for the species in the contiguous U.S. stem from the 1994 recovery plan, which only considered the South Selkirk herd. The recovery criteria stated in the 1994 plan were to "manage for an increasing population and manage at least 179,000 ha of habitat to support a self-sustaining caribou population." Given the changes in listing status, emergence of new literature regarding the threats and ecology of southern mountain caribou, and changes in demography, it is recommended that the Service completes a recovery plan containing objective and measurable criteria. The revised plan should be applicable across the entire caribou DPS and align with the plans of Canada's Federal and provincial agencies.

Support research to investigate bottom-up limitations to southern mountain caribou persistence.

Currently, there is increasing concern over the bottom-up limitations to mountain caribou survival. Earlier snowmelt, decreased precipitation, and warmer temperatures can lead to premature plant senescence in alpine environments (Ernakovich et al. 2014). Recent research suggests that plant phenology within southern mountain caribou summer ranges may be changing (Lubenau 2024). Shifting plant phenology within summer ranges have been shown to impact survival and recruitment in migratory caribou, as seasonal ranges support reproduction and female replenishment of fat reserves after calving (Crête and Huot 1993, Post and Klein 1999, Post and Forchhammer 2008, Denryter et al. 2022). However, little is known about the nutritional landscape of southern mountain caribou summer ranges. As such, the

Service should support ongoing research to understand the nutritional landscape of southern mountain caribou seasonal ranges and changing conditions within seasonal ranges. Information about the nutritional landscape can be used to help prioritize herd-level recovery efforts, identify the spatial scope of habitat recovery potential, and assess limitations to population performance at both the herd and species level.

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Signature Page
U.S. FISH AND WILDLIFE SERVICE
5-YEAR REVIEW of the
Southern Mountain Caribou (*Rangifer tarandus caribou*) Distinct Population Segment

Current Classification: Endangered

Recommendation resulting from the 5-Year Review:

____ Downlist to Threatened
____ Uplist to Endangered
____ Delist
_X_ No change needed

Appropriate Listing/Reclassification Priority Number, if applicable: 6C

Review Conducted By: Brianna Lubenau, Idaho Fish and Wildlife Office, Boise, ID

LISA ELLIS Digitally signed by LISA ELLIS Date: 2025.07.11 15:11:06 -06'00' Date July 11, 2025

State Supervisor, Idaho Fish and Wildlife Office