

STAFF ANALYSIS
TEMPORARY SPECIAL ACTION
WSA19-06

ISSUES

Temporary Wildlife Special Action WSA19-06, submitted by the Bureau of Land Management (BLM), Eastern Interior Field Office, requests alignment of Federal and State regulations for the Fortymile Caribou Herd (FCH) and expanding the delegated authority of the BLM Eastern Interior Field Office manager for the 2019/20 regulatory year.

DISCUSSION

Harvest of Fortymile caribou in Units 20E, 25C, and a portion of Unit 20F is managed through a joint State/Federal registration permit. The proponent states that Federal regulations in these units are currently more restrictive than State regulations, resulting in confusion among hunters. The proponent's intent is to align and adapt Federal regulations with State regulations for the 2019/20 regulatory year to increase opportunity for Federally qualified subsistence users, reduce regulatory complexity, and lessen user confusion. The Alaska Department of Fish and Game (ADF&G) will likely set 2019/20 State harvest regulations for the FCH after spring surveys. The proponent states this special action request would also provide the flexibility and responsiveness needed to manage the rapidly increasing FCH, which may be reaching carrying capacity.

The BLM Eastern Interior Field Office manager currently has delegated authority to modify or restrict harvest limits and season dates for caribou in Unit 20E and 25C. This special action requests adding authority to set sex restrictions in these units and delegating authority to modify harvest limits, season dates, and set sex restrictions for Unit 20F.

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 20E—Caribou

Unit 20E—1 caribou; a joint State/Federal registration permit is required. Aug. 10-Sept. 30

During the Aug. 10-Sept. 30 season, the harvest is restricted to 1 bull. The harvest quota for the period Aug. 10-29 in Units 20E, 20F, and 25C is 100 caribou. During the Nov. 1-Mar. 31 season, area closures or hunt restrictions may be announced when Nelchina caribou are present in a mix of more than 1 Nelchina caribou to 15 Fortymile caribou, except when the number of caribou present is low enough that fewer than 50 Nelchina caribou will be harvested regardless of the mixing ratio for the two herds. Nov. 1-Mar. 31.

Unit 20F—Caribou

Unit 20F east of the Dalton Highway and south of the Yukon River—1 caribou; a joint State/Federal registration permit is required. Aug. 10-Sept. 30

During the Aug. 10 - Sept. 30 season, the harvest is restricted to 1 bull. The harvest quota for the period Aug. 10 - 29 in Units 20E, 20F, and 25C, is 100 caribou. Nov. 1-Mar. 31.

Unit 25C—Caribou

Unit 25C—1 caribou; a joint State/Federal registration permit is required. Aug. 10-Sept. 30

During the Aug. 10 - Sept. 30 season, the harvest is restricted to 1 bull. The harvest quota between Aug. 10 - 29 in Units 20E, 20F, and 25C is 100 caribou. Nov. 1-Mar. 31.

Proposed Federal Regulation

Unit 20E—Caribou

*Unit 20E—**1 up to 2 caribou, to be announced, by joint State/Federal registration permit.*** Aug. 10-Sept. 30.

~~*During the Aug. 10-Sept. 30 season, the harvest is restricted to 1 bull. The harvest quota for the period Aug. 10-29 in Units 20E, 20F, and 25C is 100 caribou. During the Nov. 1-Mar. 31 season, area closures or hunt restrictions may be announced when Nelchina caribou are present in a mix of more than 1 Nelchina caribou to 15 Fortymile caribou, except when the number of caribou present is low enough that fewer than 50 Nelchina caribou will be harvested regardless of the mixing ratio for the two herds*~~ **Oct. 21 Nov. 1-Mar. 31.**

Unit 20F--Caribou

Unit 20F east of the Dalton Highway and south of the Yukon river—~~1~~ up to 2 caribou, to be announced, by joint State/Federal registration permit.

*Aug. 10-Sept. 30
~~Oct. 21 Nov.~~
~~1-Mar. 31.~~*

*~~During the Aug. 10-Sept. 30 season, the harvest is restricted to 1 bull.~~
~~The harvest quota between Aug. 10–29 in Units 20E, 20F, and 25C, is 100 caribou.~~*

Unit 25C--Caribou

Unit 25C—~~1~~ up to 2 caribou, to be announced, by joint State/Federal registration permit.

Aug. 10-Sept. 30

*~~During the Aug. 10-Sept. 30 season, the harvest is restricted to 1 bull.~~
~~The harvest quota between Aug. 10–29 in Units 20E, 20F, and 25C is 100 caribou.~~*

*Oct. 21 Nov.
~~1-Mar. 31.~~*

Delegate authority to set sex restrictions in Units 20E, 20F, and 25C. Delegate authority to modify or restrict harvest limits, season dates, and methods and means in Unit 20F for the 2019/20 regulatory year.

Existing State Regulation

Note: State regulations for the FCH change annually within the sideboards of the codified regulations. The proponent's intent is to align Federal regulations with State regulations for the 2019/20 regulatory year. However, the proponent submitted WSA19-06 before the State published its 2019/20 regulations. For reference, both the codified and 2019/20 regulations are included in this analysis.

Codified Regulations (5 AAC 85.025)

Unit 20E--Caribou

Residents – 1 caribou per lifetime by youth drawing permit only; up to 30 total permits may be issued

Aug. 1-Aug. 21

OR

Residents – up to 3 caribou by registration permit only

Aug. 1-Sept. 30

OR

Oct. 21-Mar. 31

Residents – 1 caribou by registration permit only, during a season for up to three days that may be announced by emergency order within a portion of the area during the period Oct. 20-Nov. 30.

Season to be announced by emergency order

OR

<i>Residents – 1 caribou by targeted permit only, during a season that may be announced by emergency order within a portion of the area during Dec. 1-Mar. 31</i>	<i>Season to be announced by emergency order.</i>
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<i>Nonresidents – 1 caribou per lifetime by youth drawing permit only; up to 30 total permits may be issued</i>	<i>Aug. 1-Aug. 21</i>
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OR

<i>Nonresidents – 1 bull by registration permit only.</i>	<i>Aug. 10-Sep. 30</i>
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Unit 20F--Caribou

Units 20(B) and 20F, those portions south of the Yukon River, and north and east of a line formed by the Richardson Highway from the Unit 20(D) boundary to its intersection with the Steese Highway, north along the Steese Highway to its intersection with the Elliot Highway, then northwest along the Elliot Highway to its intersection with the Dalton Highway, then north along the Dalton Highway to the Yukon River.

<i>Residents – 1 caribou per lifetime by youth drawing permit only; up to 30 total permits may be issued</i>	<i>Aug. 1-Aug. 21</i>
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OR

<i>Residents – up to 3 caribou by registration permit only</i>	<i>Aug. 1-Sep. 30</i>
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	<i>Oct. 21-Mar. 31</i>
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<i>Residents – 1 caribou by targeted permit only, during a season that may be announced by emergency order within a portion of the area during Dec. 1-Mar. 31</i>	<i>Season to be announced by emergency order</i>
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<i>Nonresidents – 1 caribou per lifetime by youth drawing permit only; up to 30 total permits may be issued</i>	<i>Aug. 1-Aug. 21</i>
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OR

<i>Nonresidents – 1 bull by registration permit only.</i>	<i>Aug. 10-Sep. 30</i>
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Unit 25C--Caribou

<i>Residents – 1 caribou per lifetime by youth drawing permit only; up to 30 total permits may be issued</i>	<i>Aug. 1-Aug. 21</i>
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OR

<i>Residents – up to 3 caribou by registration permit only</i>	<i>Aug. 1-Sep. 30</i>
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	<i>Oct. 21-Mar. 31</i>
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<i>Residents – 1 caribou by targeted permit only, during a season that may be announced by emergency order within a portion of the area during Dec. 1-Mar. 31</i>	<i>Season to be announced by emergency order</i>
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<i>Nonresidents – 1 caribou per lifetime by youth drawing permit only; up to 30</i>	<i>Aug. 1-Aug. 21</i>
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total permits may be issued

OR

Nonresidents – 1 bull by registration permit only.

Aug. 10-Sep. 30

2019/20 Regulations

Unit 20E–Caribou

Residents – 1 caribou per lifetime, youth hunt by permit only

YC831 Aug. 1-Aug. 21*

OR

Residents – 1 caribou by permit. May not possess RM865 at the same time as RC860.

RC860 Aug. 11-Sep. 30

OR

Residents – 1 caribou by permit

RC867 Oct. 27-Mar. 31

Residents – 1 caribou by permit

AC999 May be announced

Nonresidents – 1 caribou per lifetime, youth hunt by permit only

YC831 Aug. 1-Aug. 21*

OR

Nonresidents – 1 bull by permit. May not possess RM865 at the same time as RC860.

RC860 Aug. 11-Sep. 30

Unit 20F--Caribou

Unit 20F east of the Dalton Highway and south of the Yukon River

Residents – 1 caribou by permit.

RC860 Aug. 11-Sep. 30

OR

Residents – 1 caribou by permit

RC867 Oct. 27-Mar. 31

Nonresidents – 1 bull by permit

RC860 Aug. 11-Sep. 30

Unit 25C--Caribou

Residents – 1 caribou per lifetime, youth hunt by permit only

YC831 Aug. 1-Aug. 21*

OR

Residents – 1 caribou by permit.

RC860 Aug. 11-Sep. 30

OR

Residents – 1 caribou by permit

RC867 Oct. 27-Mar. 31

Residents – 1 caribou by permit

AC999 May be announced

Nonresidents – 1 caribou per lifetime, youth hunt by permit only

YC831 Aug. 1-Aug. 21*

OR

Nonresidents – 1 bull by permit.

RC860 Aug. 11-Sep. 30

** The youth hunt is only open in portions of Units 20E and 25C*

Extent of Federal Public Lands/Waters

Unit 20E is comprised of 27% Federal public lands and consist of 20% National Park Service (NPS) and 7% BLM managed lands.

Unit 20F east of the Dalton highway and south of the Yukon River (Unit 20F SE) is comprised of 6% Federal public lands, which consist of 5.7% U.S. Fish and Wildlife Service (USFWS) and 0.3% BLM managed lands.

Unit 25C is comprised of 73% Federal public lands and consist of 63% BLM, 9% NPS, and 2% USFWS managed lands.

Customary and Traditional Use Determinations

Residents of Units 20D, 20E, 20F, 25, 12 (north of Wrangell-St. Elias National Preserve), Eureka, Livengood, Manley, and Minto have a customary and traditional use determination for caribou in Unit 20E and 25C.

Residents of Units 20F, 25D, and Manley Hot Springs have a customary and traditional use determination for caribou in Unit 20F.

Regulatory History

Since the inception of the Federal Subsistence Management Program in 1990, Unit 20E and 25C caribou hunting regulations have targeted the FCH and often coincided whereas Unit 20F SE regulations targeted the White Mountain Herd until 2012 when the FCH expanded its range into that hunt area.

In 1990, Federal regulations were adopted from State regulations. Unit 20E consisted of two hunt areas. Both had seasons from Aug. 10-Sept. 30 and Dec. 1-Feb. 28 with a one caribou harvest limit. Unit 20F remainder (of which Unit 20F SE was then a part), had a caribou season from Aug. 10-Sept. 30 with a one bull harvest limit. Unit 25C had caribou seasons from Aug. 10-Sept. 20 and Feb. 15-Mar. 15 with a one bull harvest limit.

In 1994, the Federal Subsistence Board (Board) adopted Proposal P94-73 with modification to create a unified regulation for the Fortymile caribou herd in Units 20E and 25C southeast of the Steese Highway. Specifically, the Board combined the Unit 20E hunt areas, changing the harvest limit to one bull by Federal registration permit. The Board separated Unit 25C into two hunt areas: Unit 25C southeast and Unit 25C northwest of the Steese highway. Caribou seasons and harvest limits for the Unit 25C southeast hunt area were directed at the FCH and mirrored those for Unit 20E. The Board also

determined that harvest quotas for the FCH would be announced annually in coordination with the Alaska Department of Fish and Game (ADF&G) to help recover the caribou population.

Also in 1994, the Board adopted Proposal P94-74 to close the caribou season in Unit 20F south of the Yukon River to protect the White Mountain Caribou Herd. This change modified hunt area descriptors, resulting in Unit 20F SE becoming part of Unit 20F south of the Yukon River in 1994.

In 1995, the FCH Harvest Management Coalition (Coalition) formed to develop recommendations for managing the herd. Representatives from seven Fish and Game Advisory Committees (ACs), the Eastern Interior Alaska Subsistence Regional Advisory Council (Eastern Interior Council), the Yukon Fish and Wildlife Management Board, the Yukon government, and Tr'ondek Hwech'in (First Nation) comprise the Coalition. Staff from BLM, NPS, USFWS, Office of Subsistence Management (OSM), and ADF&G provide technical support. The Coalition completed a Fortymile Caribou Herd Management Plan in 1995, which guided FCH management from 1995-2000 (HMC 2012). The plan recommended establishing a harvest quota of 150 bulls per year (HMC 2012).

Also in 1995, the Board adopted Proposal P95-56 with modification to change Unit 20E winter season dates from Dec. 1-Feb. 28 to Nov. 15-Feb. 28 to provide additional subsistence harvest opportunity. The Board and the Alaska Board of Game (BOG) also established a harvest quota of 150 caribou as recommended by the FCH Management Plan (HMC 2012). This specific quota was not reflected in Unit 25C southeast Federal regulations.

In 1996, the Board adopted Proposal P96-60 with modification to open a season in Unit 20F south of the Yukon River to provide additional subsistence harvest opportunity. Season dates were Dec. 1-Dec. 31 with a one caribou harvest limit.

In 1999, the BOG changed the fall harvest allocations of the FCH for Units 20D (no Federal lands), 20E, and 25C. Units 20D, 20E, and 25C received allocations of 15 bulls, 55 bulls and 30 bulls, respectively, for a total fall harvest allocation of 100 bulls. The combined fall and winter State/Federal harvest quota remained 150 bulls.

In 1999, the Board adopted Proposal P99-55 with modification to specify fall harvest quotas for Unit 20E (55 bulls) and 25C southeast (30 bulls) to align with the recently adopted State regulations and to abide by the FCH Management Plan. The Board delegated authority to the BLM Eastern Interior field office manager to announce season closures after consultation with the NPS and ADF&G.

From 1999-2001, the Coalition updated the FCH Management Plan in response to a growing herd. The plan recommended increasing harvest quotas to expand harvest opportunities. The BOG and the Board both endorsed the plan, adopting higher harvest quotas (HMC 2012). The fall State/Federal harvest quota increased to 320 caribou in Unit 20E and 225 caribou in Unit 25C remainder. The combined harvest quotas for the winter season in these units was 210 caribou.

In 2001, the Board adopted Proposals WP01-38 with modification and WP01-40 to liberalize caribou hunting regulations in Units 20E and 25C due to increases in the FCH. Unit 25C southeast became part

of Unit 25C remainder. The Board extended the winter season in Units 20E and 25C remainder from Nov. 15-Feb. 28 to Nov. 1-Feb. 28 and changed the harvest limit from one bull to one caribou. The Board also increased harvest quotas as described above.

Also in 2001, the Board adopted Proposal WP01-37, modifying caribou hunting regulations in Unit 20F to align with recently adopted State regulations, reduce user confusion, and provide additional subsistence harvest opportunity. Unit 20F south of the Yukon River became Unit 20F, east of the Dalton Highway and south of the Yukon River (Unit 20F SE). The season was Aug. 10-Sept. 20 and Nov. 1-Mar. 31 with a one caribou harvest limit. A State registration permit was required during the winter season.

In 2002, the Board adopted Proposal WP02-42 with modification to increase harvest quotas in Units 20E and 25C remainder to align with State harvest quotas and increase opportunity for Federally qualified subsistence users as the FCH population was increasing. The combined State/Federal harvest quotas in Unit 20E and 25C remainder increased to 900 caribou and 600 caribou, respectively. The Board also specified that area closures or hunt restrictions may be announced for Unit 20E during the winter season when Nelchina caribou are present in a mix greater than 1 Nelchina caribou:15 Fortymile caribou except when less than 50 Nelchina caribou would be harvested regardless of the mixing ratio. This was to prevent overharvest from the Nelchina Caribou Herd.

In 2004, the Board adopted Proposal WP04-79, specifying that cow caribou may be taken only from Nov. 1-Mar. 31 in Unit 20F SE to promote calf production and herd growth in the White Mountain Caribou Herd and to better align Federal and State regulations.

In 2010, the BOG adopted Proposal 14 to implement recommendations from the Coalition to mitigate safety issues associated with heavy roadside harvests. This included changing the opening date of the fall season from Aug. 10 to Aug. 29 to allow the herd to disperse away from roads, and changing the fall harvest limit to bulls-only to force hunters to more carefully identify an animal and its surrounding before shooting (HMC 2012).

Also in 2010, the Board adopted Proposal WP10-105 with modification to delegate authority to the BLM Eastern Interior field office manager to modify or restrict harvest limits, season dates, and methods and means for caribou in Units 20E and 25C via delegation of authority letter only (stricken from unit specific regulations). The Board also intended for the BLM in-season manager to consult with ADF&G, OSM, USFWS, NPS, and the Chairs of the affected Subsistence Regional Advisory Councils prior to taking any actions. Delegating authority enabled State and Federal in-season managers to work together to reduce heavy roadside harvest as the FCH population was stable but not increasing. The Board also specified that harvest in Units 20E and 25C remainder would be restricted to one bull during the fall season and that harvest between Aug. 10 and Aug. 29 would not exceed 100 caribou. The Board intended these harvest restrictions to help grow the FCH population and to ensure the overall harvest quota was not met before the State hunting season opened.

In 2012, the Board adopted Proposal WP12-74, aligning caribou seasons, harvest limits, permit requirements, and harvest quotas in Units 20E, 20F SE, and 25C, resulting in Unit 25C becoming a

single hunt area. Unit 20F SE had historically been managed for the White Mountains Caribou Herd, but the FCH had expanded its range into the area. Season dates were Aug. 10-Sept. 30 and Nov. 1-Mar. 31 with a one caribou harvest limit, although during the Aug. 10-Sept. 30 season, harvest was restricted to one bull. The Board required a joint State/Federal registration permit in all three of the hunt areas, and specified the harvest quota from Aug. 10-29 as 100 caribou. However, Unit 20E maintained restrictions concerning the Nelchina caribou herd. These regulation changes provided more flexibility to managers, increased harvest opportunity for Federally qualified subsistence users, and supported efforts of the FCH Management Coalition, which also updated its harvest plan in 2012, effective 2012-2018 (HMC 2012).

In 2013, the BOG adopted Proposal 177 as amended to establish a targeted hunt (limited registration hunt) and a youth permit hunt for the FCH (Gross 2015). The intent of the targeted hunt was to allow a few hunters to harvest caribou along the Steese or Taylor highways when large numbers of caribou are present and the unlimited registration permit hunt (RC867) closes because the harvest quota may be exceeded (Gross 2015). The BOG established the youth hunt to provide opportunity for youth hunters in accordance with the BOG's legal mandates (Gross 2015).

In 2018, the BOG adopted Proposal 166 with ADF&G's modification to modify the hunt structure for the Fortymile herd, including longer seasons and higher harvest limits. ADF&G recommended modifying the State's codified regulations by changing the opening date for the youth hunt and the resident fall registration permit hunt from Aug. 10 to Aug. 1, changing the opening date for the resident winter registration permit hunt from Dec. 1 to Oct. 21, changing the resident harvest limit from one caribou to up to three caribou, and changing the closing date for the nonresident hunt from Sept. 20 to Sept. 30 (ADF&G 2018a). These changes allow ADF&G the flexibility to annually adjust seasons and harvest limits for each zone within the season dates and harvest limits specified in the codified regulations.

Current Events Involving the Species

The BLM Eastern Interior Field Office (the proponent for WSA19-06) also submitted Wildlife Proposal WP20-48, which closely mirrors this special action request and has the overall intention of aligning Federal and State codified regulations and expanding in-season management flexibility. Specifically, WP20-48 requests increasing the harvest limit to up to two caribou and liberalizing the winter season to Oct. 21-Mar. 31 in Units 20E, 20F SE, and 25C. WP20-48 also proposes delegating authority to the Federal manager to set sex restrictions in all three units, and to modify harvest limits and season dates in Unit 20F SE.

At the Eastern Interior Council's winter 2019 meeting, Council members and BLM staff thoroughly discussed changes to Federal regulations for the FCH. The Council voted to support WSA19-06 and WP20-48 as presented by BLM staff during its meeting (EIRAC 2019).

Tribal and ANCSA corporation consultations for WSA19-06 were held on June 12, 2019. However, no comments from any tribes or ANCSA corporations were received during these consultations. A public meeting for WSA19-06 was held on June 13, 2019. No public comments were received during this meeting.

ADF&G submitted comments in support of WSA19-06, stating that the requested changes will help to implement the current FCH Harvest Management Plan strategy, allow Federal managers to align Federal harvest limits with State harvest limits, eliminate regulatory conflicts, and reduce user confusion.

Biological Background

The Coalition identified the following management objectives for the FCH (HMC 2012):

- Increase the population by approximately 2-3% annually between 2012 and 2018
- Increase the harvest to 1,000-4,000 annually between 2012 and 2018
- Achieve a population of 50,000-100,000 caribou
- Achieve harvest of 1,000-15,000 caribou
- Manage Alaska harvest to provide at least 14 days of hunting during each of the fall and winter seasons to ensure reasonable opportunity for State and Federally qualified subsistence hunters
- Manage Alaska harvest to provide at least 7 days of hunting during the fall season for nonresident hunters

State management objectives for the FCH include (Gross 2015):

- Provide conditions for the FCH to grow at an annual rate of 5-10%, until population indices indicate the herd is becoming nutritionally stressed, to provide increased caribou hunting and viewing.
- Manage for a herd size of 50,000-100,000 caribou, unless nutrition indices indicate a lower sustainable limit.
- Manage the herd to sustain an annual harvest of 1,000-15,000 caribou.
- Maintain an October bull:cow ratio of at least 35 bulls:100 cows.

The FCH's range and distribution have expanded and contracted over time (Gross 2015). Generally, the FCH ranges across Units 20 and 25C in eastern interior Alaska as well as west-central Yukon Territories (**Map 1**). During the 1920s, the FCH's range encompassed approximately 85,000 mi² but declined to approximately 35,000 mi² by the mid-1950s (Skoog 1956). The high 1920s estimate could have included some Nelchina and Porcupine herd caribou (Valkenburg et al. 1994). Since the 1970s, the FCH's range has remained approximately 19,300 mi² (Gross 2015). However, since 2001, the herd has been expanding its range, possibly because of increased herd size. In 2012, the FCH expanded into the White Mountains of Unit 20F SE, which was part of its historic range. The White Mountains herd also resides in Unit 20F, and managers anticipate that the FCH will eventually absorb the White Mountains Herd (HMC 2012). The FCH also mixes with the Nelchina herd during winter in Unit 20E (**Map 1**).

Similar to other caribou herds in Alaska, the FCH's population has fluctuated over time (Gross 2015). During the 1920s, the FCH was the largest caribou herd in Alaska with an estimated population of 260,000-500,000 caribou (Gross 2015, Boertje et al. 2012). These coarse estimates may have counted some Nelchina caribou, although "the FCH was undoubtedly considerably larger in the 1920s than since that time" (Valkenburg et al. 1994, p. 17). The FCH likely attained such high and unsustainable abundance due to the unusual scarcity of wolves during that time (possibly because of diseases

introduced by sled dogs) (Boertje et al. 2012). The FCH then declined during the 1930s to <20,000 caribou, likely because of reduced nutrition from overabundance and emigration (Skoog 1956, Boertje et al. 2012). By the 1950s, the herd had recovered to 50,000 caribou, remaining relatively stable throughout the 1960s. A Federal predator control program that began in 1947 likely aided herd recovery (Gross 2015).

By 1973, the FCH had declined to an estimated 5,740-8,610 caribou, likely due to high harvests, unfavorable weather, and wolf predation, resulting in contraction of its historical range. The FCH population began increasing after 1976, likely due to favorable weather conditions, reduced harvests, and a natural decline in wolf numbers (Valkenburg et al. 1994, Gross 2015). The FCH grew slowly during the 1980s, reaching about 20,000 caribou in 1990 (HMC 2012). The herd remained stable for several years due to low calf survival, and then continued growing from 1997-present (**Figure 1**) (Gross 2015, ADF&G 2018a). The substantial population increases since 1997 are attributed to intensive private wolf trapping efforts, nonlethal predator management, favorable weather conditions, and conservative harvest rates (<2% of herd size annually) (HMC 2012, Boertje et al. 2012). However, Boertje et al. (2017) concluded too few wolves were affected by wolf control efforts to have a measurable effect on FCH abundance.

ADF&G attempts annual photocensus counts of the FCH during the summer when caribou tend to be tightly aggregated. However, photocensus counts are not possible in some years due to weather, smoke from wildfires, loosely aggregated caribou, or caribou occupying areas below treeline, which obscures counting (Gross 2015, ADF&G 2019b). The most recent FCH population estimate (2017) was 71,425 caribou, which is well within management objectives and represents a 20,000 caribou increase from the last photocensus in 2010 (**Figure 1**) (Gross 2015, ADF&G 2018a). ADF&G suspects the FCH population remained stable in 2018 due to low reproduction and slightly above average calf mortality (EIRAC 2019).

ADF&G also conducts fall composition surveys annually to estimate calf:cow and bull:cow ratios. Between 1985 and 2018, calf:cow ratios averaged 30 calves:100 cows, ranging from 16-41 calves:100 cows (**Figure 2**). Over the same time period, bull:cow ratios averaged 44 bulls:100 cows, ranging from 27-59 bulls:100 cows (**Figure 2**) (Gross 2015, ADF&G 2019b). Bull:cow ratios met State management objectives in all years except 1989 and 2014. However, Gross (2015) attributes the lower bull:cow ratio in 2014 to uneven distribution of bulls in the herd rather than an actual change in their proportion.

Parturition (birth) rates, particularly those of 3-year-old cows, provide a useful index to assess herd nutrition (Boertje et al. 2012, 2016, Gross 2015). Caribou usually first give birth at 3-years of age, which is influenced by their weight and previous years' nutrition (ADF&G 2019b). Thus, the fewer parturient 3-year-old cows, the more nutritionally stressed the caribou herd is likely to be. Boertje et al. (2012) determined a 5-year moving average of 3-year-old cow parturition rates of <55% as a threshold for indicating nutritional stress, potential overgrazing, and justification for liberalizing harvests. However, liberalizing harvest because of low parturition rates is only justifiable when a caribou herd is increasing (Boertje et al. 2012). Annual fluctuations in parturition rates may also be explained by

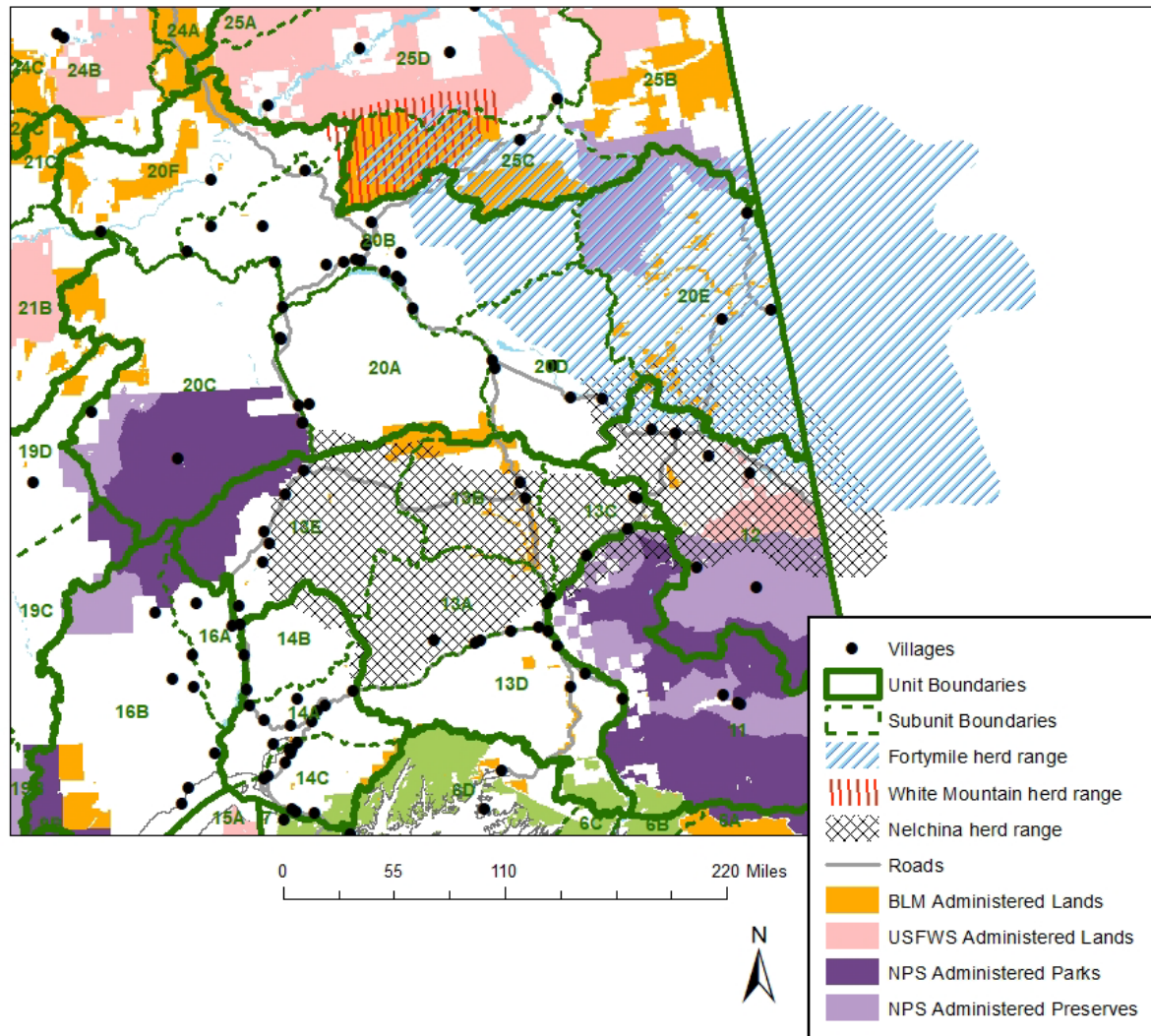
changes in distribution. However, Boertje et al. (2012) also cautions that low parturition rates could occasionally result from extended adverse weather rather than overgrazing.

ADF&G measures parturition rates by tracking known-aged radio-collared cows (ADF&G 2018b). Between 1997 and 2018, the 5-year moving average of 3-year-old cow parturition rates (parturition rate) in the FCH has declined substantially (**Figure 3**). Peaking at 94% in 2000, the FCH parturition rate declined to 66% in 2005, then remained fairly stable until 2011. Since 2011, the parturition rate has hovered around the 55% threshold, dipping below it in 2016 and 2018, indicating nutritional stress is affecting the FCH (**Figure 3**) (Gross 2015, ADF&G 2019b).

Additionally, Boertje et al. (2012) note changes in the FCH's distribution between 1990 and 2010, suggesting the FCH may be overgrazing its core summer habitat. (The FCH forage mostly in tundra in the summer and in taiga in the winter). For example, during the summer of 2008, the FCH moved into spruce-moss taiga rather than onto its usual upland tundra. They also note the FCH's rapid range expansion may indicate localized overgrazing of previously used habitats. Widespread overgrazing of summer range may be the single factor most likely to cause a pronounced and prolonged decline in caribou herd nutrition and abundance (Bergerud et al. 2008 as cited in Boertje et al. 2012). Conversely, as of 2004, the condition of the FCH's winter range appeared in excellent condition based on analysis of fecal samples, and was likely not limiting growth of the FCH (Gross 2015).

Several studies describe wolf predation as the primary factor limiting herd growth from 1996-2000 (Boertje and Gardner 1998, 1999, 2000; Gardner 2001 as cited in Gross 2015), and Gross (2015) stated it continues to influence the FCH. Between 2004 and 2017, ADF&G conducted wolf control in Units 12, 20B, 20D, 20E, and 25C to benefit the FCH (ADF&G 2019b, Gross 2015). During this time, 1800 wolves were removed from the area, although the estimated wolf population remained relatively stable at 235-451 wolves (380 wolves in 2004 and 391 wolves in 2017) (ADF&G 2019b). ADF&G suspended the program in 2018 to evaluate the effects of predator control on the FCH and wolves in the area (ADF&G 2019b). Boertje et al. (2017) found wolf predation to be a predominant cause of FCH mortality, but concluded that herd size is likely a function of favorable nutrition and weather.

Possible land disposal by the Alaska Department of Natural Resources for residential and commercial development within key habitat and hunt areas of the FCH have raised concerns for the health of the FCH and its habitat. The Coalition recommended removing these sites from consideration (HMC 2012).



Map 1. Approximate ranges of the Fortymile, Nelchina, and White Mountain caribou herds. The ranges of caribou herds contract and expand over time. Since 2012, the Fortymile herd has also occupied portions of Unit 20F.

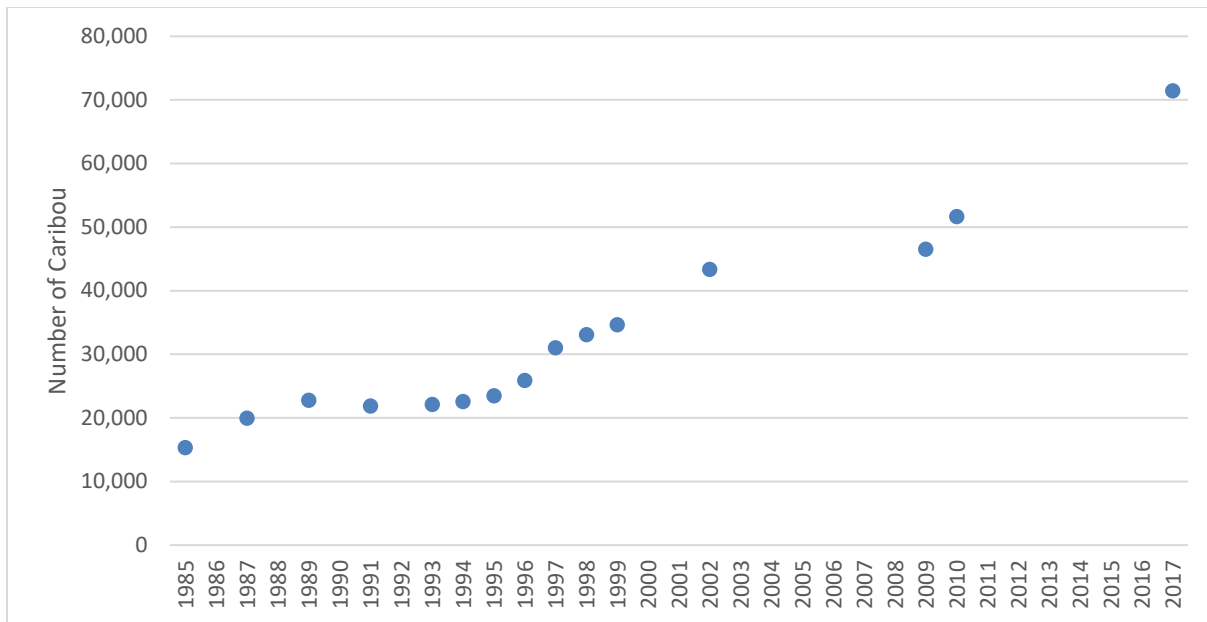


Figure 1. Population estimates for the Fortymile Caribou Herd (Gross 2015, ADF&G 2018a). Estimates are minimum counts from aerial photocensuses.

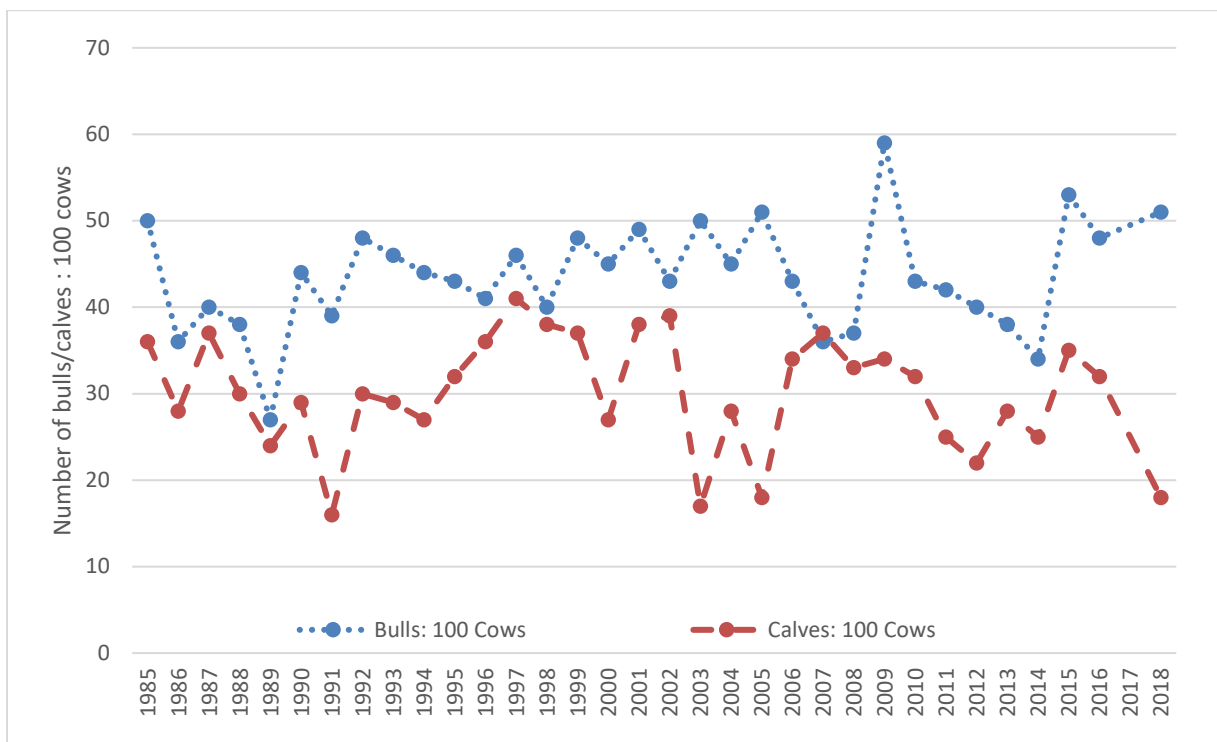


Figure 2. Bull:cow and calf:cow ratios for the Fortymile Caribou Herd (Gross 2015, ADF&G 2019b).

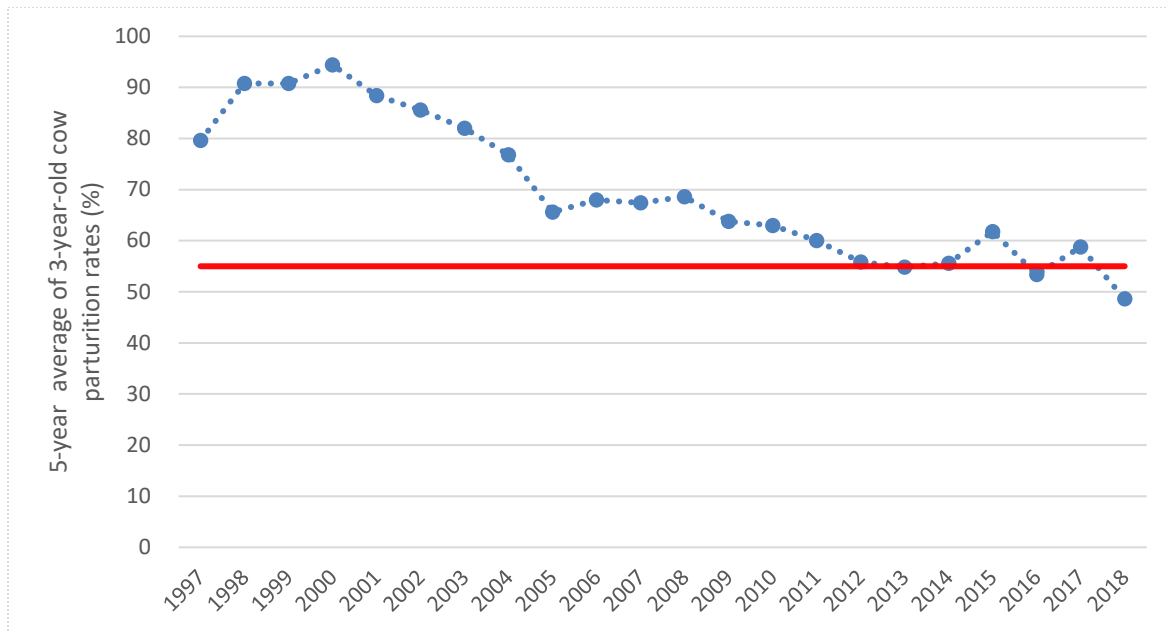


Figure 3. 5-year moving average of 3-year-old cow parturition rates for the Fortymile caribou herd. Rates <55% are considered the threshold indicating that nutritional stress may be occurring within the herd (Gross 2015, ADF&G 2019b).

Cultural Knowledge and Traditional Practices

Only rural residents of the wildlife management units and/or communities described in **Table 1** are eligible to harvest caribou in Units 20E, 20F, and/or 25C during Federal seasons. About 5,300 people live in these areas (**Table 2**).

These villages are culturally affiliated with Koyukon, Gwich'in, Han, Tanacross, and Tanana Athabascans. For centuries, caribou comprised a large part of the harvest of wild resources for food (Hosley 1981). Historically, large numbers of migratory caribou were available from the Porcupine, Fortymile, and other caribou herds (such as, McComb, Nelchina, Chisana, Mentasta, White Mountain, and smaller herds in Unit 20F). Communities established more recently were originally supply sites for construction of the Alaska Highway, such as, Northway Junction and Tok; mining operations, such as, Eagle City and Chicken; and telegraph line maintenance, such as Manley (Hosley 1981).

Subsistence users search for caribou in areas they can access based on means available to them, such as, on foot or using highway vehicles, off-road vehicles, boats, or airplanes. Subsistence users harvest caribou year round. Years when herds migrate near villages, harvests of caribou by residents of these villages increase. When caribou do not migrate locally caribou harvests decrease, and people sometimes travel great distances searching for caribou.

The focus is on recent community hunting patterns on Federal public lands in Units 20E, 20F, and 25C based on readily available sources. For example, subsistence users accessing caribou search areas by way of the Taylor Highway in Unit 20E can access Federal public lands, for example, the Fortymile Wild and Scenic River conservation unit. It is important to understand that the collapse of the FCH

population between 1950 and 1970 had an enormous affect on the ability of many villages to harvest caribou. Many people have been unable to find caribou in proximity to their villages for decades (Van Lanen et al. 2012 and Halpin 1987).

However, as herd migrations has become increasingly unpredictable, fewer subsistence users report traveling long distances to harvest caribou as in the past (Caulfield 1983, Godduhn and Kostick 2016, Van Lanen et al. 2012). For example, in Northway, caribou were absent from the immediate vicinity for decades following declines that occurred around 1935. Northway's access to caribou was extremely limited until the Alaska Highway was improved and local residents acquired cars and trucks. Some travelled north on the Taylor Highway (in Unit 20E) in search of caribou in the 1950s and 1960s. Generally, Northway residents no longer go up the Taylor Highway in pursuit of caribou due to the large number of nonlocal hunters and Northway residents' low hunting success. Northway residents have said their use of caribou has declined for several reasons. Annual harvest limits have decreased from three to one caribou annually, and competition with nonlocal harvesters has increased. Consequently, Northway residents report having grown accustomed to eating moose (Godduhn and Kostick 2016). Northway residents' comments during recent research included "Keep guided hunts away from Native communities. Limit or ban them because they take all the resources. Local only hunts. Lots of outsiders hunting" (Godduhn and Kostick 2016:108).

Tetlin residents have observed increasing hunting pressure in the vicinity of their community (in Unit 12). In the 1980s, inadequate transportation and a limited period during which caribou were accessible along the Taylor Highway (in Unit 20E) discouraged most people in Tetlin from hunting there. Residents of Tetlin primarily search for caribou in nearby areas (in Unit 12) when and if Mentasta or Nelchina herds migrate into the area (Halpin 1987).

Fewer Dot Lake residents hunt for caribou today because of difficulty accessing the Macomb Plateau Controlled Use Area (in Unit 20D) due to restrictions on motorized access. These State-managed lands are closed to any motorized vehicle use for hunting. The Macomb Plateau, adjacent to the community, has been the focus of caribou hunting for Dot Lake. Fewer Dot Lake residents have been searching for caribou along the Taylor Highway (in Unit 20E) because of crowding on the road system making it unsafe (Holen et al. 2012).

Most hunting by Tok residents is done largely along the Taylor Highway (Unit 20E) and Alaska Highway. Tok residents have expressed concern about the number of nonlocal hunters coming to the area to hunt for moose and caribou, and residents from Anchorage and Fairbanks enjoying easy road access to local hunting areas and competing with local hunters (Holen et al. 2012).

Healy Lake residents access hunting areas including up the Volkmar River into the Yukon Charley Rivers National Preserve (Unit 20E). Only small numbers of Fortymile caribou have migrated through the Healy Lake area recently (Holen et al 2012). Healy Lake is not on the road system.

Tanana residents search for several small local herds in areas including the Tanana-Allakaket Trail, Ptarmigan Creek, and Tozitna River (Unit 20F BLM lands) (Case and Halpin 1990). Residents have

commented that too many hunters use airplanes, radios, and air boats in areas where Tanana residents hunt (Brown et al. 2004). Tanana is also not on the road system.

Gwich'in villages focused on the Porcupine caribou herd following the decline of the FCH. Since the 1970s, however, the Porcupine herd has seldom entered the Yukon Flats (in Units 25B and 25D). Porcupine caribou are more accessible to Arctic Village and Venetie residents in areas such as the Upper Chandalar River (Unit 25A). In Beaver, Stevens Village, and Birch Creek residents no longer search for caribou and generally harvest only occasionally and opportunistically while searching for other resources. The Porcupine herd has started crossing the Porcupine River farther upriver, above Old Crow and into Canada, than in the past. The overall declining harvest of Porcupine caribou by Gwich'in is due to increased fuel costs and inconsistent migration patterns making caribou harder to find. The area along the Steese Highway (Unit 25C) continues to be the focus of some caribou hunting by these villages (Van Lanen 2012). Circle, at the end of the Steese Highway, is the only Gwich'in community on the road system.

Information provided by Gwich'in indicate Fortymile caribou habitat quality has diminished. For example: "In the early 1980s, the areas south and west of the community of Venetie had become 'too brushy' for caribou feeding habitat" (Caulfield 1983:195). "Wildfires had destroyed caribou browse and had caused caribou to shift migration patterns out of the area" (Nelson 1973:113). Additionally, traditional laws instruct hunters to allow the first group of caribou to pass unbothered in order to ensure that greater numbers of caribou follow the lead group, along the same path (Van Lanen 2012).

Villages have documented their efforts to harvest caribou in household surveys conducted with the Division of Subsistence, ADF&G, as shown in **Table 3** and **Table 4** (ADF&G 2019). For the region as a whole, the information shows that subsistence users continue to rely on caribou. Consistently, households that successfully harvest caribou share their harvests with unsuccessful households (Caulfield 1983, Godduhn and Kostick 2016, Holen et al 2012, Van Lanen et al. 2012).

Table 1. Rural residents eligible to harvest caribou in Units 20E, 20F, and/or 25C.

Communities with customary and traditional use determinations for caribou in Units 20E, 20F, and/or 25C	Unit 20E	Unit 20F	Unit 25C
Unit 20D—Dot Lake, Dot Lake Village, Dry Creek, Delta Junction, Fort Greely, Healy Lake	X		X
Unit 20E—Chicken, Eagle City, and Eagle Village	X		X
Unit 20F— Rampart and Tanana	X	X	X
Unit 25A—Arctic Village	X		X
Unit 25B—no communities	X		X
Unit 25C—Central	X		X
Unit 25D—Beaver, Birch Creek, Chalkyitsik, Circle, Fort Yukon, Stevens Village, and Venetie	X	X	X
Unit 12 north—Northway, Northway Junction, Tanacross, Tetlin, and Tok	X		X
Unit 20B—Eureka, Livengood, Minto	X		X
Unit 20B—Manley	X	X	X

Table 2. Population of communities eligible to harvest caribou in Units 20E, 20F, and/or 25C, based on the 2010 U.S. Census (Source: ADCCED 2013)

Unit of residence	Community	2010 Number of people	2010 Number of house-holds	Unit of residence	Community	2010 Number of people	2010 Number of house-holds
12	Northway	71	27	20E	Chicken	7	5
	Northway Junction	54	20		Eagle City	86	41
	Tanacross	136	53		Eagle Village	67	31
	Tetlin	127	43	20F	Rampart	24	10
	Tok	1,258	532		Tanana	246	100
20B	Livengood	13	7	25A	Arctic Village	152	65
	Manley	89	41	25C	Central	96	53
	Minto	210	65	25D	Beaver	84	36
20D	Delta Junction	958	377		Birch Creek	33	17
	Dot Lake	13	7		Chalkyitsik	69	24
	Dot Lake Village	62	19		Circle	104	40
	Dry Creek	94			Fort Yukon	583	246
	Fort Greely	539	236		Stevens Village	78	26
	Healy Lake	13	7		Venetie	166	61
				Total		5,338	2,189

Table 3. Percentages of households using, attempting to harvest, and successfully harvesting caribou in communities eligible to harvest caribou in Units 20E, 20F, and/or Unit 25C, based on household harvest surveys (Source: ADF&G 2019).

Unit of Residence	Community	Study Year	Percentage of households using caribou	Percentage of households attempting to harvest caribou	Percentage of households harvesting caribou
20D	Dot Lake	1987	67%	40%	20%
	Dot Lake	2004	6%	13%	0%
	Dot Lake	2011	14%	7%	7%
	Dry Creek	2011	81%	22%	19%
	Healy Lake	2011	100%	33%	33%
20E	Eagle	2004	61%	61%	14%
20F	Rampart	2014	14%	0%	0%
	Tanana	1987	30%	22%	12%
	Tanana	1996	12%	8%	3%
	Tanana	1997	8%	3%	0%
	Tanana	1998	24%	4%	0%
	Tanana	1999	10%	5%	5%
	Tanana	2002	7%	11%	3%
	Tanana	2014	9%	5%	5%
25D	Stevens Village	2014	0%	0%	0%
	Fort Yukon	1987	73%	13%	9%
12 north	Northway	1987	64%	49%	20%
	Northway	2004	32%	32%	32%
	Northway	2014	35%	24%	13%
	Tanacross	1987	63%	52%	19%
	Tanacross	2004	41%	43%	35%
	Tetlin	1987	10%	15%	5%
	Tetlin	2004	55%	45%	32%
	Tok	1987	60%	42%	25%
	Tok	2004	20%	43%	17%
	Tok	2011	55%	44%	35%
20B	Manley	2004	6%	0%	0%
	Manley	2012	24%	0%	0%
	Minto	2004	0%	0%	0%
	Minto	2012	15%	0%	0%

Table 4. Estimated harvest of caribou in communities eligible to harvest caribou in Units 20E, 20F, and/or Unit 25C, based on household surveys (CI95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source: ADF&G 2019).

Unit of Residence	Community	Study Year	Estimated Harvest of Caribou	Lower Harvest Estimate	Upper Harvest Estimate	Per Person Lbs Harvested
20D	Dot Lake	1987	4	3	6	8
	Dot Lake	2004	0	0	0	0
	Dot Lake	2011	6	4	14	16
	Dry Creek	2011	10	9	13	14
	Healy Lake	2011	3	2	9	52
20E	Eagle	2004	19	19	22	15
20F	Rampart	2014	0	0	0	0
	Tanana	1987	40	40	40	11
	Tanana	1996	3	2	6	1
	Tanana	1997	0	0	0	0
	Tanana	1998	0	0	0	0
	Tanana	1999	14	8	27	7
	Tanana	2002	4	4	6	2
	Tanana	2014	4	3	7	3
25D	Stevens Village	2014	0	0	0	0
	Fort Yukon	1987	156	49	262	25
12 north	Northway	1987	32	16	51	13
	Northway	2004	41	31	52	16
	Northway	2014	13	10	18	9
	Tanacross	1987	8	6	11	11
	Tanacross	2004	18	16	21	12
	Tetlin	1987	1	1	3	2
	Tetlin	2004	20	16	27	15
	Tok	1987	113	60	165	14
	Tok	2004	82	55	110	9
	Tok	2011	319	233	405	32
20B	Manley	2004	0	0	0	0
	Manley	2012	0	0	0	0
	Minto	2004	0	0	0	0
	Minto	2012	0	0	0	0

Harvest History

The FCH is a very important herd for both consumptive and non-consumptive uses in Interior Alaska due to its road accessibility, and experiences high hunting pressure (Boertje et al. 2012, EIRAC 2019). The high public use and accessibility of this herd has resulted in a complex suite of regulations and harvest management strategies designed to manage harvest, herd growth, hunter opportunity, and safety. Due to this complexity and the need for annual adjustments in season lengths and harvest limits, Federal and State in-season managers have authority to modify or restrict season dates and harvest limits, providing management flexibility. The FCH hunt has traditionally been split into fall and winter hunts, which

allows some nonresident harvest and for some communities to take advantage of the proximity of caribou during the winter season (HMC 2012).

From the mid-1970s through the 1980s, FCH hunting regulations were designed to benefit local hunters and to prevent harvest from limiting herd growth (HMC 2012). To that end, ADF&G deliberately timed hunting seasons to avoid periods when road crossings were likely, shifting hunters away from roads and onto trail and river systems (HMC 2012). After the Federal government assumed management of the Federal subsistence program in 1990, many people became frustrated with the sometimes conflicting dual sets of regulations and because the FCH was not growing. This led to the formation of the Coalition and development of cooperative management plans, which are endorsed by both the BOG and the Board (HMC 2012).

Since 1995, management plans developed by the Coalition have guided FCH harvest, which is primarily managed through fall and winter registration permit hunts and harvest quotas. From 1996-2000, the 1995 FCH Management Plan directed FCH harvest, which was limited to a quota of 150 bulls under a joint state-federal registration permit. This low quota was below sustainable levels to promote herd growth and intended to garner support for a nonlethal wolf control program (HMC 2012).

In both the 2001 and 2006 Harvest Plans, the Coalition recommended increasing the harvest quota from 150 bulls to 2-3% of the estimated FCH population, which was still considered conservative and allowed for continued herd growth (HMC 2012). These plans also allocated 65% of the harvest quota to Alaska and 35% to Canada, specifying that unused allocations would be re-allocated to the other country (HMC 2012). Alaska's allocation was further divided with 75% for the fall hunt and 25% for the winter hunt. The BOG and Board adopted these recommendations. However, since 2001, no harvest occurred in Canada (HMC 2012).

Since 2004, one fall and one winter registration permit has been used for all FCH hunts, reducing user confusion and eliminating issues of multiple permits being issued to individuals wanting to hunt Fortymile caribou in more than one area (HMC 2012). From 2005-2009, Fortymile caribou became increasingly available along roads, resulting in harvest quotas being met or exceeded in 1-10 days. These short seasons precipitated crowding of hunters along roadways, raising concerns about excessive wounding loss, "flock-shooting," hunter safety, and the overall quality of the hunt (HMC 2012). In response to these concerns, the Coalition recommended delaying opening the fall season in roaded areas, giving the herd time to disperse away from roads. The Coalition also recommended changing the fall harvest limit to bulls-only to force hunters to identify an animal more carefully before shooting.

The Coalition revised its plan again in 2012, effective 2012-2018 (HMC 2012). The 2012 Harvest Plan outlines different strategies for the FCH depending on population size. When the FCH population is below 70,000, the Coalition recommends a 3% harvest rate with bulls-only harvest during the fall season and either sex harvest during the winter season, but only 25% of total annual harvest being cows. When the FCH population exceeds 70,000 caribou, the Coalition recommends a 4% harvest rate with 3% of Alaska's allocation being bulls-only in the fall and either sex in the winter with a maximum of 19% of total annual harvest being cows. The remaining 1% of Alaska's allocation of the FCH population

would be bulls-only during the fall hunt. As Yukon, Canada is still not harvesting any Fortymile caribou, a 15% variation within Alaska's harvest quota for a single year will be tolerated (HMC 2012).

The 2012 Harvest Plan recommends maintaining a Federal subsistence priority by opening the Federal fall and winter seasons earlier than State seasons (HMC 2012). It recommends managing heavy hunting pressure along roadways when large numbers of caribou are present through temporary closures and openings in specified zones or through limited registration (targeted) hunts. Management tools include establishing subzones, temporary openings, delayed openings, patterned openings (e.g. Sundays through Wednesdays), distributing limited permits on a first-come, first-served basis, and establishing multiple permit periods for different hunt dates, allowing hunters to enter certain areas at specified times (HMC 2012). The Coalition has drafted an updated Harvest Management Plan, but it is not yet finalized (EIRAC 2019).

ADF&G manages State hunts for the FCH in four zones that contain portions of Units 20 and 25 (**Map 2**). These zones are intended to distribute harvest, so that hunters across the FCH's range are afforded hunting opportunity (HMC 2012, Gross 2015). Zones are primarily based on historical harvest, herd migrations, and access (HMC 2012). Zone 1 is accessed via Chena Hot Spring Road and the Steese Highway. Zone 2 is accessed by plane or by boating up the Goodpaster or Salcha Rivers. Zone 3 is accessed via the Taylor Highway or the Fortymile River and contains a no-hunt corridor within 100 feet of the Top of the World Highway and between mileposts 75.3 and 117.2 of the Taylor Highway. Zone 4 is accessed via the Elliot and Dalton Highways and was added in 2012 because of the expansion of the FCH range into the White Mountains of Unit 20F SE where White Mountain Caribou are also present (HMC 2012).

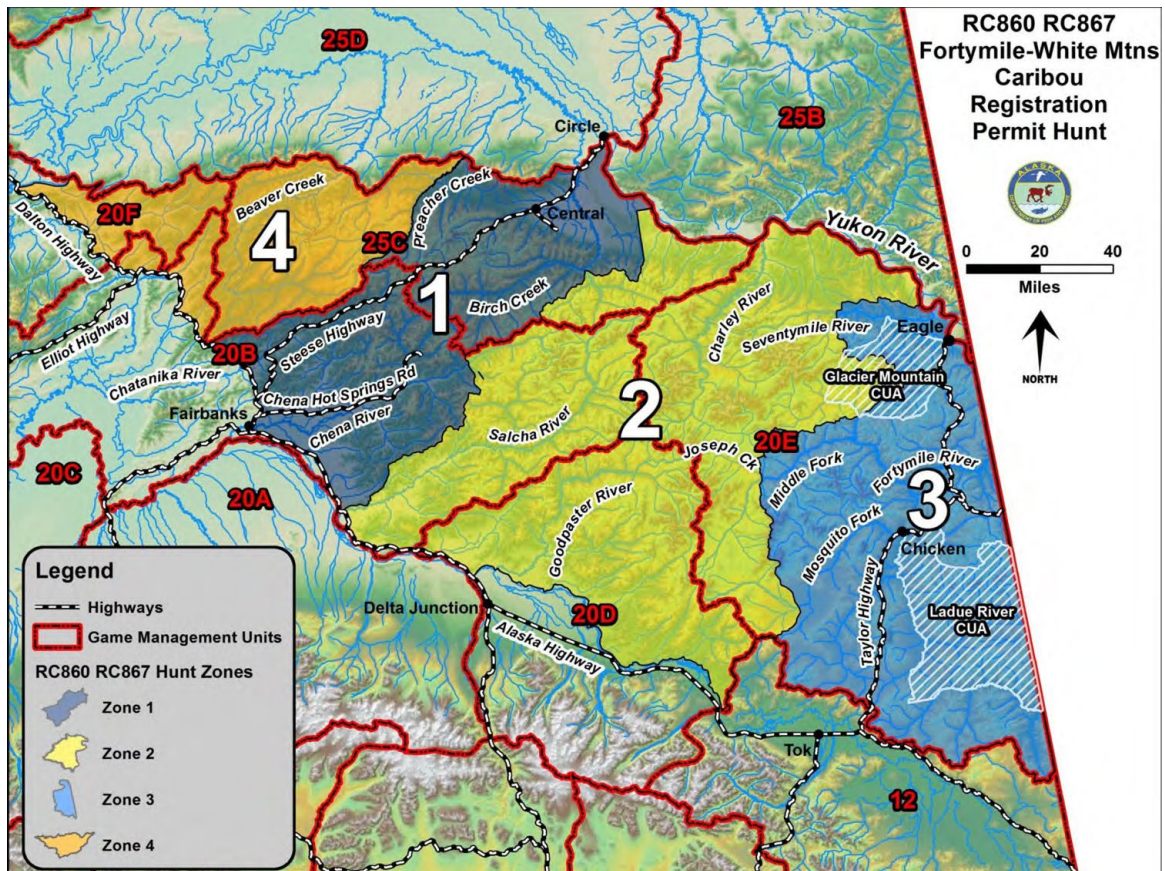
ADF&G issues emergency orders to close and reopen State-managed hunting areas in response to caribou distribution and expected harvest and hunting pressure. Each zone has a harvest quota (recommended by the 2012 FCH Harvest Plan) and is closed when its harvest quota is met. Zone 4 includes separate harvest quotas for the FCH and the White Mountains herd (HMC 2012). Hunters must report harvest within 3 days of harvest and can call the Fortymile hotline for updated information on zone openings and closures (ADF&G 2019a). ADF&G further monitors harvest through hunters check stations and registration permit reports (Gross 2015). The State's codified regulations provide sideboards for setting complex annual seasons and harvest limits in the various zones. The codified regulations allow regulations to be adjusted annually according to changing hunt conditions, herd size and distribution (ADF&G 2019b).

The vast majority of FCH harvest occurs in Alaska by registration permit (**Figure 4**). Unreported and illegal harvest of the FCH is minimal and estimated at 10 caribou/year (Gross 2015, ADF&G 2019b). Since 2000, harvest has generally increased as the FCH population and therefore harvest quotas have increased. Quotas increased from 150 bulls in the mid-1990s to over 2,000 caribou in 2018 (EIRAC 2019). Correspondingly, total FCH harvest ranged from 146 bulls in 1996 to 2,421 caribou in 2018 (**Figure 4**) (ADF&G 2019b, Gardner 2003).

Nonlocal residents harvest the majority of FCH caribou. ADF&G defines local residents as residents of Unit 12 north of Wrangell-St. Elias National Park, Unit 20D, Unit 20E, and Unit 25C (Gross 2015). Between 2002 and 2017, local residents, nonlocal residents, and nonresidents accounted for 11%, 80%, and 9% of the FCH harvest, respectively (**Figure 5**) (Gross 2015, 2019 pers. comm.). Over the same time period, total FCH hunter numbers ranged from 2,088-4,680 hunters per year (**Figure 5**). The vast majority of the harvest occurs during the opening two weeks of the fall season. Harvest during the winter season is more evenly distributed throughout the season (Gross 2015).

As the FCH population now exceeds 70,000, the Coalition recommends a 4% harvest rate to allow for increased harvest opportunity and for the herd to continue growing at a reduced rate (ADF&G 2019b). ADF&G intends to slow herd growth while it's at the mid-point of its population objective (ADF&G 2019b). While the current intention is to continue herd growth but at a slower rate, harvest quotas of 4,000 or more caribou would likely be necessary to achieve herd stabilization or reduction (EIRAC 2019). Achieving such high harvests may require allowing very high harvests along roadways, which could turn into a challenging management scenario (EIRAC 2019).

Boertje et al. (2012) suggest 6.1% may be a sustainable harvest rate for the FCH with moderate and declining nutrition, which is comparable to a 6% sustainable harvest rate for the Nelchina caribou herd with lower and increasing nutrition. Boertje et al. (2017) suggest substantially increasing harvest to curtail herd growth when caribou herds approach carrying capacity because, once ungulates overshoot carrying capacity, long-lasting negative effects on sustainable yield can occur.



Map 2. Zones used by ADF&G to manage State caribou hunts for the Fortymile caribou herd (map from ADF&G 2018a).

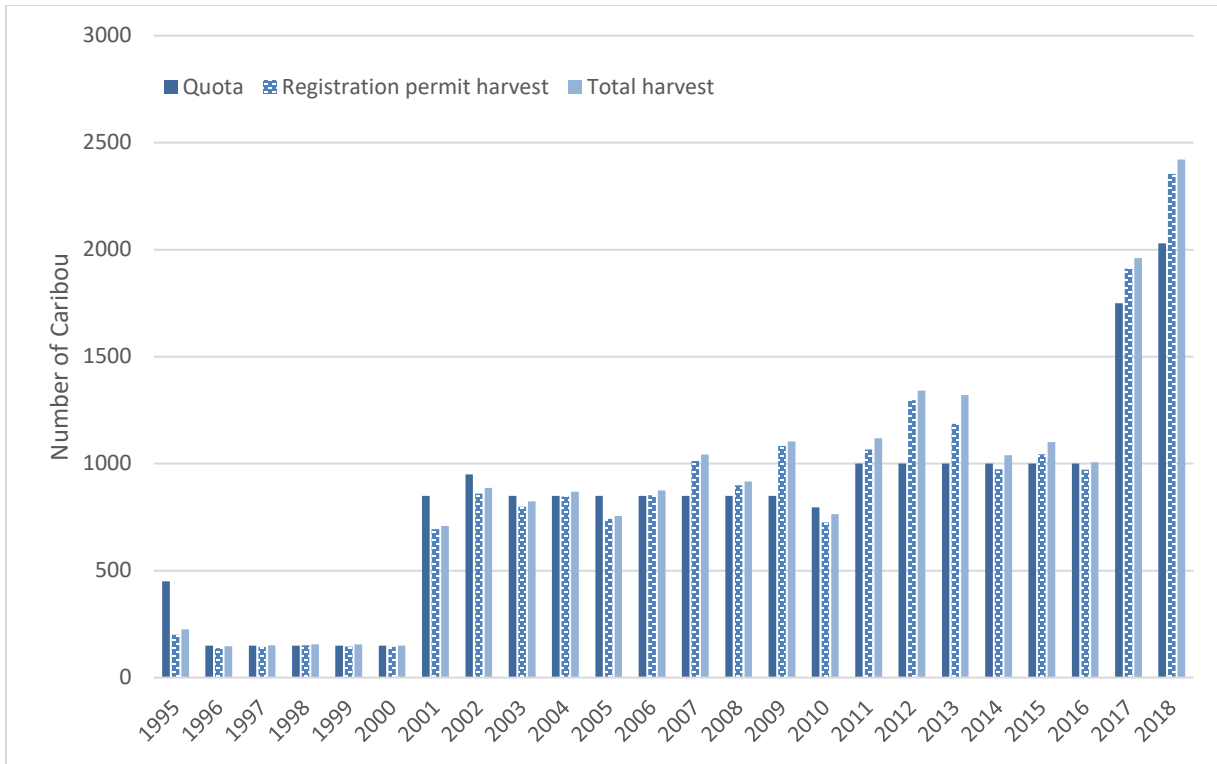


Figure 4. Fortymile caribou harvest. The quota from 1995-2000 was 150 bulls. The quotas in all other years includes both sexes. Total harvest includes all reported harvest in Alaska, Yukon harvest, and estimated illegal/unreported harvest (ADF&G 2019b, Gross 2015, Garner 2003).

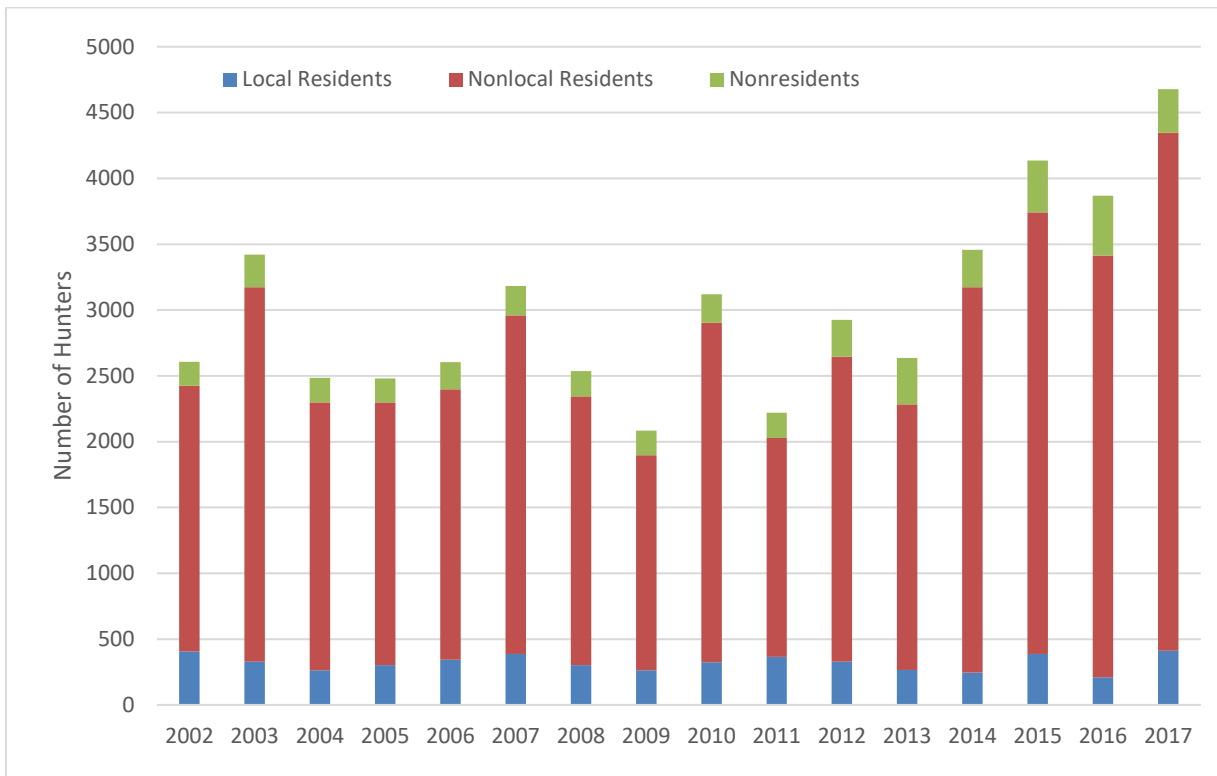


Figure 5. Number of Fortymile caribou hunters by residency (Gross 2015, 2019 pers. comm.).

Effects of the Request

If WSA19-06 is approved, Federal and State hunting regulations for the FCH will be aligned for the 2019/20 regulatory year, which will reduce user confusion and preclude Federal regulations from being more restrictive than State regulations. Additionally, the authority delegated to the Federal in-season manager will be expanded, providing the flexibility required to adjust season dates and harvest limits in response to changing herd and hunt conditions and in coordination with State managers. Aligning State and Federal regulations for the FCH may be especially prudent due to the complexity of harvest management for this herd (e.g. hunt zones, harvest quotas, emergency closures and openings, heavy hunting pressure). Additionally, harvest management and regulations are guided by the Coalition's FCH Harvest Plans, which both the Board and the BOG endorsed. One of the recommendations in the 2012 plan is for State and Federal managers to continue cooperatively managing FCH hunts (HMC 2012).

Furthermore, Federal regulations are currently more restrictive than State regulations, which violates the rural subsistence priority mandated by ANILCA and results in possible law enforcement concerns. For example, in Sept. 2018, the State and Federal harvest limits were one caribou and one bull, respectively. When the State closed its season by emergency order, the Federal season remained open. Therefore, if Federally qualified subsistence users harvested a cow caribou (as permitted under State but not Federal regulations) on Federal public lands after the State season closed, they could have received a ticket (EIRAC 2019). Additionally, the State winter season opened Oct. 21, whereas the Federal winter season did not open until Nov. 1.

While the Eastern Interior Council voted unanimously to support this special action request at their 2019 winter meeting, Council members also expressed many concerns about FCH management and regulations with the intent of informing Federal and State management and regulatory decisions. One concern was changing the opening date of the Federal fall season from Aug. 10 to Aug. 1, which is the opening date for the State's fall season in its codified regulations (EIRAC 2019). Their primary concern was that a State youth hunt occurs in early Aug., and they did not think a Federal season should interfere with the youth hunt. A Council member also expressed concern about meat care during early August as temperatures can be very warm, causing meat to spoil quickly. In response to the Council's concern, the BLM kept the opening date for the Federal caribou season as Aug. 10 for this special action request.

Council members also expressed concerns about changing the opening date of the Federal winter season from November 1 to October 21 due to potential wanton waste from bulls being in rut and therefore unpalatable. A Council member from Central stated he found 6-7 bulls last October with just their heads missing because the caribou were too stinky from the rut. However, the Council also discussed opening the October season to cow harvest, which would help control herd growth and would avoid the rut issue (EIRAC 2019). Additionally, the ADF&G area biologist stated he spoke with many hunters last season who harvested Fortymile caribou in late October, and none said the meat was unusable. Furthermore, the Coalition recommended an opening date of October 21 because it mirrors the winter season opening date for the Nelchina herd whose bulls are mostly palatable again by late October

(EIRAC 2019). Council members continued to express reservations about the early winter season opener due to the potential for inexperienced hunters to improperly process a rutted bull, ruining its meat.

However, whether or not the Federal winter season for the FCH opens on Oct. 21 is up to the Federal in-season manager who has delegated authority to announce season openings and closures. Aligning Federal season dates with State codified regulations provides flexibility for in-season managers to manage harvest such as (for example) announcing a cow only season during late October to curtail herd growth. A Federal subsistence priority could be maintained by keeping Federal seasons open after State seasons close by emergency order because harvest quotas have been met (EIRAC 2019).

Council members were also concerned about liberalizing regulations and increasing harvest quotas because of heavy harvest pressure along the Steese and Taylor highways, which results in dangerous situations and discourages Federally qualified subsistence users from hunting. Additionally, Council members cautioned against liberalizing regulations too quickly as this could result in severe and unpopular restrictions in the future.

Furthermore, Council members pointed out that nutritional stress may encourage the FCH to expand its range into areas the herd used historically. An expanded range could allow the herd to continue growing and potentially avoid the heavy hunting pressure along the highways that could result from liberalizing harvests (EIRAC 2019). However, the Council acknowledged population crashes in other caribou herds (e.g. Western Arctic, Central, Mulchatna) and a desire to prevent the FCH population from crashing. One Council member pointed out the Mulchatna herd crashed even though its range expanded substantially (EIRAC 2019).

While the FCH is at the mid-point of management objectives, it may have already reached or exceeded carrying capacity based on nutritional indices and peak numbers in the 1960s. The low parturition rates, changes in FCH distributions, and increasing populations suggest nutritional stress and overgrazing are affecting the FCH, recommending liberalizing harvest regulations. Boertje et al. (2017) encourages managers to increase harvest to curtail growth before the FCH reaches carrying capacity. If caribou populations exceed carrying capacity, their populations can crash with long-lasting decreases in sustained yield (Boertje et al. 2017).

Assuming these trends in declining nutrition continue, ADF&G anticipates substantial increases in harvest during the 2019/20 season (EIRAC 2019). However, ADF&G is waiting to announce season dates and harvest limits for the upcoming season until it receives results from spring parturition surveys and calf birth weights. Possibilities include liberalizing harvest limits to either sex or two caribou (EIRAC 2019). Adopting this proposal does not guarantee more liberal harvest regulations, but rather expands the season and harvest limit sideboards to match State codified regulations and expands the authority delegated to the in-season manager to annually adjust seasons and harvest limits as needed (in consultation with ADF&G, OSM, USFWS, NPS, and the Council Chair).

OSM CONCLUSION

Support Special Action Request WSA19-06.

Justification

Harvest management for the FCH is complex and primarily guided by the Coalition's Harvest Plans, which are endorsed by the BOG and the Board. Delegating authority to the Federal in-season manager to modify season dates and harvest limits, including sex restrictions (**Appendix 1**) provides management flexibility to respond to annually changing herd and hunt conditions as recommended by the harvest plans and in coordination with State regulations. Aligning State codified and Federal regulations reduces user confusion and precludes Federal regulations from being more restrictive than State regulations. Rural priority for Federally qualified subsistence users could be maintained if Federal seasons remain open after State seasons close; however, this will occur at the discretion of the Federal in-season manager.

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THE STATE
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MEMORANDUM

TO: Anthony Christianson, Chair
Federal Subsistence Board

DATE: June 6, 2019

PHONE: 267-2190

FROM: Ben Mulligan *BSM*
Deputy Commissioner

SUBJECT: Wildlife Special Action
Request 19-06

The Alaska Department of Fish and Game (ADF&G) appreciates the opportunity to provide comments on Wildlife Special Action request 19-06 (WSA19-06). WSA 19-06 was submitted by the Bureau of Land Management, Eastern Interior Field Office to change season dates and harvest limit for caribou in Units 20E, 20F, and 25C, and provide delegated authority to the Federal manager to set sex restrictions in all three units in regulatory year 2019.

WSA 19-06 would:

- 1) Change the opening of the Federal winter season from November 1 to October 21,
- 2) Change the harvest limit for caribou in Units 20E, 20F, and 25C to *up to two* caribou,
- 3) Provide delegated authority to the Federal manager to set sex restrictions in all three units.

This change would align the federal subsistence caribou hunting season dates with the state regulations in Units 20E, 20F and 25C. The current state regulations were recently adopted by the Alaska Board of Game at the February 2018 meeting. In addition, the change in bag limit of up to two caribou and delegating authority to federal managers to adjust the sex of caribou that may be harvested, would allow federal managers to modify their bag limit to match the state bag limit if a multiple bag limit is announced by state manager mid-season in regulatory year 2019.

Fortymile caribou harvest is guided by the internationally developed Fortymile Caribou Harvest Management Plan (harvest plan) that was developed by the Harvest Management Coalition consisting of members of the Anchorage, Central, Delta, Eagle, Fairbanks, and Upper Tanana Fortymile advisory committees, Eastern Interior Regional Subsistence Advisory Council, Yukon Fish and Wildlife Management Board, Yukon First Nations, and Dawson District Renewable Resource Council, in cooperation with the Bureau of Land Management, the Alaska Department of Fish and Game and Yukon Department of Environment. These changes in WSA 19-06 will align with the strategies in the harvest plan. ADF&G supports these changes because they will help implement the current Fortymile Caribou Harvest Management Plan strategy, eliminate regulatory conflicts and reduce confusion among users.

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

Appendix 1

Eastern Interior Field Office Manager
Bureau of Land Management
222 University Avenue
Fairbanks, Alaska 99709

Dear Field Office Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Bureau of Land Management (BLM) Eastern Interior Field Office to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of a wildlife population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Units 20E, 20F and 25C for the management of caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), representatives of the Office of Subsistence Management (OSM), the U.S. Fish and Wildlife Service (USFWS), the National Park Service (NPS), and the Chair of the affected Council(s) to the extent possible. The Office of Subsistence Management will be used by managers to facilitate communication of actions and to ensure proposed actions are technically and administratively aligned with legal mandates and policies. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chair or alternate, local tribes, and Alaska Native Corporations to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The BLM Eastern Interior Field Office manager is hereby delegated authority to issue emergency or temporary special actions affecting caribou on Federal lands as outlined under the **Scope of Delegation**. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which state: “The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board.”

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

- To modify or restrict harvest limits, including sex restrictions, season dates, and methods and means for caribou on Federal public lands in Units 20E, 20F and 25C for the 2019/20 regulatory year. Prior to any modifications to any methods and means, you will seek pre-approval from OSM to assure that such modifications are allowed under the existing Code of Federal Regulations.

This delegation also permits you to close and reopen Federal public lands to nonsubsistence hunting, but does not permit you to specify permit requirements or harvest and possession limits for State-managed hunts.

This delegation may be exercised only when it is necessary to conserve caribou populations, to continue subsistence uses, for reasons of public safety, or to assure the continued viability of the populations. All other proposed changes to codified regulations, such as customary and traditional use determinations, shall be directed to the Board.

The Federal public lands subject to this delegated authority are those within Units 20E, 20F and 25C.

4. Effective Period: This delegation of authority is effective for the 2019/20 regulatory year.

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will provide subsistence users in the region a local point of contact about Federal subsistence issues and regulations and facilitate a local liaison with State managers and other user groups.

You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 50 CFR 100.19 and 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected Federally qualified subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in OSM no later than sixty days after development of the document.

For management decisions on special actions, consultation is not always possible, but to the extent practicable, two-way communication will take place before decisions are implemented. You will also establish meaningful and timely opportunities for government-to-government consultation related to pre-season and post-season management actions as established in the Board's Government-to-Government Tribal Consultation Policy (Federal Subsistence Board Government-to-Government Tribal Consultation Policy 2012 and Federal Subsistence Board Policy on Consultation with Alaska Native Claim Settlement Act Corporations 2015).

You will immediately notify the Board through the Assistant Regional Director for OSM, and coordinate with the Chair(s) or alternate of the affected Council(s), local ADF&G managers, and other affected Federal conservation unit managers concerning emergency and temporary special actions being considered. You will ensure that you have communicated with OSM to ensure the special action is aligned with ANILCA Title VIII, Federal Subsistence regulations and policy, and that the perspectives of the Chair(s) or alternate of the affected Council(s), OSM, and affected State and Federal managers have been fully considered in the review of the proposed special action.

If the timing of a regularly scheduled meeting of the affected Council(s) permits without incurring undue delay, you will seek Council recommendations on the proposed temporary special action(s). If the affected Council(s) provided a recommendation, and your action differs from that recommendation, you will provide an explanation in writing in accordance with 50 CFR 100.10(e)(1) and 36 CFR 242.10(e)(1).

You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, OSM, affected State and Federal managers, law enforcement personnel, and Council members. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, OSM, affected State and Federal managers, and the local Council members at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant actions must be provided to the coordinator of the appropriate Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

6. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management.

Sincerely,

Anthony Christianson
Chair

Enclosures

cc: Federal Subsistence Board

Assistant Regional Director, Office of Subsistence Management

Deputy Assistant Regional Director, Office of Subsistence Management

Subsistence Policy Coordinator, Office of Subsistence Management

Wildlife Division Supervisor, Office of Subsistence Management

Subsistence Council Coordinator, Office of Subsistence Management

Chair, Eastern Interior Alaska Subsistence Regional Advisory Council

Commissioner, Alaska Department of Fish and Game

Special Assistant to the Commissioner, Alaska Department of Fish and Game

Interagency Staff Committee

Administrative Record