STAFF ANALYSIS
TEMPORARY SPECIAL ACTION
WSA19-08

ISSUES

Temporary Wildlife Special Action Request, WSA19-08, submitted by the Denali National Park Subsistence Resource Commission, requests that the Federal Subsistence Board (Board) change the harvest limit for ptarmigan from 20 per day, 40 in possession to 10 per day, 20 in possession, and shorten the season from Aug. 10 - Mar. 31 to Aug. 10 - Feb. 15 in Unit 13E for the 2019/20 regulatory year.

DISCUSSION

The proponent requested this temporary special action because of the observed declines in the local ptarmigan population and concern that the liberal Federal subsistence regulations should be reduced for the conservation of healthy ptarmigan populations in Unit 13E. These changes would align Federal and State regulations.

The applicable Federal regulations are found in 36 CFR 242.19(b) and 50 CFR 100.19(b) (Temporary Special Actions) and state that:

> *. . . After adequate notice and public hearing, the Board may temporarily close or open public lands for the taking of fish and wildlife for subsistence uses, or modify the requirements for subsistence take, or close public lands for the taking of fish and wildlife for nonsubsistence uses, or restrict take for nonsubsistence uses.*

Existing Federal Regulation

Unit 13—Ptarmigan (Rock, Willow, and White-tailed)	
20 ptarmigan per day, 40 in possession	*Aug. 10 – Mar. 31*

Proposed Federal Regulation

Unit 13— Ptarmigan (Rock, Willow, and White-tailed)	
*~~20~~ **10** ptarmigan per day, ~~40~~ **20** in possession*	*Aug. 10 ~~– Mar. 31~~* ***Feb. 15***

Existing State Regulation

Unit 13 - Ptarmigan

Units 13B and 13E – Ten per day, twenty in possession *Aug. 10 - Feb. 15*

Extent of Federal Public Lands

Unit 13E is comprised of approximately 23% Federal public lands and consists of 19% National Park Service (NPS) managed lands, and 4% Bureau of Land Management (BLM) managed lands.

Federal public lands within Denali National Park as it existed prior to the Alaska National Interest Lands Conservation Act (ANILCA) (December 1980) are closed to all hunting. Federal public lands within the ANILCA additions to Denali National Park are closed to all hunting except by residents of resident zone communities and individuals with special subsistence use permits (36 Code of Federal Regulations 13.440). BLM manages additional lands within Unit 13E that are selected for conveyance by the State of Alaska, Native Corporations, or Alaska Tribes and are not currently available for Federal subsistence uses because of the land selection status. If these land selections are relinquished, the lands would become lands available for Federal subsistence (**See Unit 13 Map**).

Customary and Traditional Use Determinations

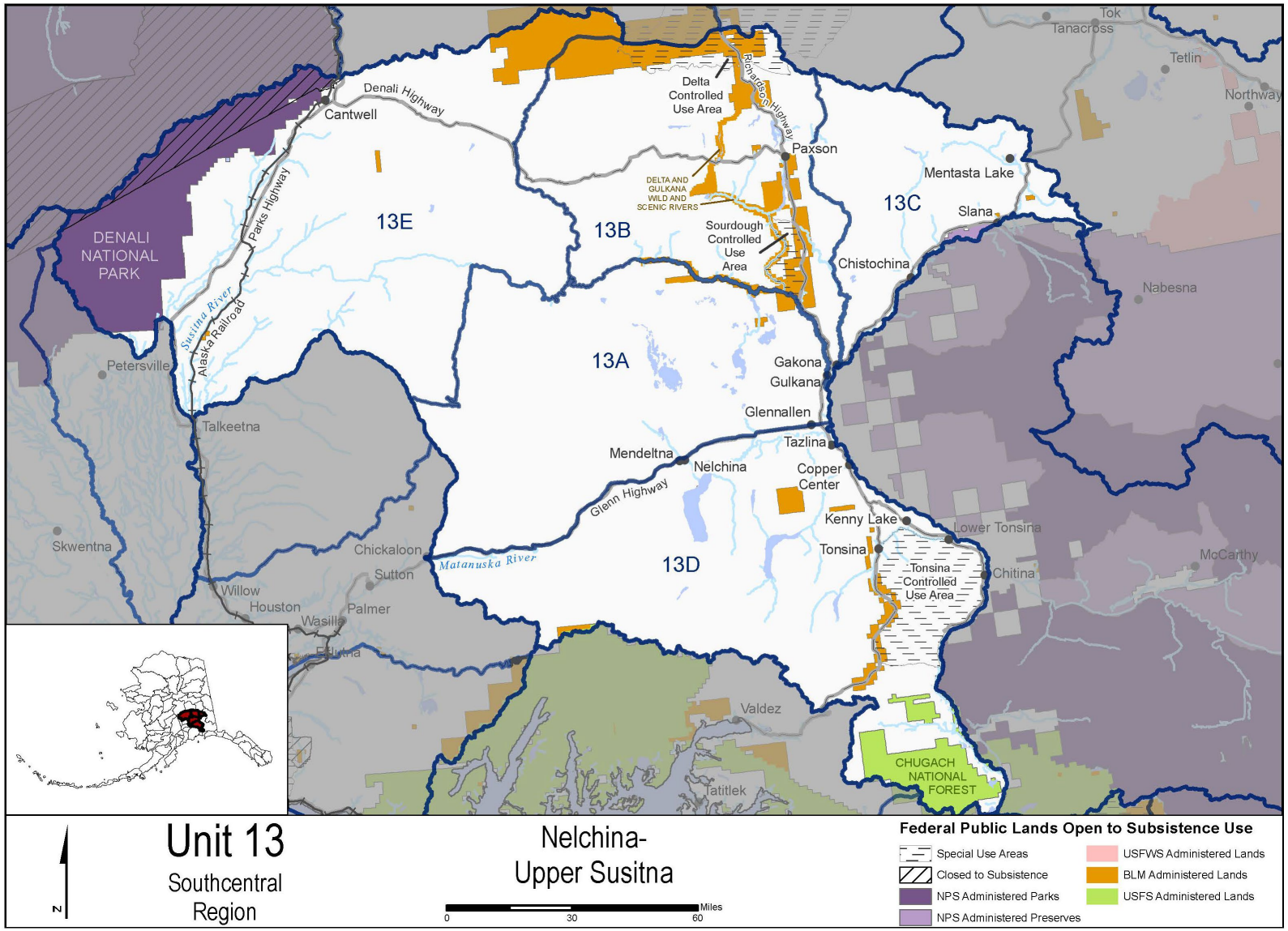
Residents of Units 11, 13, 15, 16, 20D, 22, 23, and Chickaloon have a customary and traditional use determination for ptarmigan in Unit 13.

Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and National Monuments by: (1) identifying Resident Zone Communities, which includes a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and (2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the Resident Zone Communities who have a personal or family history of subsistence use within the park or monument. Subsistence on Denali National Park Service land, including portions within 13E, is limited to resident zone communities (Cantwell, Telida, Lake Minchumina, and Nikolai).

Regulatory History

In 2000, the Board rejected Proposal P00-25 to reduce the harvest limit of ptarmigan in Unit 13 from 20 per day, 40 in possession to 10 per day, 20 in possession because there was no biological reason to limit harvest and thus no reason to restrict subsistence uses (OSM 2000, FSB 2000).

In 2018, the Alaska Board of Game (BOG) changed the closing date for the ptarmigan season in Unit 13E from Mar. 31 to Feb.15 and in Unit 13B from Nov. 30 to Feb 15. These changes were done as a follow-up to the telemetry study in Unit 13B (Merizon et al. 2018) to examine the effects of these regulation changes on ptarmigan populations.


Tok
Tanacross
Tetlin
Northway
Delta Controlled Use Area
Richardson Highway
Denali Highway
Cantwell
Paxson
Mentasta Lake
DELTA AND GULKANA WILD AND SCENIC RIVERS
13C
Slana
13E
13B
Sourdough Controlled Use Area
DENALI NATIONAL PARK
Parks Highway
Chistochina
Nabesna
Susitna River
Alaska Railroad
Petersville
13A
Gakona
Gulkana
Glennallen
Talkeetna
Tazlina
Mendeltna
Nelchina
Copper Center
Glenn Highway
Kenny Lake
Lower Tonsina
Skwentna
Chickaloon
Tonsina
McCarthy
Matanuska River
13D
Tonsina Controlled Use Area
Chitina
Sutton
Willow
Houston
Palmer
Wasilla
Valdez
CHUGACH NATIONAL FOREST
Tatitlek
Unit 13
Southcentral Region
Nelchina-
Upper Susitna
Miles
0
30
60
N
Federal Public Lands Open to Subsistence Use
Special Use Areas
Closed to Subsistence
NPS Administered Parks
NPS Administered Preserves
USFWS Administered Lands
BLM Administered Lands
USFS Administered Lands

Map 1. Unit 13

Current Events

A public hearing was held on September 25, 2019, in Cantwell to provide members of the public an opportunity to comment on Temporary Wildlife Special Action WSA19-08. Three members of the public, all from Cantwell, attended in person while attended the hearing via teleconference. Two individuals provided testimony in person and one individual provided testimony via teleconference. All three that provided testimony supported the Temporary Special Action.

Two residents from Cantwell noted that ptarmigan have been declining since the 1990s. Ptarmigan used to be seen in the thousands along the Denali Highway and now are only in the highlands. Climate change and increased access to hunting areas via all-terrain vehicles and snowmachines are two factors that may have contributed to the decline. In addition, during March ptarmigan are easy to hunt because they are entering the breeding season and less prone to flying. One individual noted that he would like to see the Federal and State regulations aligned because ptarmigan taken on Federal public lands under Federal regulations might be in conflict if stopped by a game warden while transporting large numbers of ptarmigan across State lands. Both residents supported expanding the proposed reduction in the harvest limits and seasonal restrictions to adjacent subunits for conservation concerns.

The ADF&G supported the Temporary Special Action and urged the Board to consider reducing the harvest limit and expanding the seasonal restrictions to Unit 13B as well (**Appendix 1**).

Biological Background

Ptarmigan are the most abundant and widely distributed game bird in Alaska and are an important resource for many rural and non-rural users in Unit 13 (Merizon 2015, Merizon and Churchill 2019). Three species of ptarmigan, rock, white-tailed, and willow, are found in Unit 13. Willow ptarmigan are the most wide-ranging and abundant (65-70%), followed by rock ptarmigan (25-30%) and white-tailed ptarmigan (<10%) (Taylor 2000).

Willow ptarmigan are commonly found in alpine and subalpine, non-forested habitats, montane valley bottoms, and along rivers where willows are abundant. Willow ptarmigan in the Alaska Range nest in subalpine areas that contain streams or wetlands containing willows. In September, families of willow ptarmigan begin to form flocks that move around more than during the spring breeding season. In late September and October the females, usually in small groups, separate from the males and begin to seek food and shelter close to shrubby slopes and valleys at lower elevations. In most parts of Alaska, the distance between the wintering and summer ranges is a few miles.

Rock and white-tailed ptarmigan are found in higher elevation alpine habitats than willow ptarmigan. Rock ptarmigan breeding habitat includes alpine habitat with dwarf herbaceous plants, including areas with abundant dwarf birch interspersed with scree slopes, exposed rock faces, and rock and gravel ridges. Rock ptarmigan have a similar pattern of migration to willow ptarmigan in that they begin to form flocks in September of 20 -200 birds with greater movements than during the breeding season. At the end of September, female flocks in particular, move to lower elevations where they winter. Winter flocks appear to be somewhat nomadic in that they move around seeking food, avoiding predators, burrowing in snow and waiting out storms.

Annual variations in breeding success result in marked annual variation in abundance. Ptarmigan populations in Alaska are cyclic over the long term, resulting in high and low population years. The abundance of ptarmigan at any one time is a result of the reproductive success minus the mortality in the previous two years. Ptarmigan numbers can build up rapidly given favorable conditions, but can also decline just as rapidly. Predation rates of different age classes (Wilson and Martin 2011) and weather (Wilson and Martin 2010) are the most important factors influencing ptarmigan life history. Willow and rock ptarmigan populations in North America fluctuate over an approximately 10-year cycle (Hannon et al. 1998), and have been reported to be in synchrony with snowshoe hare populations where these populations coexist (Boutin et al. 1995). However, this pattern seems more variable near Alaska's highway system (Taylor 2013). The environmental factors responsible for the cyclic patterns of ptarmigan in Alaska are not known, although winter food does not appear to be a limiting factor for either willow or rock ptarmigan (Taylor 2013).

Declines in rock and willow ptarmigan populations along the Denali Highway in the 1990s prompted concerns on potential overharvest during late winter (February and March) from hunting and recreational snowmobile use on ptarmigan populations in Unit 13 (Taylor 1999, 2000; Merizon and Carroll 2019). Spring point-count surveys for rock and willow ptarmigan were initiated in 1992 as a means to index population abundance (Taylor 2013). The Alaska Department of Fish and Game (ADF&G) initiated spring breeding surveys along the Richardson and Denali highways in Units 13B and 13E in the late 1990s (Merizon and Carroll 2019a). Local users have noticed that ptarmigan populations in Unit 13E have declined from historical levels (Carlson 2019).

Spring breeding and summer brood surveys are the two primary survey methods used to understand breeding abundance, recruitment and survival, and population trends for ptarmigan populations. Ptarmigan populations in areas that are heavily used by hunters along road systems are a survey priority, as the impact is usually greatest on easily accessible populations. Spring breeding surveys, conducted by ADF&G, occur from mid-April to late May and usually focus on populations heavily exploited by hunters close to urban areas, road systems, or popular recreation areas (Merizon and Carroll 2019a). It is important to note that the number of ptarmigan from spring breeding surveys do not necessarily correlate directly with the number of ptarmigan available to hunters in the fall. Poor weather soon after hatching, predation, disease, or separation from the family can be fatal. In most years, 65-80% of the chicks die before they are 11 months old.

Recent efforts to study ptarmigan in more remote locations have been initiated to determine if the population trend information collected along the road systems adequately reflects the trend information for an entire unit or subunit have been initiated. Starting in 2016, volunteers with trained pointing dogs have been used along defined transects to provide information on the number of chicks and adults and brood locations (Merizon and Carroll 2019a).

Annually variable weather conditions have a large effect on the nesting success of ptarmigan (Martin and Wilson 2011). In 2017, extended cold temperatures and limited snowmelt in the mountains of Interior and Southcentral Alaska in late May, combined with a significant snowfall late in the spring, impacted early nesting ptarmigan. Similarly, winters with little snowfall (e.g. 2017/2018) may negatively affect

ptarmigan as they are more vulnerable to predation and cold, as snow provides thermal protection (Merizon and Carroll 2018). Warm summers are generally favorable to ptarmigan chick survival, whereas those with frequent and heavy rains accompanied by cool temperatures are not (Merizon et al. 2018).

Spring breeding abundance of willow ptarmigan increased from 2016-2018 in the Alaska Range, which includes Units 13B, 13C, and 13E. Although spring breeding abundance increased in Unit 13B in 2018 the cold and wet conditions encountered during June and early July 2018 resulted in low chick survival and few broods in the fall. In the Alaska Range, brood size increased from 3.4 chicks per brood in 2018 to 6.7 chicks per brood in 2019 (Merizon and Carroll 2019b) The warm dry summer in 2019 likely contributed to high chick survival and fall brood counts.

Rock ptarmigan spring breeding abundance in the Alaska Range showed a declining trend from 2016-2018 with a slight increase in 2019. Although, abundance appeared to be lower in 2019 than 2018 in the Alaska Range, data from a telemetry and nesting study in Unit 13B suggested that chick survival was good for the Denali Highway (Merizon et al. 2018). Brood size was up slightly from 2018 (3 chicks per brood, n=4) to 2019 (4 chicks per brood, n=4) (Merizon and Carroll 2019b).

No spring breeding surveys are conducted for white-tailed ptarmigan due to their remote and largely inaccessible habitats. Information on white-tailed populations is obtained primarily through hunter questionnaires and wing collection from hunters (Merizon and Carroll 2019a). Favorable and warm conditions encountered throughout the Alaska Range during the summer of 2019 will likely result in good chick survival (Merizon and Carroll 2019b).

In 2013, ADF&G initiated a study to look at the effects of regulation changes on rock ptarmigan populations in Unit 13B. This study provided information on the movements, distribution, survival, and productivity of breeding male rock ptarmigan using telemetry and information on nesting behavior, nest success, and predation from motion-triggered cameras from 2013-2017 on 13 rock ptarmigan nests (Merizon et al. 2018). Between 2014 and 2016, Carroll and Merizon (2017) documented that the spring breeding abundance of willow ptarmigan was 27%-85% greater in Unit 13B compared to Unit 13E (27%-2014, 82%-2015; 85%-2016). The 2016 the season ending date was Nov 30 for ptarmigan in Unit 13 B and March 31 in Unit 13E. If winter mortality was additive as suggested by Sandercock et al. (2011), then the greater breeding densities of willow ptarmigan in Unit 13B were expected. Although spring breeding abundances for rock ptarmigan were only completed for Unit 13B (Merizon et al. 2018), habitat and climatological factors are thought to be very similar across units during the study.

In 2018, the State of Alaska ptarmigan season for Unit 13E was shortened from Aug. 10–Mar. 31 to Aug. 10 -Feb 15 and the season in Unit 13B was lengthened from Aug. 10-Nov. 30 to Aug. 10 -Feb. 15. Spring breeding surveys were conducted in Units 13B and 13E in 2018 and 2019. The available biological data from spring breeding surveys of displaying males suggest that willow ptarmigan increased in the western half of the Denali Highway (Unit 13E), whereas they declined along the eastern half of the Denali Highway (Unit 13B) in 2019 (Merizon and Carroll 2019b). This was a change from the previous results of Merizon et al. (2018). The 2019 data suggest that the changes in the season dates, which

provided a longer harvest season (i.e. more hunting opportunity) in Unit 13B and a shorter harvest season in Unit 13E (i.e. decreased spring mortality), may provide a partial explanation (Merizon and Carroll 2019b). The results of this study suggest that late winter harvest of ptarmigan may be additive, a finding which is supported by similar studies conducted in Norway by Sandercock et al. (2011), which found that late winter mortality is likely to additive for willow ptarmigan since they documented low natural winter mortality in willow ptarmigan in Norway. Thus, reducing late winter mortality by shortening the harvest season to Feb. 15 had a positive effect on the number of displaying male willow ptarmigan in Unit 13E and negative effect in Unit 13B (Merizon et al. 2018).

In addition, a study looking at the movements of rock ptarmigan between remote locations (≥ 3km of the Denali Highway) and from locations with easier access (≤ 3km of the highway) in Unit 13B, documented that rock ptarmigan have limited dispersal movements and higher mortality near the highway (Merizon et al. 2018). This limited dispersal of rock ptarmigan suggests that ptarmigan populations from the more heavily hunted areas near the road system may not be fully compensated by ptarmigan from more remote locations. This could also explain why spring breeding abundances for rock and willow ptarmigan were consistently higher in remote areas from the highways (Merizon et al. 2018). A special management zone along the Denali Highway might be warranted (e.g. lower harvest limits within 3 km of the highway).

Cultural Knowledge and Traditional Practices

Unit 13E falls primarily within the traditional sphere of the Ahtna and Dena'ina Athabascan people (Krauss et al. 2011). The area immediately east and southeast of present-day Denali National Park and Preserve lacked clear territorial boundaries and was likely used by multiple, intermixing Athabascan groups (de Laguna and McClellan 1981). Ahtna people have inhabited the Copper River Basin for at least 1,000 years, and their territory extended westward towards the Matanuska, Talkeetna, and Susitna river drainages (Haynes et al. 2001). They made use of wild resources on the slopes of the Alaska Range in what is now Denali National Park (Simeone 2002). Additional Athabascan groups, including Tanana, Tanacross, and Upper Tanana also used areas within the wider area of present-day Unit 13 (Krauss et al. 2011).

While three species of ptarmigan occur in this area, willow ptarmigan and rock ptarmigan are most important for subsistence uses. Historically, ptarmigan hunting by Athabascan people occurred throughout the year, but was most intense from December through March (Marcotte 1991).

Multiple communities in Units 11, 13, 15, 16, 20D, and 22, as well as Chickaloon, have a customary and traditional use determination for ptarmigan in Unit 13. Within Unit 13E, Federal public lands are limited to Denali National Park and a small area of BLM land. While residents of multiple communities can hunt in the small area of BLM land in 13E, only subsistence users residing in Denali National Park resident zone communities (Cantwell, Lake Minchumina, Telida, and Nikolai) can hunt for ptarmigan on National Park Service Lands in Unit 13E. Residents of Cantwell must live within three miles of the community post office to be eligible to engage in subsistence uses in the Park.

Cantwell is located in an upland area between the Talkeetna Mountains and the Alaska Range. According to Alaska Department of Labor and Workforce Development (2018), an estimated 191 people lived in Cantwell as of 2017. The present day community was established as a construction camp in association with the expansion of the Alaska Railroad in 1916. Ahtna people from the surrounding area settled in Cantwell to work on the railroad and participate in trade. The Denali Highway, which connected Cantwell to the larger road system, was not completed until 1957. Road access became more direct with completion of the Parks Highway in 1971 (Holen et al. 2014). Cantwell's economy incorporates tourism from Denali National Park, which brings an influx of seasonal residents.

In 2012, the most recent year for which comprehensive subsistence household survey data are available, 86% of households harvested wild resources (Holen et al. 2014). Hunting for ptarmigan is part of the fall and winter subsistence round for Cantwell residents and often occurs opportunistically in tandem with other seasonal subsistence activities. Harvest of upland birds, which includes both grouse and ptarmigan, occurs in close proximity to Cantwell as well as along a strip parallel to the Denali Highway (Holen et al. 2014). Most wild resource use by residents of Cantwell occurs within Unit 13E (Simeone 2002), although moose, caribou, and sheep are taken further from home. Sixty percent of Cantwell households reported harvesting wild resources on National Park Service lands as of 2000 (Simeone 2002:40). Participants in the household surveys emphasized the importance of consistency between State and Park regulations, because "uncertainty over the exact location of the park boundary has caused problems with enforcement as hunters claim they killed game in the park, while state enforcement officers claim it was killed on private or state land" (Simeone 2002:14).

Upland birds dominate the harvest of birds; use of migratory bird species by Cantwell residents is low. Grouse are distinguished from ptarmigan by residents and in subsistence surveys. Grouse are hunted primarily in the fall, while ptarmigan are harvested in both the fall and early winter. In 2012, 52% of Cantwell's ptarmigan harvest took place in fall (September and October) and 44% took place in winter (November to March). The season of harvest was unknown for the remaining 4% of ptarmigans hunted by Cantwell residents. No harvests were reported by Cantwell residents during spring or summer of the survey year (Holen et al. 2014). Household subsistence surveys show that 22% of Cantwell households used ptarmigan in the 2012 study year (Holen et al. 2014).

In 1982, the estimated number of ptarmigan harvested by Cantwell residents was 888; in 1999 the number was 743. In contrast, in 2012, only 81 ptarmigan were harvested by the community (ADF&G 2019; **Table 1**). This change cannot be explained by a change in the number of residents of Cantwell. During the 2000 subsistence surveys, Cantwell residents reported observing a decrease in upland birds (Holen et al. 2014). Updated subsistence harvest data for ptarmigan in Cantwell would help clarify whether this pattern is continuing.

The percentage of Cantwell households attempting to harvest ptarmigan decreased between 1999 and 2012. In 1999, 48% of Cantwell households attempted to harvest ptarmigan, and 45% were successful. In 2012, only 22% of households attempted to harvest ptarmigan (ADF&G 2019; **Table 1**). Lowered harvest success rates for ptarmigan may influence efforts to harvest ptarmigan in subsequent years.

Table 1. Percent of households attempting to harvest and successfully harvesting ptarmigan by community. Communities in proximity to 13E are included for context. Data on the locations in which these communities are harvesting ptarmigan is limited to search and use areas as reported in household subsistence surveys (ADF&G 2019).

Unit in which community is located	Community	Study year	Percent of households attempting to harvest	Percent of households harvesting
13E	Cantwell	2012	22%	18%
		1999	48%	45%
		1982	No data	72%
13B	Paxson	2013	25%	25%
		1987	64%	64%
13E	Chase	2012	44%	44%
14B	Talkeetna	2012	9%	7%
		1985	18%	12%
16A	Trapper Creek	2012	18%	15%
		1985	21%	10%
20C	Denali Park	2015	10%	7%
		1987	35%	27%

The Denali Highway is heavily hunted because of its accessibility. Improvements in the efficiency and affordability of off-road vehicles including ATVs and snowmachines has increased the hunting footprint of the highway over time, a point emphasized in both subsistence surveys (Simeone 2002) and testimony from community members (Carlson 2019). In household surveys in 2000, participants indicated that there had been a noticeable increase in the presence of non-local off-road vehicles in the previous 10 years. In response to competition along the Denali Highway and perceived declines in wildlife including ptarmigan, some Cantwell residents have refocused their hunting efforts away from the Denali Highway to Denali National Park (Simeone 2002). Although the Park's wilderness area has been a source of tension between the Park Service and some Cantwell residents in the past, locals value the unique ability to hunt in the Park because it shields them from non-local hunters coming in on the road system (Simeone 2002). Cantwell residents understand themselves as stewards of the land, pursuing locally-driven conservation for the long-term viability of their subsistence way of life (Simeone 2002; Carlson 2019).

Harvest History

In Alaska, data are not available for the number of ptarmigan taken by unit, and as a result, it is difficult to assess the impact of harvest. Most of the information on ptarmigan harvest comes from hunter questionnaires, wing collection from hunters, local knowledge, and from ADF&G's Division of Subsistence household subsistence harvest surveys, which are conducted periodically throughout Alaska. Although the return of wings is generally low for ptarmigan, collection does provide some useful information on productivity and harvest composition, such as percentage of juveniles in the harvest. Hunting pressure is greatest in fall (Aug. 15-Oct. 31) and late winter (Feb. 1-May 15) in Alaska (Merizon 2015). Based on willow ptarmigan wings collected statewide between 2011 and 2014, approximately equal number of adults and juvenile were harvested during the late winter season. During the same time

period, approximately twice as many juvenile willow ptarmigan were taken statewide during the fall. Statewide, hunting pressure for ptarmigan is greatest in Unit 13, with an average harvest of one bird /per day/ per hunter. Snowmachines are used by more than 40% of the hunters (Merizon 2015).

Hunting pressure for ptarmigan tends to be greatest along road systems that provide good access in Unit 13, especially along the Denali Highway (Units 13B and 13E) (Merizon et al. 2018, Merizon and Carroll 2019). Although proximity to BLM lands along the Richardson Highway in eastern Unit 13 enhances accessibility of ptarmigan to rural and non-rural users outside of Unit 13, Federal public lands in Unit 13E have little highway access.

Hunting small game has often been considered to have little effect on the populations (Pedersen et al. 2004) because of compensatory mortality through increased survival, reproduction, immigration, or dispersal by juveniles. Ptarmigan are thought to be able to compensate for modest harvest if there is a surplus of breeding birds that are prevented from breeding by territorial males. Based on extensive studies on willow ptarmigan in Norway, Sandercock et al. 2011 demonstrated partial compensatory hunting mortality below a harvest rate of 15%, while hunting mortality was additive at a 30% harvest rate. Merizon et al. (2018) suggested that distant birds (≥ 3 km from roadways) in 13B may not be or are only partially replacing birds in the more heavily harvested areas near roadways. This finding could have implications on the population dynamics and management of rock and willow ptarmigan given the potential for future development of new roads, trail expansion, and use of more off-road vehicles. In addition, because most of the harvest occurs along the Denali Highway, very little harvest likely occurs on the inaccessible public lands in Unit 13E.

Table 2. The number of ptarmigan harvested and pounds per capita of ptarmigan harvested, by community. Communities in proximity to 13E are included for context. Data on the locations in which these communities are harvesting ptarmigan is limited to search and use areas as reported in household subsistence surveys (ADF&G 2019).

Unit in which community is located	Community	Study year	Number of ptarmigan harvested for community	Per capita pounds harvested
13E (RZC)	Cantwell	2012	81	0.2
		1999	743	2.55
		1982	888	3.25
13B	Paxson	2013	16	0.5
		1987	202	2.6
13E	Chase	2012	66	0.94
		1986	136	0.86
14B	Talkeetna	2012	106	0.07
		1985	173	0.14
16A	Trapper Creek	2012	217	0.32
		1985	22	0.06
20C	Denali Park	2015	37	3.17
		1987	No data	3.21

Effects of the Proposal

If WSA19-08 is approved, the impact to local ptarmigan populations from late winter hunts on Federal public lands in Unit 13E will likely be reduced. Reducing harvest limits and shortening the season Aug 10 - Feb. 15) may help conserve local ptarmigan populations by reducing the late winter harvest mortality.

Approval of this request will reduce regulatory complexity by aligning State and Federal regulations, which and will make it easier for Federally qualified subsistence users when hunting and transporting ptarmigan across State and Federal boundaries.

This request would shorten the Federal subsistence season for ptarmigan in 13E by approximately 6 weeks. The effects of approving this proposal will be limited because only residents of Cantwell are eligible to harvest ptarmigan in the Unit 13E portion of Denali National Park open to subsistence. A relatively small proportion of Federal public lands is available to other Federally qualified subsistence users outside the Park in Unit 13E.

This request is likely to have a limited impact. It would only be effective for one year, there is limited Federal public land and little harvest on these lands due to the inaccessibility (BLM lands) and a small number of Federally qualified subsistence hunters (Denali National Park and Preserve).

OSM CONCLUSION

Support Temporary Special Action WSA19-08.

Justification

Local users have noticed declines in the local ptarmigan populations in Unit 13E. In 2018, the State of Alaska ptarmigan season for Unit 13E was shortened from Aug. 10–Mar. 31 to Aug. 10 -Feb 15 and the season in Unit 13B was lengthened from Aug. 10-Nov. 30 to Aug. 10 -Feb. 15. Biological data from the 2019 spring breeding surveys of displaying males showed that willow ptarmigan increased in the western half of the Denali Highway (Unit 13E), whereas they declined along the eastern half of the Denali Highway (Unit 13B) in 2019 (Merizon et al. 2018). The changes in the trajectory of the spring breeding surveys in Unit 13B (decline) and Unit 13E (increase) suggests that the change in the State of Alaska hunting regulations may provide a partial explanation (Merizon et al. 2018). Removal of the late winter harvest in Unit 13E and the finding that dispersal of ptarmigan from more remote areas may not, or only partially compensate, for the high hunting pressure along the roadways suggests that a conservative approach may be warranted.

Approval of Special Action WSA19-08 will shorten the ptarmigan season for Federally qualified subsistence users in Unit 13E. However, the community that will be primarily affected, Cantwell, is party to the proposal request and has asked to have the season shortened and harvest limit reduced to ensure the long-term viability of local ptarmigan populations. In addition, approval of this request will reduce regulatory complexity between State and Federal regulations, making it easier for Federally qualified subsistence users when hunting ptarmigan across State and Federal boundaries.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATION

Southcentral Alaska Subsistence Regional Advisory Council:

Support WSA19-08. The Council supported the request from the local users to shorten the season and reduce the harvest limit for ptarmigan in Unit 13E for conservation concerns. The Council noted that there was a limited amount of Federal public lands in Unit 13E, and that this request would be in effect for only one season and would effect a relatively small number of Federally qualified subsistence users.

INTERAGENCY STAFF COMMITTEE COMMENT

The Interagency Staff Committee (ISC) recommendation is to **support** Temporary Special Action Request WSA 19-08.

Justification:

This temporary wildlife special action request was submitted by the Denali National Park Subsistence Resource Commission at the request of members of the community of Cantwell. Cantwell residents and the members of the Commission concur in observations of rapid ptarmigan population declines in Unit 13E. The Alaska Board of Game has already responded to these conditions by mirroring the regulatory actions requested in this proposal and there is some indication that these actions are resulting in positive biological responses for ptarmigan in parts of the region. The ISC agrees that in light of concerns for ptarmigan populations in Unit 13E, a conservative approach to management is warranted.

Approval of Special Action WSA19-08 will reduce harvest limits, reduce possession limits, and shorten the ptarmigan season for Federally qualified subsistence users in Unit 13E. The pool of users is limited given that the majority of Federal public lands in the unit are within Denali National Park. While the effect of this action on ptarmigan populations may be limited, it will also reduce regulatory complexity between State and Federal regulations, making it easier for Federally qualified subsistence users when hunting ptarmigan across State and Federal boundaries. Public testimony on this request suggests the probability of multifactorial causation for the ptarmigan population decline and the ISC respects efforts by local people to take conservation action in response. Additionally, the ISC supports the recommendations of the Commission and the Southcentral Alaska Subsistence Regional Advisory Council in favor of the requested actions.

Appendix 1

THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Fish and Game

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MEMORANDUM

TO:	Anthony Christianson, Chair Federal Subsistence Board	DATE:	September 17, 2019
		PHONE:	267-2190
FROM:	Ben Mulligan BSM Deputy Commissioner	SUBJECT:	Wildlife Special Action Request 19-08

The Alaska Department of Fish and Game (ADF&G) has reviewed Wildlife Special Action Request (WSA) 19-08 and is in support of this proposal. WSA 19-08 was submitted by the Denali Subsistence Resource Commission to align the ptarmigan hunting season dates with state regulations in Unit 13E that were changed by the Alaska Board of Game in February 2018 based on the effects of late-winter harvest mortality and low abundance.

Through a recent rock ptarmigan movement and mortality study in Unit 13B (Merizon et al. 2018) the department documented a higher risk of mortality through the fall (10 August–November) close to roadways. However, the study documented much lower risk of mortality through the winter months (December–March) in Unit 13B (state hunting season closure was 30 November), during a period when hunter harvest was reduced. Therefore, it would be expected rock ptarmigan that survive the fall have a higher likelihood of contributing to the spring breeding population (April–May) with the 30 November season closure and limited late-winter human harvest. This additive late winter mortality has also been well documented throughout other studied rock and willow ptarmigan populations throughout their range (i.e., Iceland, Norway, Sweden, and Svalbard). The same effect has also been documented in many other tetraonid species.

Based on harvest composition data prior to the 2018–2019 season, Unit 13 ptarmigan harvest has largely been bimodal with the largest harvest occurring between mid-February and 31 March due to increased access by snowmachine. Prior to the fall 2018 change in state regulations for Unit 13 ptarmigan, 40% of the annual harvest in all of Unit 13 occurred between August and late-October. Approximately 60% occurred from mid-February through March (predominantly from Units 13E and 13A; Unit 13B was closed during this period). Typically, mid-winter harvest (December through mid-February) accounts for 1–5% of harvest likely due to the low temperatures, darkness, and poor snow conditions.

ADF&G has been collecting spring breeding abundance data annually for willow ptarmigan in Unit 13B since 1997 and 13E since 2000. In Unit 13E, spring breeding indices have remained

stable but low (>1.0 male/survey stop). In Unit 13B, during the period when the hunting season closure date was 30 November, spring breeding indices rose steadily (≥2.5 males/survey stop). These data further underscore the long-term population level impacts that late-winter harvest has on rock and willow ptarmigan.

Referencing these data and concerns from the hunting public in Unit 13E, in February of 2018, the Alaska Board of Game changed the season closure date in Unit 13E from 31 March to 15 February, eliminating the last 6 weeks of the season. As referenced above, these 6 weeks have accounted for much of the ptarmigan harvest in Unit 13E but has also been demonstrated to be additive mortality (mortality in addition to natural mortality) and thus reducing the number of rock and willow ptarmigan that would otherwise contribute directly in the spring breeding season (April–May).

ADF&G also recommends the Federal Subsistence Board align federal subsistence ptarmigan hunting regulations in Unit 13B with Unit 13E as was done by the Alaska Board of Game. Adoption of WSA 19-08 would result in a conservative first step in ptarmigan management in Unit 13 to help ensure a healthy population and would further reduce regulatory confusion in an adjacent unit that receives significant ptarmigan hunting interest and effort among subsistence hunters.

cc: Eddie Grasser, Director, ADF&G, Division of Wildlife Conservation
Lisa Olson, Division Operations Manager, ADF&G, Subsistence
Cheryl Brooking, Assistant Attorney General, Department of Law
George Pappas, State Liaison, Office of Subsistence Management