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- To set harvest limits, including sex restrictions
- To set any needed permit conditions

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 13A and 13B.

4. <u>Effective Period</u>: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

5. <u>**Guidelines for Delegation:**</u> 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. <u>**Support Services:**</u> Administrative support for regulatory actions will be provided by the Office of Subsistence Management.

Sincerely,

Anthony Christianson Chair

Enclosures

cc: Federal Subsistence Board Office of Subsistence Management Chair, Southcentral Interior Alaska Subsistence Regional Advisory Council Chair, Eastern Interior Alaska Subsistence Regional Advisory Council Executive Director, Ahtna Intertribal Resource Commission Deputy Commissioner, Alaska Department of Fish and Game Special Projects Coordinator, Alaska Department of Fish and Game Interagency Staff Committee Administrative Record

Appendix 2



Department of Fish and Game

OFFICE OF THE COMMISSIONER Headquarters Office

> 1255 West&m Street F.O., Box 115526 Juneau, Alaska 99811-5526 Main: 907.465.6136 Fax: 907.465.2332

July 25, 2022

Steve Cohn, State Director Bureau of Land Management – Alaska 222 W. 7th Ave., #13 Anchorage, AK 99513

Director Cohn:

I am writing to elevate the concerns the Alaska Department of Fish & Game (ADF&G) have regarding the management of the federal hunts of the Nelchina Caribou Herd (NCH) and the lack of a response from the Bureau of Land Management's (BLM) Glennallen Field Office.

As you may be aware ADF&G does not announce the harvest strategy for the NCH until area biologists are able to conduct the annual population survey in early July. Once we have that survey data, we conduct our analysis and then make an announcement for hunt quotas and bag limits. In recent years the size of the NCH has been above objectives, affording extra harvest opportunity to reduce the herd to within population objectives. This year, severe winter conditions and late spring thaw resulted in higher-than-normal adult mortality and low recruitment of calves into the population. Spring migration and calving occurred late, and a small portion of the herd did not return from the wintering grounds. Furthermore, production and survival of this spring's calf crop is low. These factors combine to reduce the NCH to an estimated 21,000 caribou. As a result, available harvest is lower than in recent years, as the goal is now focused on growing the herd. The fall quotas and expected harvest reflect the Alaska Board of Game's direction to distribute hunter opportunity and harvest for this important caribou herd.

Given these factors and the response we took to conserve the NCH (one bull bag limit) the area biologist reached out to your field office in Glennallen to share the data of the recent survey, the actions we are taking in light of the population decline and to request that BLM to recognize the need to take action for the conservation of the NCH and change the bag limit from two caribou, either sex, to 2 bull caribou. The response was surprising saying that they do not feel that federally qualified users (FQU) harvest enough of the caribou population to have a "significant

Steve Cohn

July 25, 2022

biological effect." The quota set for the 2022 fall season under State regulations is 615 bull caribon, many of which will be taken by FQUs. In addition to that harvest, it is anticipated based off of a 10-year average that they will also take up to 400 animals. This could represent up to 40% of the total harvest of just the fall hunt. This does not include the additional harvest that may be authorized under federal permits for the winter hunt. ADF&G anticipates that the harvest objectives will be met this fall and no winter hunt will be announced.

Regardless of your staff's response to our request, this should not have been the first time they spoke on the management strategy for the NCH. Under ANILCA Title 8 as well as your own federal regulations it requires the BLM Glennallen Field Office Manager to consult with the ADF&G area biologist on the announcement of the sex of animals that may be taken in the federal NCH hunt. I've reached out to the area biologist charged with the monitoring and management of the NCH and no such outreach and consultation occurred until she reached out to your staff. Given the popularity of this herd and how actively managed it is, it is imperative that a high level of communication occur.

The Department requests that BLM reconsider the Nelchina caribou federal hunting season bag limit and change it to two bull caribou in recognition of the need to protect females and grow the herd. I look forward to hearing from you on how we can reinvigorate the relationship between our two agencies on the management of this important caribou herd to all the people of Alaska.

Sincerely,

Ben Mulligan Deputy Commissioner

CC: Anthony Christianson, Chair, Federal Subsistence Board Brandon Brefczynski, Deputy Chief-of-Staff, Office of the Governor Doug Vincent-Lang, Commissioner, ADF&G Eddie Grasser, Director, Division of Wildlife Conservation, ADF&G Ryan Scott, Assistant Director, Division of Wildlife Conservation, ADF&G Gino DelFrate, Regional Supervisor, Division of Wildlife Conservation, ADF&G Mark Burch, Special Projects Coordinator, Division of Wildlife Conservation, ADF&G

Appendix 3



FISH and WILDLIFE SERVICE BUREAU of LAND MANAGEMENT NATIONAL PARK SERVICE BUREAU of INDIAN AFFAIRS

Federal Subsistence Board

1011 East Tudor Road, MS 121 Anchorage, Alaska 99503 - 6199



FOREST SERVICE

In Reply Refer To OSM 22111.RLS 2202 OE T932

Benjamin Mulligan Deputy Commissioner Alaska Department of Fish and Game 333 Raspberry Road Anchorage, AK 99518-1599

Dear Deputy Commissioner Mulligan:

This letter is written in response to your letter dated July 25th, 2022, regarding concerns expressed by the Alaska Department of Fish and Game (ADF&G) about management of the Nelchina Caribou Herd (NCH) by the Bureau of Land Management's (BLM) Glennallen Field Office.

The BLM Glennallen Field Office Manager has been delegated authority by the Federal Subsistence Board (Board) to determine the sex of animals to be taken for the Federal (FC1302) caribou hunt in Units 13A and 13B. In this role, the BLM Field Office Manager carefully considers requests by ADF&G and considers consultation with the Eastern Interior Alaska and Southcentral Alaska Subsistence Regional Advisory Council Chairs, federally recognized tribes, and with the ADF&G Area Biologist.

The Office of Subsistence Management has conferred with the BLM Field Office Manager and confirmed that she will continue to monitor Federal subsistence harvest and the NCH migration in consultation with the ADF&G Area Biologist and encourage the harvest of bull caribou. However, it is not the federal program's intention to mandate a bulls-only harvest through regulation at this time. The rationale for this approach is that Unit 13 remainder is already restricted to bull harvest; the NCH is not present in Units 13A and 13B to any great extent and typically are not present on the Federal lands therein until late in the fall season; and the NCH often migrates through Federal lands when the season is closed to Federal hunting. An additional consideration is that the harvest of cows by Federally qualified subsistence users on Federal land has been minimal because hunters have been very receptive to ADF&G's population concerns and the BLM's outreach efforts to encourage the harvest of bulls only. A review of the Federal subsistence harvest database on September 23, 2022, revealed that only six caribou have been harvested under the (FC1302) Federal registration permit to date, only one of which was a cow.

Federally qualified subsistence users also participate in the State hunt for the NCH and are subject to the quota set by the State for the 2022 hunt. The announced State quota of 1,000 bull caribou does include the expected harvest of approximately 400 caribou under Federal subsistence regulations from this quota. Given the limited amount of Federal public lands in Units 13A and 13B and the low level of cow harvest under Federal regulations for the fall hunt, the Board does not anticipate that future harvest during the fall subsistence hunt requires the BLM Field Office Manager to exercise her delegated authority to require the harvest of bulls only. However, she will consider changing the Federal hunt to bulls only for the winter hunt as the winter season opening date approaches and after further consultation with the ADF&G Area Biologist.

The BLM Field Office Manager and the Board appreciate and value our working relationships with ADF&G and we look forward to improving and expanding upon this relationship and outreach efforts regarding management of the NCH.

Sincerely,

Anthony Chrut

Chair

cc:

Doug Vincent-Lang, Commissioner, ADF&G Federal Subsistence Board Interagency Staff Committee Office of Subsistence Management Sue Detwiler, Assistant Regional Director, Office of Subsistence Management Marnie Graham, BLM Glennallen Field Office Manager Ken Lord, Assistant Regional Solicitor, Office of the Solicitor, Alaska Region

	WCR24 03 Executive Summary
Closure Location and Species	Unit 7, Kings Bay drainage–Moose
Current Regulation	Unit 7–Moose
	Unit 7, that portion draining into Kings Bay - FederalNo openpublic lands are closed to the taking of moose except byseason.residents of Chenega Bay and Tatitlekseason.
OSM Preliminary Conclusion	Retain the Status Quo
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

FEDERAL WILDLIFE CLOSURE REVIEW

WCR24-03

Issue: Wildlife Closure Review WCR24-03 reviews the moose hunting closure, except by residents of Chenega and Tatitlek in the portion of Unit 7 draining into Kings Bay.

Closure Location and Species: Unit 7, draining into Kings Bay—Moose (Figure 1)

Current Federal Regulation

Unit 7-Moose

Unit 7, that portion draining into Kings Bay - Federal public lands areNo openclosed to the taking of moose except by residents of Chenega Bay andseason.TatitlekSeason

Closure Dates: Year-round

Current State Regulation

Unit 7-Moose

<i>Residents and Nonresidents: Unit 7, remainder – One bull with a spike</i>	Sept 1-
on at least one side or 50-inch antlers or antlers with 3 or more brow	Sept 25
tines on at least one side	

Regulatory Year Initiated: In 1997, the Federal season was established for residents of Tatitlek and Chenega, but Federal lands were closed to non-Federally qualified users; then in 2006, the Federal Subsistence Board (Board) closed the Kings Bay hunt area to all users.

Extent of Federal Public Lands/Waters: Unit 7 is comprised of 77% Federal public lands and consists of 52% U.S. Forest Service (USFS), 23% National Park Service (NPS) and 2% U.S. Fish and Wildlife Service (USFWS) managed lands.

That portion of Unit 7 draining into Kings Bay is comprised of 81.9% Federal public lands and consists of 100% USFS managed lands (Figure 1).

Customary and Traditional Use Determination: Rural residents of Chenega, Cooper Landing, Hope, Moose Pass and Tatitlek have a customary and traditional use determination for moose in Unit 7.



Figure 1. Location of closure in Kings Bay drainage area.

Regulatory History

In 1997, the Federal Subsistence Board (Board) adopted proposal P97-18b, which established a customary and traditional use determination for moose in the Kings Bay drainage area of Unit 7 to include the residents of Chenega and Tatitlek (**Figure 1**) (OSM 1997a). At the same meeting, the Board adopted proposal P97-21 with modification to create a moose hunt with a harvest limit of one bull with spike-fork or 50-inch antlers or 3 or more brow tines on either antler from Aug. 10–Sep. 20 with a harvest quota of one moose per community for residents of Chenega and Tatitlek and closed Federal public lands to all other users (OSM 1997b).

In 2001, the Board approved Wildlife Special Action WSA01-02, which closed the moose season in the Kings Bay drainage area of Unit 7 to all users (OSM 2001). The Board determined that the moose population was too small to support a harvest. The special action was in effect for one regulatory year as there was no subsequent proposal to continue the closure. Therefore, the original Aug.10–Sep. 20 season was reinstated starting with the 2002 season.

In 2006, Wildlife Proposal WP06-16 requested to change the moose season from Aug. 10–Sep. 20 to Aug.10–Feb. 28 and to change the harvest limit from one bull with spike-fork or 50-inch antlers or 3 or more brow tines on either antler to one moose (OSM 2006). Wildlife Proposal WP06-17 requested the Federal lands closure in Unit 7, that portion draining into Kings Bay, be eliminated. At the March 2006 Southcentral Alaska Subsistence Regional Advisory Council (Council) meeting, the Council discussed changing the Kings Bay drainage moose harvest limit and season and removing the Federal closure.

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The Council voted to support WP06-16 with modification to change the harvest limit to one bull, add a permit with a 7-day reporting requirement, change the season dates to Sep. 1–Dec. 31, and retain the closure of Federal public lands to non-Federally qualified users. The Council suggested the season change to accommodate a winter harvest but added a restriction of one bull harvest and recommended retaining the Federal closure to non-Federally qualified users because the Council was concerned about the small population of moose in the area. Subsequently, the Board closed the Federal moose season and Federal public lands in this portion of Unit 7 to the hunting of moose by all users due to conservation concerns at its May 2006 meeting.

The Board adopted WP08-22a in 2008 giving C&T for moose in Unit 7 to residents of Cooper Landing. This determination was for all of Unit 7, including the Kings Bay drainage area.

In 2010, the Council voted to maintain the status quo and continue the closure to all users for the conservation of a healthy population. The analysis for Wildlife Closure Review WCR10-03 found the moose population was at a low density and there were no indications of any population increases to justify subsistence or non-subsistence harvest (OSM 2010). Also in 2010, the Board adopted proposal WP10-33 which gave C&T for moose in Unit 7 to residents of Hope and Sunrise.

In 2012, the Board rejected Wildlife Proposal WP12-29, which requested a moose season be established in Unit 7 for that portion draining into Kings Bay, due to conservation concerns (OSM 2012).

In 2014, the Board adopted Wildlife Proposal WP14-11 with modification to allow residents of Chenega and Tatitlek to harvest moose in this portion of Unit 7 once the closure is lifted (OSM 2014). Therefore, Federal public lands were closed to the taking of moose, except by residents of Chenega and Tatitlek; however, the Federal season remained closed. The Board decided to maintain the closure based on the results of the 2014 moose survey. But the Board believed that if the two communities harvested one moose each, every four years it would have little impact on the population once the conservation concern is over and the closure has been lifted.

In August 2020, the Board approved a revised closure policy, which stipulated all closures will be reviewed every four years. The policy also specified that closures, like regulatory proposals, will be presented to the Councils for a recommendation and then to the Board for a final decision. Previously, closure reviews were presented to Councils who then decided whether to maintain the closure or to submit a regulatory proposal to modify or eliminate the closure.

In 2020, the Board voted to maintain status quo on Wildlife Closure Review WCR20-03 because there was little information about the status of the population in the Kings Bay hunt area. The most recent survey conducted by ADF&G at the time did not observe any moose. The Council recommended to maintain the closure as well.

Closure last reviewed: 2020 – WCR20-03

Justification for Original Closure:

§815(3) of ANILCA states:

Nothing in this title shall be construed as -(3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law...

The Board adopted Proposal P97-21 with modification to establish a Federal season for moose in the Kings Bay hunt area. This proposal also closed Federal public lands to non-Federally qualified users to protect this small moose population (OSM 1997b). Due to conservation concerns, the Board closed the Federal season and closed Federal public lands to all users in 2006.

Council Recommendation for Original Closure:

The Council supported Proposal P97-21 with modification to establish an Aug. 20–Sep. 30 season over a Sep. 1–Dec. 31 season, implement antler restrictions and limit harvest to one bull each for the communities of Chenega and Tatitlek. The Council also recommended that the Board limit the Federal lands closure to the 1997/98 regulatory year with reauthorization to occur on an annual basis (FSB 1997). The Board adopted the proposal with modification, changing the dates of the season from Sep. 1–Dec. 31 to Aug 10–Sep 20 to avoid adverse impacts from the season extending into the rut.

State Recommendation for Original Closure:

The Alaska Department of Fish and Game (ADF&G) did not support the original closure. ADF&G supported a 1996 special action that created a temporary closure in the affected area but did not support adopting a permanent Federal lands closure beyond the 1997/98 regulatory year. ADF&G stated that a permanent closure of this area to all but Federally qualified subsistence users was not necessary. They did not support the area description for the hunt because it applied to the entire Kings and Nellie Juan river systems draining into Kings Bay. The State was concerned that Alaska residents who fly into Nellie Juan Lake in the fall to fish for grayling and hunt for moose and black bear would not be able to hunt if Proposal P97-21 was adopted (OSM 1997b). ADF&G preferred a modification of the closure area to the lower three miles of the Nellie Juan River and the public lands of Kings River draining into Kings Bay (FSB 1997).

Biological Background

The amount of moose habitat in the Kings Bay area is small and consists of narrow riparian areas along the Kings and Nellie Juan rivers. Informal habitat evaluations by the USFS in Kings Bay occurred in September 2019 and as expected found that moose habitat was limited. Browse species were mostly confined to the forest/tideland interface of the Nellie Juan and Kings River delta, as well as inactive stream channels, gravel bars, and the banks of active stream channels. The most concentrated moose sign, consisting of moose droppings, beds, and evidence of browsing, was seen in a boggy meadow (USFS 2019). The small area of moose habitat at Kings Bay is isolated with only one accessible route

for moose to enter the area across the mountains from Paradise Lakes or the Nellie Juan Lake areas and then down the Nellie Juan River—15 to 20 miles over difficult terrain. Interchange of moose with other areas is therefore likely minimal. Severe winters with deep snow are common in this area and probably contribute to a high mortality rate and the relatively low moose densities (McDonough 2010).

A comprehensive moose survey has never been conducted in Unit 7 (Herreman 2012, 2018). Aerial surveys in the vicinity of Kings Bay in Unit 7 were conducted 1996–2002, 2005, and 2014 (**Table 1**). An aerial survey conducted by ADF&G in January 1997 revealed a minimum of 20 moose in the area, consisting of 8 bulls, 10 cows, and 2 calves. The drainages of the Nellie Juan and Kings rivers were flown in March 2001 by ADF&G, from Nellie Juan Lake downstream to the head of Kings Bay and up the Kings River to the glacial headwaters. Nine moose were counted during the survey in conditions characterized as being excellent for aerial surveying (Spraker 2001, OSM 2005).

A moose index survey was flown in 2006 by ADF&G. A total of 5 moose were observed. Two were seen south of the Nellie Juan River confluence with Kings Bay and two were seen in the area between the Nellie Juan River and Kings rivers (Zemke 2006, pers. comm.). One bull moose was observed upstream in the Kings River watershed (Zemke 2006 pers. comm., OSM 2018). No calves were observed in the area. The surveyors stated that, although additional moose could be present in this heavily timbered steep country, they were relatively certain there were a very limited number of moose in the area during the survey period. The number of moose in this area during the fall would be hard to predict from this late spring survey as some moose may have migrated out of the area before heavy winter snowfall. No moose were observed in the Kings Bay drainage portion of Unit 7 during the 2014 survey conducted by the U.S. Forest Service and ADF&G (Burcham 2018). USFS biologists surveyed the Kings Bay area with trail cameras in 2019. No moose were observed on the cameras, although they did photograph bears, coyotes, and wolves (USFS 2019).

Black bears occur in high densities in western Prince William Sound (Crowley 2002), and brown bears are regularly present in the Kings Bay area as well. These two predators may elevate the importance of safe calving habitat, which appears to be limited. Productivity and viability of this small group of moose, therefore, is marginal. The restricted area used by moose in the Kings Bay area makes them vulnerable to hunters who walk up the river valley or use authorized motorized access.

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves:100 Cows	% Calves
1996/1997	8	10	2	20	80	20	10
1997/1998	0	1	1	15ª	-	100	6.7
1999/2000	-	-	-	7 ^b	-	-	-
2000/2001	3	3	3	9	100	100	33.3
2001/2002	4	7	1	12	57	14	8.3
2005/2006	1	-	0	5 ^c	20 ^d	-	-
2014/2015	0	0	0	0	0	0	0
Mean	2.7	4.2	1.2	9.7			

Table 1. Population data from moose surveys conducted in Unit 7 in the vicinity of Nellie Juan River and Kings River which drain into Kings Bay from 1996 to 2015 (Herreman 2012, 2018).

^a Age and sex data not recorded for 14 adult moose

^b Age and sex not recorded during survey

^c Age and sex not recorded for 4 moose

^d Minimum count

Cultural Knowledge and Traditional Practices

The subsistence practices of the rural residents of Chenega and Tatitlek reflect the cultural traditions of the Tanimiut/Chenega people and the Taatiilaaq/Tatitlek, as well as Russian and American settlers (Stratton and Chisum 1986, Stratton 1990, Tatitlek Corporation 2019, Chenega Corporation 2022). The Tanimiut and the Taatiilaaq are both part of the Alutiiq tribal family and have lived in the Prince William Sound area for approximately 10,000 years (Tatitlek Corporation 2019, Chenega Corporation 2022). Subsistence practices in Chenega and Tatitlek have been, and continue to be, based primarily on the harvesting of marine resources (Stratton and Chisum 1986, Stratton 1990, Tatitlek Corporation 2019, Chenega Corporation 2022). Deer have also become important to local subsistence economies since being introduced to the area in 1916 (Stratton and Chisum 1986). Likewise, historical accounts and archaeological evidence indicate that goat and bear hunting has also been common in the area, serving as particularly important subsistence resources in the fall and winter seasons (Stratton and Chisum 1986). Moose were transplanted to the Copper River Delta between 1949 and 1959, while a relatively smaller population of moose are indigenous to the Western Prince William Sound area near Kings Bay and the Nellie Juan River (Stratton 1990).

According to the recollections of several hunters from Chenega and Tatitlek, Kings Bay has been used for moose hunting by residents of these two communities since at least the 1960s (Stratton and Chisum 1986, Stratton 1990). Opportunistic and planned moose harvests have often taken place in the Kings Bay area, as a complementary activity to commercial fishing and seal or goat hunting. Kings Bay provides the closest moose population to Chenega, and Chenega residents reported hunting moose at Kings Bay in conjunction with goat hunting and/or commercial fishing activities (Stratton and Chisum 1986). Similarly, Tatitlek hunters remembered first encountering moose while on a goat hunt in the Kings Bay area in the mid-1900s (Stratton 1990). Tatitlek hunters have returned to hunt moose in the

Kings Bay area since this time (Stratton 1990). ADF&G has conducted numerous subsistence studies at Chenega and Tatitlek since the 1980s (Stratton and Chisum 1986, Stratton 1990, Fall 1991a, Fall 1991b, Simeone and Miraglia 2000, Keating et al. 2020). Many of these studies have noted that while moose harvests are not as common as other subsistence harvests, Kings Bay has been an important site for the moose hunting that does occur in the area. At an SCRAC meeting in 1997, Council member Donald Kompkoff spoke on behalf of Chenega and Tatitlek, noting that "several elders in Chenega...hunted goat over in Day Harbor and sometimes they'd get luck and get a moose going out in springtime" (SCRAC 1997: 16). Mr. Kompkoff also noted that "on Kings Bay, they have several moose hunts over there...We hunted in there [Kings Bay] and have hunted about seven moose taken from there from Chenega" (SCRAC 1997: 16). Mr. Kompkoff explained that, on average, residents of Chenega, Tatitlek, and Cordova had harvested roughly one moose per year in the Kings Bay area since 1983 (SCRAC 1997).

Chenega and Tatitlek households have historically harvested a variety of wild resources that continue to be key sources of subsistence in these communities (Stratton and Chisum 1986, Stratton 2000, Keating et al. 2020). Marine mammals and salmon have traditionally composed the bulk of local diets in Chenega and Tatitlek. However, there does appear to be a trend over time toward decreased harvests of marine mammals and increased reliance upon salmon and non-salmon fish at Chenega (see **Table 2**). More specific information about the average amount and composition of subsistence harvests in Chenega and Tatitlek can be found in **Tables 2 and 3** below.

Land mammal and marine resource harvests have primarily been accomplished through planned, seasonal trips by residents at Chenega and Tatitlek (Stratton and Chisum 1986; Stratton 1990). These harvests have traditionally taken place in the waters, coastline, and uplands near each community. Chenega residents have a long history of engaging in subsistence harvests in places such as Dangerous Passage, Ewan Bay, Paddy Bay, Jackpot Bay, Knight Island, and Bainbridge Island (Stratton and Chisum 1986). Kiniklit, Shuqlurmiut, and Atyarmiut, and Alukarmiut are areas that have been extensively used by Tatitlek hunters (Stratton 1990). Deer and marine mammals are the primary species that hunters would travel long distances to acquire, hunting in areas of Perry Island, Blackstone Bay, Kings Bay, Eaglek Bay, and Wells Bay (Stratton and Chisum 1986; Stratton 1990). Over time, Chenega and Tatitlek residents have come to use some of the same resource harvest areas as a result of the many interrelationships between the two communities (Stratton and Chisum 1986, Stratton 1990).

Harvested resources are typically shared within each community, and often between community members in nearby settlements (Stratton and Chisum 1986). The prevalence of resource sharing at Chenega and Tatitlek has long been linked to the interrelatedness of community households and the cultural values attached to reciprocity (Stratton 1990, also Stratton and Chisum 1986). Harvested game meat and fish have traditionally been preserved through drying, smoking, salting, pickling, or fermenting processes (Stratton and Chisum 1986). Freezing has also become widespread with the expansion of electrical services to Prince William Sound communities (Stratton and Chisum 1986; Stratton 1990).

Today, Chenega is home to approximately 65 people and Tatitlek is home to 81 (State of Alaska 2021a, 2021b). The median yearly household income between 2016 and 2020 was \$73,125 in Chenega and \$64,375 in Tatitlek (State of Alaska 2021a, 2021b). The mean household income for 2020 was \$70,892 in Chenega, and \$66,409 in Tatitlek (US Census 2020a, US Census 2020b). However, Chenega and Tatitlek are not as heavily engaged in commercial fishing as they were before the Exxon Valdez oil spill (Jones and Mitchell 2016, Ream and Mitchell 2016). The service industry and local and tribal government operations have become key employment sectors in recent years (Jones and Mitchell 2016). Construction, retail trade, and agriculture, forestry, and fishing are also important industries in the area (Jones and Mitchell 2016, Ream and Mitchell 2016). Year-round or seasonal employment in these industries is combined with the maintenance of more traditional subsistence harvest activities that remain very important both economically and culturally in these communities (Jones and Mitchell 2016, Ream and Mitchell 2016).

Table 2. Composition of subsistence harvests by weight at Chenega from the 1960s to 2014 (ADF&G Chenega 1984, 1985, 1989, 1990, 1991, 1992, 1993, 1997, 2003, 2014, Stratton and Chisum 1986).

Chenega	Average Total Harvest per Household (lbs.)	Marine Mammals	Salmon	Non-Salmon Fish	Land Mammals	Moose
1960s	7,284	67%	18%	3.50%	8%	2%
1984	1,127	47%	20%	9%	20%	3%
1985	1,336	38%	21%	17%	21%	3%
1989	519	2%	63%	18%	14%	0%
1990	502	21%	27%	18%	28%	0%
1991	1,266	6%	40%	9%	12%	0%
1992	1,441	6%	45%	26%	17%	0%
1993	993	13%	40%	32%	7%	0%
1997	1,615	3%	39%	37%	16%	4%
2003	1,324	10%	48%	25%	11%	3%
2014	531	0%	50%	21%	15%	8%

Table 3. Composition of subsistence harvests by weight at Tatitlek from 1987 to 2014 (ADF&G Tatitlek 1987, 1988, 1989, 1990, 1991, 1993, 1997, 2003, 2014, Stratton 1990).

Tatitlek	Average Total Harvest per Household (lbs.)	Marine Mammals	Salmon	Non-Salmon Fish	Land Mammals	Moose
1987	1,410	21%	23%	23%	24%	2%
1988	2,329	20%	41%	14%	14%	0%
1989	850	23%	45%	8%	21%	0%
1990	674	16%	39%	26%	11%	0%
1991	1,384	14%	43%	26%	12%	0%
1993	932	18%	39%	14%	19%	0%
1997	1,219	18%	39%	14%	19%	0%
2003	788	41%	23%	16%	11%	0%
2014	811	35%	29%	27%	7%	0%

Harvest History

Harvest data indicate that no moose were reported harvested from this area from 1997–2021 under Federal regulations (OSM 2022). In 2001, some hunting occurred from the village of Tatitlek with no success (Vlasoff 2001, OSM 2005). The hunters of Chenega informally discussed this hunt in 2001, concluding that they knew of no one from Chenega that had hunted moose in the Kings Bay area in recent years (Robertson 2001, pers. comm.; OSM 2005). Records indicate there has been no moose harvest under Federal regulations in the Kings Bay area (OSM 2022). Federally qualified subsistence use of the Kings Bay hunt area is assumed to be low. No records indicate much use of the area, and there are no harvest records to indicate otherwise.

No moose harvest has occurred on the Federal public lands in the Kings Bay hunt area under State regulations since 1997 when Federal public lands were closed, except by residents of Chenega and Tatitlek. Since 2006, no legal moose harvest has occurred at all on the Federal public lands in this hunt area since the Federal season closed and Federal public lands remain closed, preventing hunting under State regulations. As Federal public lands comprise over 80% of this hunt area and moose numbers are extremely low, very little harvest under State regulations on State-managed lands likely occurs. However, as the State hunt occurs by harvest ticket within a much larger hunt area, exact harvest numbers are unknown.

Effects

If the closure were retained, no changes to this hunt would occur. Anyone hunting under State regulations could only hunt moose on the non-Federal lands within the closure area. The small moose population that currently exists in the area would remain protected from overharvest, especially because all Federal lands are closed and there has been no legal moose harvest under Federal regulations in this area since 2006.

The current closure could be partially rescinded to open to all Federally qualified subsistence users with C&T for the Kings Bay area. However, as the Federal season is currently closed, this would not result in any increased hunting opportunity or harvest; a proposal would need to be submitted to establish a Federal season.

If the closure were completely rescinded and Federal public lands opened to all users, Federally qualified subsistence users could not hunt under Federal regulations unless the Board opens a Federal moose season. However, hunting of moose in this area could occur under State regulations, which may result in unsustainable harvest.

OSM PRELIMINARY CONCLUSION

X Retain the Status Quo

- _ Rescind the Closure
- _ Modify the closure to . . .
- _ Defer Decision on the Closure or Take No Action

Justification

There is little recent information on the status of the moose population in this area. Based on the most recent survey results, the moose population has been at a low density and there are no indications that there have been any increases in the moose population. Interchange of moose with other areas is likely minimal due to the difficult terrain. Therefore, the continuation of the current closure to moose hunting is necessary for the conservation of the wildlife resource.

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V	VCR24–41 Executive Summary	
Closure Location and Species	Unit 6C—Moose	
Current Regulation	Unit 6C-Moose	
	Unit 6C - 1 antlerless moose by Federal drawing permit (FM0603) only.	Sep. 1 – Oct 31
	Permits for the portion of the antlerless moose quota not harvested in the Sep. $1 - Oct. 31$ hunt may be available for redistribution for a Nov. $1 - Dec. 31$ hunt	
	Unit 6C - 1 bull by Federal drawing permit (FM0601) only.	Sep. 1 – Dec. 31
	In Unit 6C, only one moose permit may be issued per household. A household receiving a State permit for Unit 6C moose may not receive a Federal permit. The annual harvest quota will be announced by the U.S. Forest Service, Cordova Office, in consultation with ADF&G. The Federal harvest allocation will be 100% of the antlerless moose permits and 75% of the bull permits.	
	Federal public lands are closed to the harvest of moose except by federally qualified users with a Federal permit for Unit 6C moose, Nov. 1-Dec. 31.	
OSM Preliminary Conclusion	Rescind the Closure	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation		

WCR24–41 Executive Summary					
Interagency Staff Committee Comments					
ADF&G Comments					
Written Public Comments	None				

FEDERAL WILDLIFE CLOSURE REVIEW WCR24-41

Issue: Wildlife Closure Review WCR24-41 reviews the closure to moose hunting in Unit 6C from Nov. 1-Dec. 31, except by federally qualified subsistence users.

Closure Location and Species: Unit 6C-Moose

Current Federal Regulation

Unit 6C-Moose

Unit 6C - 1 antlerless moose by Federal drawing permit (FM0603) only. Sep. 1 – Oct 31

Permits for the portion of the antlerless moose quota not harvested in the Sep. 1 - Oct. 31 hunt may be available for redistribution for a Nov. 1 - Dec. 31 hunt

Unit 6C - 1 bull by Federal drawing permit (FM0601) only. Sep. 1 – Dec. 31

In Unit 6C, only one moose permit may be issued per household. A household receiving a State permit for Unit 6C moose may not receive a Federal permit. The annual harvest quota will be announced by the U.S. Forest Service, Cordova Office, in consultation with ADF&G. The Federal harvest allocation will be 100% of the antlerless moose permits and 75% of the bull permits.

Federal public lands are closed to the harvest of moose except by federally qualified users with a Federal permit for Unit 6C moose, Nov. 1-Dec. 31.

Closure Dates: Nov. 1-Dec. 31

Current State Regulation

Unit 6C-Moose

Residents: Unit 6C - One bull by permit

DM 167 *Sep.* 1 – *Oct.* 31

Regulatory Year Initiated: 2014

Extent of Federal Public Lands

Federal public lands comprise approximately 72% of Unit 6C and consists of 71.87% U.S. Forest Service (USFS) managed lands and 0.56% Bureau of Land Management (BLM) managed lands (**Map** 1).



Map 1. Federal public lands in Unit 6C.

Customary and Traditional Use Determination

Residents of Units 6A, 6B, and 6C have a customary and traditional use determination for moose in Units 6B and 6C.

Regulatory History

Prior to 2000, State residents could take one moose by State drawing permit in Unit 6C from Sep. 1-Oct. 31, but a Federal season for moose in Unit 6 was not open. In 2000, the Native Village of Eyak submitted Proposal P00-17 to establish a Federal subsistence hunt for moose in Units 6B and 6C. The Federal Subsistence Board (Board) adopted the proposal with modification to establish a moose hunt in Unit 6C only. The season was Aug. 15-Dec. 31, and the harvest limit was one cow by Federal registration permit with only five permits total issued (which was the total allowable cow moose harvest at that time) but left the rest of the State-managed moose harvest in place (OSM 2000). In 2002, Mr. George Covel of Cordova submitted Proposal WP02-48, requesting that 100% of the bull moose harvest in Unit 6C come from Federal subsistence drawing permits and that the season start date be changed from Aug. 15 to Sep. 1. The Board adopted the proposal with modification, allocating 75% of the allowable bull moose harvest for Unit 6C, and 100% of the allowable cow moose harvest for Unit 6C, to federally qualified subsistence users. Additionally, the cow moose season closing date was changed from Dec. 31 to Oct. 31, while the bull season was Sept. 1-Dec. 31 Only one moose permit could be issued per household and the harvest quota would be announced annually by the USFS in consultation with the Alaska Department of Fish and Game (ADF&G). The Board's decision to split the bull moose harvest allocation in Unit 6C with the State (75% and 25% of allowable harvest in Federal and State management programs, respectively) was, in part, in recognition of the presence of non-Federal lands within the unit (OSM 2002).

In 2007, the Board adopted Proposal WP07-19, which requested the harvest limit for the Unit 6C Federal draw permit hunt be changed from 1 cow moose to 1 antlerless moose. The Cordova Ranger District submitted the proposal in order to allow federally qualified subsistence users to continue to target cow moose without the possibility of unintentional violation should an antlerless bull be harvested (OSM 2007).

At its March 2013 meeting, the Alaska Board of Game (BOG) adopted amended Proposal 129 to establish a State registration moose hunt in Unit 6C (RM169), with a harvest limit of 1 moose, and a to-be-announced season Nov. 1 - Dec. 31. The State's proposal was intended to allow for the harvest of moose allocated to the Federal quota that may not have been taken during the Federal subsistence hunt.

In 2014, the Board adopted Proposal WP14-18, which closed Federal public lands in Unit 6C to the harvest of moose except by federally qualified subsistence users with a Federal permit from Nov. 1 - Dec. 31. Additionally, it allowed federally qualified subsistence users an opportunity to harvest antlerless moose that were not harvested during the early season (Sep. 1 - Oct. 31), if needed to control the population (OSM 2014). Details of this closure can be found below in the Justification for the Original Closure section.

At the Interior/Northeast Arctic Regional meeting in February 2017, the BOG adopted Proposal 145 to reauthorize the antlerless moose season in Unit 6C. This season was reauthorized again in 2020 at the BOG meeting when Proposal 157 was adopted.

In 2018, the Board rejected Proposal WP18-15, submitted by Tom Carpenter of Cordova, requesting that residents receiving a State or Federal Unit 6C moose permit be ineligible to receive a Federal Unit 6C moose permit the following year, because there was no conservation concern and thus no need to restrict local users (OSM 2018).

In August 2020, the Board approved a revised closure policy, which stipulated all closures will be reviewed every four years. The policy also specified that closures, similar to regulatory proposals, will be presented to the Subsistence Regional Advisory Councils (Councils) for a recommendation and then to the Board for a final decision. Previously, closure reviews were only presented to Councils who then decided whether to maintain the closure or to submit a regulatory proposal to modify or eliminate the closure.

In 2020, the Board voted to maintain status quo for this closure. Their justification was that the dual management system, between the USFS Cordova Ranger District and ADF&G for moose in Unit 6C was meeting the long-term needs of local users in Cordova, maximized hunting opportunity, addressed moose population biology, and accounts for variable access in Unit 6 (OSM 2022b).

Antlerless moose hunts must be reauthorized annually by the BOG. The BOG had consistently reauthorized the State antlerless moose hunt in Unit 6C until 2021. In 2021, the Copper River/Prince William Sound Fish and Game Advisory Committee (AC) did not meet and was unable to reauthorize the hunt, resulting in the Unit 6C antlerless moose hunt being removed from State regulations. In 2022, ADF&G submitted Proposal 62, which requests re-establishing the antlerless moose season in Unit 6C. Specifically, the proposal requests a hunt from Nov. 1-Dec. 31 with a harvest limit of one moose by registration permit only. In its proposal, ADF&G notes that because the antlerless moose quota is harvested under Federal subsistence regulations, the State has not held an antlerless hunt in Unit 6C since 1999. The BOG will consider this proposal in March 2023.

Closure last reviewed: 2020 – WCR20-41

Justification for Original Closure:

§815(3) of ANILCA states:

Nothing in this title shall be construed as -(3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law...

Proposal WP14-18 aligned with the intentions of existing Federal regulations, which allocated 100% of the harvest quota for antlerless moose in Unit 6C to federally qualified subsistence users. Providing the opportunity for additional harvest of antlerless moose and closing Federal public lands to moose hunters without a valid Federal permit for Unit 6C moose from Nov. 1 - Dec. 31, maintained the Federal subsistence priority and allowed for continuation of subsistence uses on the Federal public lands. As a result of the BOG adopting Proposal 129 in 2013, which opened some of the antlerless

moose harvest to all State residents through a State registration hunt, federally qualified subsistence users could have seen a reduced opportunity to harvest antlerless moose in Unit 6C due to competition with non-federally qualified users. Proposal WP14-18 allowed additional antlerless moose harvest by federally qualified subsistence users, should the need exist to harvest additional moose after the regular season ends on Oct. 31. It also limited the effect of the new State regulation, by restricting those without a valid Federal permit for Unit 6C moose to only hunt on private and State lands within Unit 6C during the early winter season (OSM 2014).

Council Recommendation for Original Closure:

The Southcentral Council supported the closure to provide additional subsistence opportunities even though there were no conservation concerns. Federal permits allow for control and monitoring of the harvest.

State Recommendation for Original Closure:

The State opposed the proposal, stating that the latest population estimate was 535-665 moose (90% CI) with a midpoint of 600 moose and that this translated to an overall density of 3 moose/mi², and a core winter range density of 6-9 moose /mi². The State claimed that this population was subject to relatively low predation and must be harvested accordingly to keep it from increasing and to protect winter range from over-browsing.

During the 2012 State and Federal moose hunt in Unit 6C, ADF&G found that a harvestable surplus of moose remained at the end of the regular hunting season. This was because ADF&G staff must estimate the available harvest a year in advance of the hunt, and due to better than anticipated survival during the winter of 2011/12, there were a number of unfilled tags, including 33% of bull tags (5 of 22 issued) and 15% of cow tags (7 of 39 issued) (Burcham 2018, pers. comm.). ADF&G considered a late season emergency opening for antlerless moose but did not have support from the Copper River/Prince William Sound AC and therefore did not pursue it. ADF&G felt that more flexibility for administration of this hunt would be helpful if this situation occurred again; therefore, Proposal 129 was submitted to the BOG in March 2013.

Biological Background

The moose population in Unit 6 originated from 24 moose calves that were transplanted to the west Copper River Delta from the Kenai Peninsula, Anchorage, and the Matanuska-Susitna area between 1949 and 1958 (Paul 2009). This action was a cooperative effort of the Cordova Chapter of the Isaac Walton League, other local citizens, and the U.S. Fish and Wildlife Service (Nowlin 1998). This introduced population rapidly expanded eastward, reaching a high of 1,600 moose in 1988 (Griese 1990). In addition, there has probably been immigration of moose from surrounding areas as habitat has become more suitable following the 1964 earthquake. The only moose endemic to Unit 6 is a small population of approximately 40 animals in the Lowe River drainage of Unit 6D. The first moose hunt was held in 1960 and hunts have occurred annually since 1962. The Unit 6C moose hunt became a State drawing permit hunt in 1984 (Stratton 1989). During the 1990s, the Copper River/Prince William Sound AC, local residents, and ADF&G developed a cooperative moose management plan. The resulting plan considered

- 1. the long-term needs of the community (Cordova)
- 2. population biology
- 3. maximizing hunting opportunity
- 4. the variable access in Unit 6

The current management strategies in Unit 6 are a direct result of this moose management plan (Westing 2018a). Current cooperative moose management objectives in Unit 6C are to maintain a posthunting population of 600-800 moose with a minimum bull:cow ratio of 25:100 (Westing 2017, 2018a).

Population surveys, which are dependent on snow cover and weather conditions for flying, are usually conducted between mid-January and mid-March. From 1991 to 2012 the study design was based on stratified random sampling using the Gasaway technique. Since 2013 the sampling design has used the Geospatial Population Estimate (GSPE). Moose population estimates have ranged from 296 - 677 moose from 2005 to 2017 (**Table 1**). In 2011, 2013, and 2017 the moose population in Unit 6C was within the Unit 6 moose management objective of 600-800 moose (Smythe 2015, Westing 2018b). There is little or no indication of nutritional stress due to habitat loss despite a relatively high moose density of 1,250 - 1,900 moose/1,000 km² (or 3.2-4.9 moose/mi²) since 2005 (Westing 2014).

Composition surveys to determine the potential effects of selective hunting pressure are conducted during the fall. Similar to the population estimate survey methods, the composition surveys are dependent on adequate snow cover and weather conditions for flying. The survey method used prior to 2013 focused on maximizing the number of moose observations. but was not standardized (Crowley 2010 Westing 2014). The GPSE survey protocol, which uses a random sample of units is less biased but can also be less efficient (Westing 2014). From 2006 to 2008, the number of bulls, including large bulls, declined due to heavy harvest (Crowley 2012). Harvest adjustments implemented in 2009 have resulted in an increase in adult bulls and the number of large bulls in the population. The bull:cow ratio, calf:cow ratio, and percent of calves observed increased in 2013 with the increasing moose population, but declined in 2020 (**Table 2**).

Fall calf:cow ratios of < 20 calves:100 cows, 20-30 calves:100 cows, and > 30-40 calves:100 cows indicate declining, stable, and growing moose populations, respectively (ADF&G 2001). This suggests the Unit 6C moose population has been growing or remaining stable since 2013 (**Table 1**). The percentage of cows with twins during the fall composition surveys increased to 19% in 2014, compared to 12% in 2009 and 6% in 2010 (Westing 2014). The high bull:cow and calf:cow ratios in 2013/14 was most likely due to the high cow harvest during 2013/14 (Westing 2014). The twinning rates from 2007-2015 ranged from 41-76% (Westing 2018a).

Table 1. Moose population estimates in Unit 6C 2005-2017 (Crowley 2006, 2010, 2012; Westing 2014, 2018a, b).

Year	Calves (%)	Adult Estimate	Moose Observed	Population Estimate	90% CI
2005/06	10	438	361	488	423-553
2006/07	20	447	409	560	453-667
2007/08	15	367	347	430	389-471
2008/09	19	314	269	388	334-443
2009/10	17	245	183	296	164-426
2010/11	17	331	296	398	324-471
2011/12	21	472	535	601	536-666
2012/13ª	-	-	-	-	-
2013/14	20	487	291	609	483-734
2017/18	32	464	509	677	468-888

^a Population data not collected

Table 2. Moose composition estimates in Unit 6C 2005-2013 (Crowley 2006, 2010, 2012; Westing 2014, 2018a, 2022).

Year	Bulls	Cows	Calves	Total Moose	Bulls:100 Cows	Calves: 100 Cows	Calves (%)
2005/06	45	151	44	240	30	29	18
2006/07	-	-	-	-	-	-	-
2007/08	32	83	14	129	36	17	11
2008/09 ^a	-	-	-	-	-	-	-
2009/10	34	230	34	298	14	15	11
2010/11	40	183	35	258	22	19	14
2011/12 ^a	-	-	-	-	-	-	-
2012/13ª	-	-	-	-	-	-	-
2013/14	63	129	63	255	49	49	25
2020/21	33	137	28	198	24	20	14

^a Composition data not collected

Cultural Knowledge and Traditional Practices

The subsistence practices of the rural residents of Unit 6 reflect the cultural traditions of the Eyak of the Copper River Delta, the Alutiiq of Prince William Sound, and Russian and American settlers (Stratton 1989). Subsistence lifestyles in the region have traditionally been based on the harvesting of marine resources, with land mammals serving as key, secondary resources (Stratton and Chisum 1986, Stratton 1989, 1990). Historical and ethnographic accounts indicate that bears (Simeone 2008) and mountain goats (Stratton and Chisum 1986, Stratton 1990) have traditionally been two of the most important large game species in the area. Deer and moose, however, have become increasingly

significant game species since their relatively recent introductions to Units 6C and 6D (Stratton and Chisum 1986, Stratton 1989, 1990).

Sitka black-tailed deer were introduced to the Prince William Sound area in 1916 (Stratton and Chisum 1986). A relatively small population of moose are indigenous to the western Prince William Sound area and have been hunted in the Lowe River and Nellie Juan River valleys, along the Kings River, and near the south end of Kings Bay (Stratton 1989: 13). Moose were also transplanted into the Copper River Delta, along the Copper River Highway, between 1949 and 1959 (Stratton 1989). Recently, some residents in the Cordova area noted that deer have replaced black bear in terms of importance to local subsistence economies (Simeone 2008). Likewise, moose have also become a preferred game species since being introduced to the Copper River Delta. Land mammal resources have often been particularly significant sources of subsistence in the fall and winter seasons for rural communities living in this region (Stratton and Chisum 1986; Stratton 1989, 1990).

In a subsistence study conducted by ADF&G in the Cordova area in 1985, surveyed households reported harvesting an average of approximately 403 pounds of wild resources for the year (see **Table 3**) (Stratton 1989). Salmon, land mammals, and non-salmon fish combined to compose about 88% of households' yearly subsistence harvest (Stratton 1989). Significantly, moose and deer accounted for the vast majority of households' land mammal harvest (Stratton 1989). Moose provided about 51% of the land mammal harvest, while deer provided another 39% of this harvest during the 1985 study year (Stratton 1989). Overall, an average of approximately 30 moose were reported harvested from Unit 6C every year between 1960 and 1986 (Stratton 1989).

In 1998, Cordova households reported harvesting an average of 542 pounds of wild resources (see **Table 3**) (Fall and Utermohle 1999). Salmon, land mammals, and non-salmon fish combined once again to compose the vast majority of households' subsistence harvests. Moose (39%) and Deer (46%) accounted for 85% of the total land mammal harvest during this study year (Fall and Utermohle 1999).

In 2003, households in the Cordova area reported harvesting an average of 469 pounds of wild resources (see **Table 3**) (Simeone 2006). Non-salmon fish harvests decreased, while salmon harvests increased in 2003. Still, Salmon, land mammals, and non-salmon fish combined to compose an average of about 91% of households' subsistence harvests during this study year (Simeone 2006). Significantly, deer (44%) and moose (45%) accounted for 89% of the total land mammal harvest in 2003 (Simeone 2006).

Cordova households' subsistence harvests were somewhat lower in 2014 than in previous study years (see **Table 3**) (Kukkonen and Johnson 2016). Surveyed households harvested an average of 318 pounds of wild resources during 2014 (Kukkonen and Johnson 2016). Similar to 2003, Cordova households' non-salmon fish harvests decreased in 2014. Salmon and land mammals, however, remained the most remained the most heavily harvested resources in terms of weight. Deer (19%) and moose (74%) combined to account for roughly 93% of Cordova households' total land mammal harvest in 2014 (Kukkonen and Johnson 2016). Overall, **Table 3** shows that moose have been an important component of Cordova households' subsistence economies since at least the 1980s, with

previous research documenting moose harvests taking place in the area as far back as the 1960s (Stratton 1989).

Table 3. Composition of Cordova Households' Subsistence Harvests as a Percentage of Total Weight in 1985, 1998, 2003, and 2014 (Fall and Utermohle 1999, Kukkonen and Johnson 2016, Simeone 2006, Stratton 1989)

Cordova	Average Total Harvest per Household (Ibs.)	Salmon	All Land Mammals Combined	Non- Salmon Fish	Deer	Moose
1985	403	39%	26%	23%	11%	14%
1998	542	35%	30%	24%	14%	12%
2003	469	44%	31%	16%	14%	14%
2014	318	38%	35%	15%	7%	26%

Harvested fish and game resources have traditionally been shared regularly within and between communities in the Cordova area (Stratton and Chisum 1986, Stratton 1989, 1990, Kukkonen and Johnson 2016). Moose meat and other key subsistence resources are still widely shared between households here (Kukkonen and Johnson 2016). In 2014, about 67% of households reported using moose, while only 24% reported attempting to harvest moose (Kukkonen and Johnson 2016). Roughly 22% of households reported giving moose, while 54% reported receiving moose in 2014 (Kukkonen and Johnson 2016). Harvested game meat and fish has traditionally been preserved through drying, smoking, salting, pickling, or fermenting processes (Stratton and Chisum 1986). Freezing has also become widespread with the expansion of electrical services to the area (Stratton and Chisum 1986; Stratton 1989, 1990).

Today, Cordova is home to an estimated 2,545 people (State of Alaska 2021). This number includes residents living within the city limits, as well as those living out towards Merle K Smith Airport, along Power Creek Road on the northwest shore of Eyak Lake, along Whitshed Road, and members of the Native Village of Eyak. The median yearly income for Cordova households was \$91,422 in 2020, while the mean yearly income was \$94,279 (US Census 2020a, US Census 2020b). Commercial fishing, local and tribal government operations, the service industry, and retail trade are the primary employment sectors in Cordova (Kukkonen and Johnson 2016). Many residents of Cordova combine year-round or seasonal employment in these industries with the maintenance of more traditional subsistence harvest activities that remain very important here both economically and culturally (Kukkonen and Johnson 2016).

Harvest History

Because of relatively easy access to Unit 6C, especially by road and airboat, hunter success often approaches 100% for moose permit holders. Between 25 and 123 moose permits were issued each season between 2001 and 2021, depending on the relationship of the estimated moose population to the management objective. Beginning in 2006, the number of harvest permits was increased to account for the concern that the moose population was exceeding carrying capacity. However, this appears to have resulted in overharvest of the population by 2010, especially the bull moose component (**Table 4**).

Reduced permit numbers beginning in 2008 have allowed the population to grow to current levels (Tables 1 and 4).

Over 90% of the moose taken in Unit 6C are by residents of Cordova (Crowley 2012). Harvest in 2021 was 62 moose, which has been below the average of 78 since 2013 and above the 10-year annual average of 52 moose from 2002-2012. Between 2013 and 2021, an average of 10 total moose permits and three antlerless moose permits were not filled, indicating a few surplus moose have still been available for harvest at the end of the season.

	Permits Issued				Harvest ^a			
	Βι	ıll	Antlerless	Total	l Bull		Antlerless	Total
Regulatory	Federal	State	Federal		Federal	State	Federal	
Year	(FM0601)	(DM167)	(FM0603)					
2001	0	20	5	25	0	19	5	24
2002	16	5	5	26	16	5	4	25
2003	16	5	5	26	16	5	5	26
2004	26	9	5	40	26	8	5	39
2005	26	9	5	40	25	9	4	38
2006	28	9	40	77	26	9	40	75
2007	55	18	50	123	53	13	45	111
2008	39	13	25	77	36	12	22	70
2009	41	13	10	64	37	11	10	58
2010	19	6	15	40	14	4	13	31
2011	16	13	10	39	10	6	10	26
2012	22	7	39	68	17	6	33	56
2013	24	7	50	81	23	7	45	75
2014	37	12	35	84	35	10	36	81
2015	37	12	35	84	34	11	31	76
2016	37	12	35	84	31	10	32	73
2017	46	15	35	96	41	14	33	88
2018	45	15	35	95	40	14	35	89
2019	45	15	35	95	36	13	33	82
2020	40	15	42	97	26	14	39	79
2021	35	5	35	75	27	4	30	62

Table 4. State and Federal moose harvest in Unit 6C, 2001-2012 (ADF&G 2022, Crowley 2006, 2008, 2010, 2012; Westing 2014, 2017, 2018a, b, 2022; OSM 2018, 2022a; WinfoNet 2018).

^a Unreported, illegal, or accidental kills combined are probably less than 5 animals each year.

Effects

The current management strategies in Unit 6C are a direct result of the cooperative moose management plan developed by the Prince William Sound/Copper River Delta AC, ADF&G, and local residents. The dual management system, between the USFS Cordova Ranger District and ADF&G, is currently achieving the management plan's considerations of meeting the long-term needs of local users in Cordova, maximizing hunting opportunity, population biology and variable access in Unit 6. Part of the management system is allocating 75% of the bull harvest permits to federally qualified subsistence users and the remaining 25% for people hunting under State regulations, while 100% of the antlerless moose permits are allocated to federally qualified subsistence users. Retaining this system provides for a Federal subsistence priority.

Rescinding the closure would make is possible for the State moose season to occur in Unit 6C on Federal public lands during November and December. The BOG will consider Proposal 62 in March 2023 (see **Regulatory History** section). As this proposed hunt is by registration permit, it is unclear how adoption of Proposal 62 may affect the management of the Unit 6C moose population.

As Unit 6C is easily accessible by the road system for both residents and non-residents, rescinding the closure could bring in non-federally qualified users to compete with the federally qualified subsistence users. However, the non-federally qualified users would continue to only be allocated 25% of the bull harvest permits. Rescinding the closure would likely not pose any conservation concerns since the Unit 6C moose population is closely managed by limiting the number of permits and is currently at high density (~3-5 moose/mi²), although the effects of adopting State Proposal 62 is uncertain. The Federal subsistence priority would still be maintained as the majority of the moose permits are allocated to federally qualified subsistence users. In recent years, some permits have remained unfilled, suggesting there are additional moose that could be harvested under State regulations in November and December on Federal public lands.

OSM PRELIMINARY CONCLUSION:

Retain the Status Quo
X Rescind the Closure
Modify the closure to ...
Defer Decision on the Closure or Take No Action

Justification

Since 2011, the moose population in Unit 6C has been above 600 animals, appears to be stable at high density and meets the management objectives of the cooperative moose management plan. There is no conservation concern to justify the closure to hunting moose on Federal public lands to non-federally qualified users from Nov. 1 - Dec. 31 in Unit 6C. The Federal subsistence priority would still be maintained if this closure were rescinded as most of the moose permits are allocated to federally qualified subsistence users.

Whether or not this closure is still necessary for the continuation of subsistence uses is unclear. However, the high harvest success rates coupled with the unharvested allocations, and the high moose population indicate that subsistence needs are likely being met.

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FEDERAL WILDLIFE CLOSURE REVIEW WCR24-35

Issue: Wildlife Closure Review WCR24-35 reviews the closure to caribou hunting in the southeastern portion of Unit 12 where Federal public lands are closed to caribou hunting, except by Federally qualified subsistence users. The closure targets the Chisana Caribou Herd (CCH).

Closure Location and Species: Unit 12, that portion east of the Nabesna River and the Nabesna Glacier and south of the Winter Trail running southeast from Pickerel Lake to the Canadian border—caribou (**Map 1**).

Current Federal Regulation

Unit 12-Caribou

Unit 12—that portion east of the Nabesna River and the NabesnaAug. 10-Sept. 30Glacier and south of the Winter Trail running southeast from PickerelLake to the Canadian border — 1 bull by Federal registration permitonly.Output

Federal public lands are closed to the harvest of caribou except by Federally qualified subsistence users hunting under these regulations.

Closure Dates: Year-round

Current State Regulation

Unit 12 - Caribou

Residents and Nonresidents: Unit 12, remainder

No open season

Regulatory Year Initiated: 1994, closed to all users; 2012, closed except by some Federally qualified subsistence users (§804 restriction); 2016, closed except by Federally qualified subsistence users.

Extent of Federal Public Lands/Waters

Federal public lands comprise approximately 61% of Unit 12 and consists of 48% National Park Service (NPS) managed lands, 11% U.S. Fish and Wildlife Service managed lands (FWS), and 2% Bureau of Land Management (BLM) managed lands (**Map 1**).

Federal public lands comprise nearly 100% of the closure area and consist of 100% NPS managed lands.



Map 1. Federal closures for caribou in Unit 12. The cross-hatched area targets the Mentasta Caribou Herd and is closed to all users. The stippled area targets the Chisana Caribou Herd and is closed to non-Federally qualified users.

Customary and Traditional Use Determination

Residents of Unit 12, Chistochina, Dot Lake, Healy Lake, and Mentasta Lake have a customary and traditional use determination for caribou in Unit 12.

Under the guidelines of Alaska National Interest Lands Conservation Act (ANILCA), National Park Service regulations identify qualified local rural subsistence users in National Parks and National Monuments by: (1) identifying Resident Zone Communities that include 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.

Wrangell-St. Elias National Park has 23 resident zone communities: Chisana, Chistochina, Chitina, Copper Center, Dot Lake, Gakona, Gakona Junction, Glennallen, Gulkana, Healy Lake, Kenny Lake, Lower Tonsina, McCarthy, Mentasta Lake, Nabesna, Northway, Slana, Tazlina, Tanacross, Tetlin, Tok, Tonsina, and Yakutat.

Regulatory History

Because of its small population size, the CCH has never supported a large harvest. Between 1989 and 1994 under State regulations, the harvest limit was one bull caribou and the annual harvest ranged between 16–34 animals (Gross 2005). The Federal subsistence regulation from 1990 to 1994 was one bull, Sept. 1- 20. By 1991, due to declining population numbers, the harvest was reduced through voluntary compliance by guides and local hunters. In 1994, the bull portion of the population declined below the Alaska Department of Fish and Game's (ADF&G) management objective and hunting of Chisana caribou was closed by both the Alaska Board of Game (BOG) and the Federal Subsistence Board (Board).

In 1994, the Board adopted Proposal P94-71, which closed Federal public lands east of the Nabesna River to the Canadian border to the harvest of caribou by all users to protect the declining CCH resulting in the following hunt areas (OSM 1994):

Unit 12 – That portion west of the Nabesna River within the drainages of Jack Creek, Platinum Creek, and Totschunda Creek.

Unit 12 – That portion lying east of the Nabesna River and south of the Winter Trail running southeast from Pickerel Lake to the Canadian border.

Unit 12 – remainder

In 2000, the Board adopted Proposal P00-59, combining the hunt areas west and east of the Nabesna River into one hunt area to make regulations consistent for Unit 12 (OSM 2000):

Unit 12 – That portion of the Nabesna River drainage within the Wrangell-St. Elias National Park and Preserve and all Federal lands south of the Winter Trail running southeast from Pickerel Lake to the Canadian border.

In 2002, the CCH was designated as "Specially Protected" under the Yukon Wildlife Act, which prohibits all licensed harvest of the CCH in Canada and requires a regulation change to initiate a harvest.

In 2010, the BOG approved to establish a joint State/Federal drawing permit for the CCH. This hunt would follow guidelines set in the Management Plan for the CCH. The hunt was authorized in the portion of Unit 12 within the White River drainage and that portion within the Chisana River drainage upstream from the winter trail that runs southeast from Pickerel Lake to the Canadian Border. However, on Federal public lands, which comprised the vast majority of that hunt area, the Federal closure superseded the existing State regulation and thus Federal public lands remained closed to hunting of the CCH under State regulations. The Board considered Proposal WP10-104 that requested establishment of a joint Federal/State draw permit for the CCH in Unit 12 with a harvest limit of one bull and a season of Sept. 1–Sept. 30. The Board deferred Proposal WP10-104 until more information could be gathered.

In 2012, the Board considered proposals WP10-104 and WP12-65/66 (OSM 2012a). Proposal WP10-104 requested establishment of a joint Federal/State draw permit for the CCH in Unit 12 with a harvest limit of one bull and a season of Sept. 1-Sept. 30. Proposal WP12-65 requested establishment of a Federal registration hunt for the CCH with a harvest limit of one bull and a season of Aug. 10 – Sept. 30, while WP12-66 requested establishment of a Federal registration hunt with a harvest limit of one bull and a season of Sept. 1-Sept. 30, with the hunt restricted to Federal public lands in Unit 12 east of the Nabesna River and the Nabesna Glacier. OSM noted in its justification for WP12-66 that restricting the hunt west of the Nabesna River and Nabesna Glacier would protect the Mentasta Caribou Herd (MECH) with minimal impact to subsistence hunters wanting to harvest caribou from the CCH (OSM 2012a). The Board took no action on WP10-104 and WP12-65 and adopted WP12-66 with modification to list the communities allowed to harvest caribou in Unit 12, that portion east of the Nabesna River and Nabesna Glacier and south of the Winter Trail running southeast from Pickerel Lake to the Canadian border: Northway, Mentasta, Tetlin, Tok, Chisana, and Chistochina. The list of communities was based on an ANILCA §804 analysis. The authority to manage the Federal hunt was delegated to the Wrangell-St. Elias National Park and Preserve (WRST) Superintendent. The CCH was considered stable in 2010 and the bull:cow and calf:cow ratios were above the minimums set by the Draft Management Plan, which was finalized in the fall of 2011 (OSM 2012a, Chisana Caribou Herd Working Group 2012). As a result of the Board's action on WP12-66, the areas west and east of the Nabesna River were once again split out into two areas (OSM 2012a).

Unit 12 – that portion within the Wrangell-St-Elias National Park that lies west of the Nabesna River and the Nabesna Glacier.

Unit 12 – that portion east of the Nabesna River and the Nabesna Glacier and south of the Winter Trail running southeast from Pickerel Lake to the Canadian border.

Also in 2012, the Board adopted Proposal WP12-68, submitted by the Cheesh'na Tribal Council, which requested the residents of Chistochina be added to the Unit 12 caribou customary and traditional use determination (OSM 2012b).

In 2014, the Board adopted Proposal WP14-15/45 to expand the list of communities eligible to participate in the caribou hunt for the CCH under the ANILCA §804 analysis to also include residents of the hunt area and those living in Unit 12 along the Nabesna Road (mileposts 25-46) (OSM 2014a).

The Board also adopted Proposal WP14-49 with modification to change the fall season dates for the CCH hunt from Sept. 1-Sept. 30 to Aug. 10-Sept. 30, so that the bulls would be less likely to be in the rut, and thus, ensure the quality of the meat (OSM 2014b).

In 2016, the Board adopted Proposal WP16-60 opening Federal public lands in Unit 12, south of the Winter Trail and east of the Nabesna River and Glacier to all Federally qualified subsistence users. Permits issued from 2012 to 2014 and the number of animals harvested had been below quotas, allowing expansion of harvest opportunity for all Federally qualified subsistence users without concerns for overharvest (OSM 2016).

In 2020, the Board approved a revised closure policy, which stipulated all closures will be reviewed every four years. The policy also specified that closures, like regulatory proposals, will be presented to the Councils for a recommendation and then to the Board for a final decision. Previously, closure reviews were presented to Councils who then decided whether to maintain the closure or to submit a regulatory proposal to modify or eliminate the closure.

In 2020, the Board maintained status quo for closure review WCR20-42 due to continued conservation concerns. This closure review was a combined review of the closure to caribou hunting by all users in Unit 12 targeting the MECH within that portion of Wrangell-St. Elias National Park and Preserve that is west of the Nabesna River and Glacier and the closure to caribou hunting, except Federally qualified subsistence users targeting the CCH in Unit 12, east of the Nabesna River and Nabesna Glacier and south of the Winter Trail for.

In 2022, WRST issued an emergency special action closing the CCH caribou hunt because recruitment had fallen below the minimum threshold identified in the CCH management plan for sustainable harvest (Bobowski 2022).

Closure last reviewed: 2020 – WCR20-42

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Justification for Original Closure:

Section §815(3) of ANILCA states:

Nothing in this title shall be construed as -(3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law...

The Board adopted Proposal P94-71, which closed the CCH hunt to all users based upon the recommendation from the Eastern Interior Alaska Subsistence Regional Advisory Council (EI Council) and OSM that the closure was necessary to assure the continued viability of this herd. The Board's reauthorization of harvest limits in this area would be aided by the caribou management plan that NPS was developing with input from the interested agencies and affected parties including Regional Advisory Councils (OSM 1994).

In 2012, the Board modified the closure with the adoption of Proposal WP12-66 with modification to delegate authority to manage the Federal hunt to the WRST Superintendent. The CCH was considered stable in 2010 and the bull:cow and calf:cow ratios were above the minimums set by the Draft Management Plan, which was finalized in the fall of 2011. The Board concurred with The EI Council that while the harvest surplus is small, it should not pose a conservation concern with good in-season management. The Board also noted that the remoteness of the herd will limit access, but the proposal will provide increased subsistence opportunity.

In 2016, the Board modified the closure with the adoption of Proposal WP16-60 opening Federal public lands in Unit 12, south of the Winter Trail and east of the Nabesna River and Glacier to all Federally qualified subsistence users. Permits issued from 2012 to 2014 and the number of animals harvested had been below quotas, allowing expansion of harvest opportunity for all Federally qualified subsistence users without concerns for overharvest (OSM 2016)

Council Recommendation for Original Closure:

The Council concluded that the CCH should be protected from all hunting to stop the population decrease (OSM 1994). The justification for their decision was based on the following:

- Over the past 3 years (1990-1993) the CCH population had declined from 1,850 to 900 animals.
- The fall calf:cow ratio was below that which is required to balance the natural mortality of adults (≈15 %) for at least 4 consecutive years
- The potential for overharvest of this small herd was considered high since they cross international boundaries and are subject to an unknown amount of unreported harvest.

In 2012, the EI Council supported WP12-66 with modification to delegate authority to manage the Federal hunt to the WRST Superintendent. The EI Council stated that while the harvest surplus is small, it should not pose a conservation concern with good in-season management.

In 2016, The EI Council supported WP16-60 as modified by OSM. The EI Council stated that allowing all qualified Federal users in the hunt area to harvest the Chisana Caribou Herd would provide subsistence opportunity for these communities but only add about 200 people to the eligible list and therefore not cause any increase in competition for the resource. The EI Council further stated that there does not appear to be a conservation concern and it would be beneficial by allowing more opportunity for those who do wish to make the effort to hunt this herd

State Recommendation for Original Closure:

The ADF&G opposed this closure to caribou hunting of the CCH. ADF&G stated this Federal action is inappropriate and, as written, will create an undue administrative burden to management of the CCH.

In 2012, ADF&G supported portions of WP12-65, 66 and deferred WP10-104 with modification. The state recommended following the guidelines for a limited harvest of Chisana caribou shared between Alaska and Canada as laid out in the management plan and further recommended using a joint State/Federal permit to monitor harvest in Alaska. A joint Federal/State drawing permit would ensure continued cooperation between State and Federal managers who worked together to develop the herd management plan. If the harvest is limited to federal subsistence users only, a registration hunt should be used, and the season closed if the quota is met. Based on harvest records since the 1970s, the remote nature (aircraft access only), the likelihood of harvesting the quota is unlikely. A short reporting period should be adequate to ensure overharvest does not occur.

In 2016, ADF&G supported WP16-60 with OSM modification and the proposal was considered on the consensus agenda.

Biological Background

The ranges of the Mentasta, Chisana, and Nelchina caribou herds overlap in Unit 12 (**Map 2**). The Nelchina Caribou Heard (NCH) was declining and at the lower end of the State population objectives in 2018 (ADF&G 2018, Hatcher 2018, pers. comm.). In 2022, the NCH population had dropped to 21,000, well below the lower end of the State's fall population objective of 35,000 to 40,000 Nelchina caribou. Multiple Nelchina caribou hunts were closed early by Emergency orders, 04-02-22, 04-03-22, 04-06-22, and 04-08-22, due to harvest quotas being reached quickly (ADF&G 2022). However, since this closure is not associated with the NCH, the NCH is not considered further in this analysis.

The MECH occurs primarily in the western and northern portion of Unit 12 and the northern portion of Unit 11 within Wrangell-St. Elias National Park and Preserve (WRST). Since the overlap between the CCH and MECH is minimal, the MECH is be considered in a separate closure review analysis (WCR24-42).

The CCH is a small herd that occurs on the Klutan Plateau and near the headwaters of the White River in southwest Yukon Territory, Canada and east central Alaska in the southeastern portion of Unit 12. During the summer the CCH spends most of their time in Alaska primarily on Federal public lands within the WRST, although there is some overlap with Tetlin National Wildlife Refuge (NWR) and adjacent State lands. During the winter the CCH spends most of their time in the Yukon Territory, Canada on the Kluane Wildlife Sanctuary and the Asi Keyi Natural Environmental Park. Since this international herd ranges across multiple jurisdictions, multiple land agencies are involved and responsible for the management of the CCH.

The CCH is a genetically distinct population (Zittlau et al. 2000, Zittlau 2004). In Canada, the CCH is classified as woodland caribou, whereas in Alaska the CCH is classified a barren-ground caribou (Miller 2003). Genetic analysis of the CCH found large genetic distances between the CCH and the other five adjacent herds, which suggests that the herd has been unique for thousands of years (Zittlau et al. 2000). Behaviorally, the CCH is typical of other mountain herds, particularly with respect to calving females, where, rather than aggregating in certain areas like barren-ground caribou, they disperse up in elevation away from other calving females as an anti-predator strategy (Farnell and Gardner 2002). Occasionally the CCH mix with the Nelchina and Mentasta caribou herds during the winter in Alaska and in the vicinity of Beaver Creek, Yukon Territory, Canada. For example in 1989/1990, a large portion of the CCH shifted northeast into the upper and middle portions of Beaver Creek, where some mixing between the CCH, NCH, and MECH occurred (Lieb et al. 1994).

In Canada, the Canadian Wildlife Service (CWS) has designated the Northern Mountain Caribou population, which includes the CCH, as a species of "Special Concern" under the Canadian Federal Species at Risk Act (SARA). In 2002, the CCH was designated as "Specially Protected" under the Yukon Wildlife Act, which prohibits all licensed harvest of the CCH in Canada and requires a regulation change to initiate a harvest. A cooperative draft CCH Management Plan and Yukon CCH Recovery Plan were developed for the CCH in 2001 and 2002, respectively. In 2009, a working group consisting of members from the Government of Yukon, ADF&G, White River First Nation, Kluane First Nation, the NPS, and the USFWS developed a five-year Management Plan for the CCH (Chisana Caribou Herd Working Group 2012). The working group is now in the process of updating the plan (Cellarius 2022, pers. comm.).

The CCH Management Plan guidelines for harvest are as follows:

- A bull:cow ratio greater than 35 bulls: 100 cows.
- A calf:cow ratio greater than 15 calves: 100 cows based on a 3-year average, and •
- A stable or increasing population trend.

The CCH Management Plan guidelines for harvest include a maximum harvest allocation of 2% of the herd size, a bull-only harvest, and an allocation equally distributed between Yukon Territory and Alaska (Chisana Caribou Herd Working Group 2012).

Information about the CCH prior to 1970s is limited. The population estimate from the first survey conducted in 1977 was about 1,000 caribou (Kellyhouse 1990). In 1988, the CCH reached a peak of 1,900 caribou (Kellyhouse 1990) and then declined to an estimated low of 315 in 2002 (Farnell and Gardner 2002). Since 1988, a majority of the CCH have been located east of the Nabesna River (Bentzen 2011). Adverse weather conditions, poor habitat, predation, and harvest pressure were factors for the low calf recruitment and high adult mortality associated with the 1990s decline (Farnell and Gardiner 2002).

From 2003-2006, a recovery effort, which included an intensive captive rearing program to increase recruitment and calf survival, was conducted by the U.S. Geological Survey and CWS. The recovery effort involved capturing pregnant cows and enclosing them in holding pens during the last weeks of gestation and for a few weeks following calving. An intensive radio-collaring program was also initiated in 2003 along with the captive rearing program, which resulted in more reliable population and composition data. Therefore, sex and age composition and herd size estimates prior to 2003 are not directly comparable to those after 2003 (**Table 2**) (Bentzen 2011, 2013; Gross 2015, Putera 2017b).

In 2010, the CCH population was stable at 696 animals and the 3-year average for the bull:cow and calf:cow ratios were 45 bulls:100 cows and 20 calves:100 cows (Bentzen 2011, Gross 2015). 2010 was the last year a population estimate was determined, but composition sample sizes from 2011-2021 ranged from 373-631 caribou (**Table 2**). The 2017 bull:cow ratio of 32 bulls:100 cows was below the minimum threshold of 35 bulls:100 cows set by the CCH Management Plan, triggering a meeting of the management authorities. This occurred as part of the conversations regarding updating the plan, and the consensus of the group was that a 3-year running average was a more appropriate threshold vs the minimum yearly threshold set by the Management Plan, therefore the 2018 hunt could occur (Cellarius 2018a). From 2018-2021, the bull:cow ratio was above the threshold averaging 42 bulls:100 cows. However, the calf:cow ratio averaged 14 calves:100 cows, which was below the minimum threshold set by the Management Plan, resulting in the closure of the 2022 CCH hunt (Cellarius 2022, pers. comm., Chisana Caribou Herd Working Group, 2012).

In 2020, 11 GPS/Iridium and 17 VHF radio collars were deployed on the Alaska side of the CCH range, and Yukon Environment planned to deploy collars on the Yukon side in 2021 (Putera 2021). As of October 2022, there were 42 active collars in the herd, a mix of 17 GPS/Iridium collars and 25 VHF collars (Cameron 2022).



Map 2. Ranges of the Nelchina, Mentasta, Macomb, and Chisana caribou herds.

Table 2. Fall sex and age composition of the Chisana Caribou Herd, 2000-2021 (Chisana Caribou
Herd Working Group 2012; Gross 2015; Putera 2014, 2017b, 2022; Taylor 2018; Cellarius 2022, pers.
comm.; Cutting 2022 pers. comm.).

Regulatory Year	Total Bulls:100 Cows	Calves: 100 Cows	Calves (%)	Cows (%)	Bulls (%)	Composition Sample Size /Observed	Estimated Herd Size
2000ª	20	6	5	80	15	412	425
2001 ^a	23	4	3	79	18	356	375
2002 ^a	25	13	10	72	18	258	315
2003 ^b	37	25	15	62	23	603	720
2005 ^b	46	23	14	59	27	646	706
2006 ^b	48	21	13	59	28	628	-c
2007 ^b	50	13	8	61	30	719	766
2008	44	21	13	61	27	532	-
2009	48	15	9	61	30	505	-
2010	42	23	14	61	25	622	697
2011	38	16	14	66	25	542	-
2013	49	16	-	-	-	631	-
2014	40	23	-	-	-	528	-
2015	40	19	-	-	-	399	-
2016	46	28	-	-	-	534	-
2017	32	21	-	-	-	533	-
2018	39	13	9	65	25	373	-
2019	43	17	11	63	27	445	-
2020 ^d	-	-	-	-	-	-	-
2021	45	12	8	64	29	420	-

^a Surveys conducted by ADF&G based on a visual search of the herd range.

^b USGS survey results.

^c Not available.

^d No composition count

Harvest History

The CCH has historically been an important food source for the Athabascans of Alaska and the First Nations of the Yukon in Canada (Gross 2007). During the early to mid-1900s, the CCH was used as a subsistence food source by the Ahtna and Upper Tanana Athabascans. Although subsistence hunting has declined in recent years, the CCH continues to be an important aspect of Upper Tanana and Ahtna Athabascan culture. Subsistence use of the CCH declined after 1929. For the last 60 years, few people in Alaska or the Yukon have depended on the CCH as a food source (Bentzen 2011), although First Nation members continued to harvest from the CCH in the Yukon through the 1990s.

In addition to providing an important subsistence resource, in the late 1920s, Chisana caribou became economically important to local hunters as guided hunting became common in the Chisana area.

Caribou from the Chisana herd were harvested by nonresident hunters guided by local guides until 1994, when the CCH closed under State and Federal regulations. Primarily five guide/outfitters hunted the herd (4 operated in Alaska and 1 in the Yukon). Bulls were desired by sport hunters, because of their large stature. In 1989 and 1990 the reported harvest of Chisana caribou in the Yukon was 18 and 11 animals, and in Alaska was 34 and 34 animals, respectively (Gross 2005). From 1990 to 1994, 43% of the hunters participating in the CCH hunt were nonresidents, who were responsible for 58% of the CCH harvest. Local subsistence users accounted for only 9% of the CCH harvest during that time period (Gross 2005).

Gross (2005) also reported that the estimated unreported harvest of Chisana caribou between 1989 and 2002 ranged from 1-20 in the Yukon and 1-3 caribou in Alaska each year. After 2001, Yukon First Nation members voluntarily stopped harvesting Chisana caribou and there continues to be no legal harvest of Chisana caribou in the Yukon. Additionally, no legal harvest of CCH occurred in Alaska between 1994 and 2012. The hunt was closed under State and Federal regulations between 1994 and 2010. The hunt remained closed under Federal regulations from 2010 and 2012 but limited harvest of the CCH consistent with the herd's management plan was authorized by the State in 2010. A concurrent proposal, WP10-104, was submitted to the Board but was deferred in 2010.

At its January 2012 meeting, the Board authorized a limited harvest of the CCH consistent with the CCH Management Plan. The Board delegated authority to the WRST Superintendent to open and close the season and to announce the harvest quota, the number of permits to be issued and the reporting period. Based on the estimated population size and the guidance in the management plan, the harvest quota for the 2012 hunt was set at seven animals.

The NPS met with participating communities, associated tribal governments and other stakeholders to ask for their input regarding permit distribution. As a result, a decision was made to allocate two permits to each of the four eligible communities with Federally recognized tribal governments (Chistochina, Mentasta Lake, Northway, and Tetlin) with the understanding that all community residents, not just tribal members, would be considered for permit distribution. Any remaining permits would be made available to Tok and Chisana residents on a first come-first served basis. The number of permits was limited to fourteen and the reporting period requirement was set at within three days of harvest. However, after several years, WRST learned that the remote location for this hunt resulted in few permits being issued. Therefore, permits are issued on a first-come, first-served basis, and WRST has not exercised its authority to limit the number of permits issued (Celarius 2022, pers. comm.).

Between 2012 and 2021, only eight permits have been issued per year on average, a total of fourteen Chisana caribou have been taken, and success rates have averaged < 35% per year (**Table 3**, FWS 2022). For the 2022 season, the WRST superintendent issued an Emergency Special Action setting the harvest quota to zero due to the 3-year rolling calf:100 cow ratio dropping to 14 calves:100 cows (Bobowski 2022). The threshold set in the CCH Management Plan guidelines for harvest is 15 calves:100 cows.

Table 3. Summary of the Chisana caribou harvest in the southeast portion of Unit 12 (FC1205) (FWS 2022).

Year	Permits Issued	Individuals Hunting	Caribou Harvest	Success Rate (%) ^a
	(FC1205)	(Permits used)		
2012	9	8	2	25.0
2013	9	7	3	42.9
2014	11	8	2	25.0
2015	11	7	0	0
2016	8	8	1	12.5
2017	9	3	0	0
2018	6	2	2	100.0
2019	4	3	1	33.3
2020	7	4	3	75
2021	5	1	0	0
2022 ^b	0	0	0	0

^a Success rate is calculated based on the number of individuals hunting, not total permits issued. ^b Hunt was closed for the entire 2022 season.

Effects

The CCH population has remained low with poor composition metrics. In 2022 an emergency special action set the harvest quota at zero due to low calf:cow ratios, effectively closing the 2022 hunt. Sustainable harvest is already relatively low under the current closure to caribou harvest by non-Federally qualified users. Rescinding the closure would increase harvest opportunities for non-Federally qualified users, but could lead to unsustainable harvest levels if the State opened a drawing permit hunt.

Retaining status quo for this closure would continue to provide for subsistence harvest opportunity when herd metrics allow for a sustainable harvest. Retaining status quo would also protect the CCH from overharvest and continue to provide management flexibility and the ability to quickly respond to changing herd conditions by maintaining the WRST Superintendent's delegated authority to open and close the season, and to announce the harvest quota, the number of permits issued, and the reporting period.

The closure could be modified to include all user groups. This would eliminate all hunting pressure on the CCH within the closure area. However, this would also preclude subsistence harvest opportunity by removing the WRST Superintendent's ability to announce harvest quotas and issue permits to Federally qualified subsistence users when the CCH meets the criteria outlined in the CCH Management Plan guidelines for harvest.

OSM PRELIMINARY CONCLUSION:

- X Retain the Status Quo
- _ Rescind the Closure
- _ Modify the closure to . . .
- _ Defer Decision on the Closure or Take No Action

Justification

While the 2022 CCH hunt was closed due to conservation concerns, the WRST Superintendent has Delegated Authority to open and close the season, and to announce the harvest quota, the number of permits issued and the reporting period. Thus, allowing flexibility for in-season management based on the current status of the herd optimizes subsistence hunting opportunity and conservation of the CCH. This is also consistent with recommendations and management guidelines in the CCH Management Plan (Chisana Caribou Herd Working Group 2012).

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FEDERAL WILDLIFE CLOSURE REVIEW WCR24-42

Issue: Wildlife Closure Review WCR24-42 reviews the closure to caribou hunting by all users in the southwestern portion of Unit 12. The closure targets the Mentasta Caribou Herd and applies to all users.

Closure Location and Species: Unit 12, that portion within the Wrangell-St. Elias National Park that lies west of the Nabesna River and the Nabesna Glacier – Caribou (**Map 1**).

Current Federal Regulation

Unit 12-Caribou

Unit 12—that portion within the Wrangell-St. Elias National Park and No Federal open *Preserve¹ that lies west of the Nabesna River and the Nabesna Glacier.* season

All hunting of caribou is prohibited on Federal public lands.

¹The Code of Federal Regulations (CFR) only includes Wrangell-St. Elias (WRST) National Park in this regulation and not WRST National Preserve. This is an error that will be corrected administratively as soon as possible.

Closure Dates: Year-round

Current State Regulation

Unit 12 – Caribou

Unit 12, remainder – Residents and Nonresidents

No open season

Regulatory Year Initiated: 1993

The original closure was for: *that portion west of the Nabesna River within the drainages of Jack Creek, Platinum Creek, and Totschunda Creek - The taking of caribou is prohibited on public lands.*

Extent of Federal Public Lands

Federal public lands comprise approximately 61% of Unit 12 and consists of 48% National Park Service (NPS) managed lands, 11% U.S. Fish and Wildlife Service managed lands (FWS), and 2% Bureau of Land Management (BLM) managed lands. Federal public lands comprise nearly 100% of the closure area and consist 100% of NPS managed lands (**Map 1**).



Map 1. Federal closure for caribou in Unit 12. The cross-hatched area targets the Mentasta caribou herd and is closed to all users. The stippled area targets the Chisana caribou herd and is closed to non-Federally qualified users.

Customary and Traditional Use Determination

Residents of Unit 12, Chistochina, Dot Lake, Healy Lake, and Mentasta Lake have a customary and traditional use determination for caribou in Unit 12.

Under the guidelines of Alaska National Interest Lands Conservation Act (ANILCA), National Park Service regulations identify qualified local rural subsistence users in National Parks and National Monuments by: (1) identifying Resident Zone Communities that include 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.

Wrangell-St. Elias National Park has 23 resident zone communities: Chisana, Chistochina, Chitina, Copper Center, Dot Lake, Gakona, Gakona Junction, Glennallen, Gulkana, Healy Lake, Kenny Lake, Lower Tonsina, McCarthy, Mentasta Lake, Nabesna, Northway, Slana, Tazlina, Tanacross, Tetlin, Tok, Tonsina, and Yakutat.

Regulatory History

In 1991, two hunt areas were identified in the Federal subsistence hunting regulations for caribou in Unit 12. For Unit 12 west the Nabesna River within the drainages of Jack Creek, Platinum Creek and Totschunda Creek, the regulations were one bull by Federal registration permit with a quota of up to 50 bulls in Units 11 and 12 combined and a season of Aug. 10 to Sept. 30. For Unit 12 remainder the regulations were one bull from Sept. 1-20 and one caribou during a to-be-announced winter season for residents of Tetlin and Northway only as they had a customary and traditional use determination for the Nelchina Caribou Herd (NCH) in Unit 12 (OSM 1991a). Dates for the September season in the remainder have remained unchanged since then; however, some of the area was subsequently closed to the harvest of caribou due to conservation concerns.

Also in 1991, the Federal Subsistence Board (Board) approved Special Action Requests S91-05 and S91-08. Special Action S91-05 opened the winter caribou hunt in Unit 12 remainder on Oct. 28 (OSM 1991b) and S91-08 closed it on Dec. 9 after subsistence needs had been met (OSM 1991c).

In 1992, the Board rejected Proposals P92-105 (OSM 1992a) and P92-106 (OSM 1992b) due to biological concerns. Proposal P92-105 requested eliminating the to-be-announced winter caribou season in Unit 12 remainder and Proposal P92-106 requested lengthening the fall caribou season in Unit 12 remainder from Sept. 1-20 to Aug. 20-Sept. 20. The Board determined that there was no biological reason to eliminate the winter hunt and that extending the September hunt could impact the declining Mentasta Caribou Heard (MECH) and jeopardize the more popular winter hunt.

Also in 1992, the Board adopted Proposal P92-107, which changed the harvest limit for the winter caribou season in Unit 12 remainder from one caribou to one bull in order to protect the declining MECH, which mixes with the NCH in Unit 12 during the winter (OSM 1992c).

In 1993, the Board adopted Proposal P93-034 to close all of Unit 11 and the area in Unit 12 west of the Nabesna River within the drainages of Jack Creek, Platinum Creek, and Totschunda Creek to caribou hunting to protect the declining MECH (OSM 1993). There has been no Federal open season and Federal public lands have remained closed to all users since 1993 for Unit 12 west of the Nabesna River and Nabesna Glacier.

In 1994, the caribou hunt areas in Unit 12 were split from two areas: 1) Unit 12, that portion lying west of the Nabesna River within the drainages of Jack, Platinum, and Totschunda creeks and 2) Unit 12-remainder, to three hunt areas: 1) Unit 12 west of the Nabesna River within the drainages of Jack, Platinum, and Totschunda creeks, 2) Unit 12, that portion lying east of the Nabesna River and south of the Winter Trail running southeast from Pickerel Lake to the Canadian border, and 3) Unit 12-remainder (OSM 1994). In 1994, the Board also adopted Proposal P94-71, which closed the area east of the Nabesna River to the Canadian border to the harvest of caribou to protect the declining Chisana Caribou Herd (CCH) (OSM 1994). The closure for the MECH remained in effect for the area west of the Nabesna River.

In 2000, the areas previously designated west and east of the Nabesna River were combined into one hunt area via adoption of Proposal P00-59. This combination of hunt areas was because 1) the winter ranges of the Mentasta and Nelchina herds overlap and 2) with the popularity of the Nelchina herd, additional regulations prohibiting the taking of caribou in the proposal area are necessary to protect the Mentasta herd (OSM 2000):

The entire area remained closed to caribou hunting under Federal subsistence regulations until 2012. In 2012, the Board considered Proposals WP10-104 and WP12-65/66, which all requested establishing hunts for the CCH (OSM 2012a). WP12-66 requested restricting the hunt to Federal public lands in Unit 12 east of the Nabesna River and the Nabesna Glacier. OSM noted in its justification for WP12-66 that restricting the CCH hunt to this area would protect the MECH with minimal impact to subsistence hunters wanting to harvest caribou from the CCH (OSM 2012a). The Board took no action on WP10-104 and WP12-65 and adopted WP12-66 with modification, resulting in the areas west and east of the Nabesna River once again being divided into two hunt areas (OSM 2012a): 1)

Unit 12 – that portion within the Wrangell-St-Elias National Park and Preserve that lies west of the Nabesna River and the Nabesna Glacier, and 2)

Unit 12 – that portion east of the Nabesna River and the Nabesna Glacier and south of the Winter Trail running southeast from Pickerel Lake to the Canadian border.

Also in 2012, the Board adopted Proposal WP12-68, submitted by the Cheesh'na Tribal Council, which requested the residents of Chistochina be added to the Unit 12 caribou customary and traditional use determination (OSM 2012b).

In 2020, the Board approved a revised closure policy, which stipulated all closures will be reviewed every four years. The policy also specified that closures, like regulatory proposals, will be presented to the Councils for a recommendation and then to the Board for a final decision. Previously, closure

reviews were presented to Councils who then decided whether to maintain the closure or to submit a regulatory proposal to modify or eliminate the closure

In 2020, the Board voted to maintained status quo for Closure Review WCR20-42 due to continued conservational concerns. This closure review was a combined review of the closure targeting the MECH in the southwestern portion of Unit 12 and the closure targeting the CCH in the southeastern portion of Unit 12.

In 2022, the Board adopted Proposal WP22-35 with modification. Proposal WP22-35 requested establishing a may-be-announced caribou season in Unit 11 with a harvest limit of one bull by Federal registration permit. The modification was to delegate authority to the Wrangell-St. Elias National Park and Preserve (WRST) Superintendent to announce season dates, harvest quotas, and the number of permits to be issued; to define harvest areas; and to open and close the season in Unit 11 via a delegation of authority letter only. The intent of this proposal was to increase hunting opportunities for Federally qualified subsistence users when Nelchina caribou migrate through Unit 11, while protecting the MECH. The modification provided for timely in-season management, mitigating impacts on the MECH while allowing for subsistence hunting when Nelchina caribou are present.

Closure last reviewed: 2020 – WCR20-42

Justification for Original Closure:

Section §816(b) of ANILCA states:

Except as specifically provided otherwise by this section, nothing in this title is intended to enlarge or diminish the authority of the Secretary to designate areas where, and establish periods when, no taking of fish and wildlife shall be permitted on the public lands for reasons of public safety, administration, or to assure the continued viability of a particular fish or wildlife population.

The Board adopted Proposal P93-034, which established the closure because it was necessary to assure the Mentasta herd's continued viability. The available biological data clearly demonstrated that the MECH was of great conservation concern due to severe population declines, poor calf survival, and potential overharvest. The Board stated that the regulation would clarify that public lands are closed to all caribou hunting in Unit 11 and a portion of Unit 12 (OSM 1993).

Council Recommendation for Original Closure:

This closure was initiated prior to the establishment of the Federal Subsistence Regional Advisory Councils.

State Recommendation for Original Closure:

ADF&G supported the closure because the State season for Mentasta caribou in this area had been closed for several years (OSM 1993). From 1985-1992, the MECH decreased from a peak population

of 3,100 caribou to 1,300 and the fall calf:cow ratio had fallen below the threshold level required to balance the mortality of the adults (\approx 15%) during the previous 2-3 years. The near total reproductive failure in 1991 and 1992 resulted in the population age structure being skewed towards the older age classes, which generally results in delayed recovery (OSM 1993).

The MECH is subject to unknown harvest when it mixes with the NCH during the winter. In addition, the extent of the illegal harvest is unknown, but considering the number of small rural communities they pass through during migration, it is likely high. Thus, the potential for over-harvest of this small herd is high. Thus, closing the subsistence hunt on the MECH was necessary to assure the herd's continued viability (OSM 1993).

Biological Background

The ranges of the Mentasta, Chisana, and Nelchina caribou herds overlap in Unit 12 (**Map 2**). The MECH occurs primarily in the western and northern portion of Unit 12 (Unit 12, remainder and Unit 12, southwest) and the northern portion of Unit 11 within WRST. The MECH disperses across Unit 12 and southern Unit 20E in winter, often intermingling with the NCH (MECH Mgmt. Plan 1995).

While the NCH and MECH are considered distinct herds because females calve in separate areas, the herds mix during some breeding seasons, resulting in male-mediated gene flow (Roffler et al. 2012). Therefore, the Nelchina and Mentasta herds function as a genetic metapopulation, although Nelchina and Mentasta cows have discrete mitochondrial DNA (Roffler et al. 2012).

The NCH was declining and at the lower end of the State population objectives in 2018 (ADF&G 2018, Hatcher 2018, pers. comm.). In 2022, the NCH population had dropped to 21,000 caribou, well below the lower end of the State's fall population objective of 35,000 to 40,000 Nelchina caribou. Multiple Nelchina caribou hunts were closed early by Emergency orders (04-02-22, 04-03-22, 04-06-22, and 04-08-22) due to harvest quotas being reached quickly (ADF&G 2022) However, since this closure targets the MECH and is not associated with the NCH, the NCH is not considered further in this analysis.

The CCH is a shared population between Alaska and Southern Yukon Territory, Canada. Since this international herd ranges across multiple jurisdictions, multiple land agencies are involved and responsible for the management of the CCH. In Alaska the CCH occurs primarily on Federal public lands within the WRST, although there is some overlap with Tetlin National Wildlife Refuge (NWR) and adjacent State lands. In the Yukon Territory, the CCH ranges within the boundaries of Kluane Wildlife Sanctuary and Asi Keyi Natural Environmental Park. Since the overlap between the CCH and MECH is minimal, the CCH is considered in a separate analysis (WCR24-35).

The MECH calves and summers within the upper Copper River Basin and the northern and western flanks of the Wrangell Mountains (OSM 2018). The calving grounds for the MECH are located in northern Unit 11 within WRST (MECH Mgmt. Plank 1995, **Map 2**). Barten et al. (2001) found that parturient cows from the Mentasta herd used birth sites that lowered the risk of predation and traded-off forage abundance for increased safety. Minimizing risk of predation of neonates may result in

ungulates selecting habitats that compromise their ability to optimize foraging (Bowyer et al. 1999, Barten et al. 2001). Female Mentasta herd caribou used sites at higher elevations with sub-optimal forage, presumably to avoid predators, and, when <10 day old neonates were lost, females descended from the higher elevations to join other non-parturient females. In addition, females with neonates >10 days old also descended to join the larger group of females, which coincides with moving out of the riskiest period of predation on ungulate neonates (Adams et al. 1995a).

In 1995, Federal and State biologists completed the Mentasta Herd Cooperative Management Plan, which specifies the following management objectives (MECH Mgmt. Plan 1995):

- To the extent possible, allow for human harvest that will have minimal effects on the production, composition, and abundance of Mentasta caribou.
- To provide harvest priority to Federally-eligible subsistence users and to allow State authorized hunting to occur whenever possible.
- To monitor the herd demographics and harvest such that all pertinent data on the health of the herd are collected and disseminated to all agencies and citizens concerned with their management.

The MECH Management Plan (1995) states "an annual fall harvest quota will be established between 15 and 20 percent of the previous 2-year mean calf recruitment as long as such recruitment is at least 80 calves. In addition, at population levels below 2,000 the harvest limit will be limited to "bulls only" and will be closed if the 2-year mean bull:cow ratio drops below 35 bulls:100 cows." When fall annual quotas are greater than 70 both non-Federally and Federally qualified users are allowed to hunt the MECH during the fall season. When the fall annual quota falls below 70, only Federally qualified subsistence users are allowed to hunt the MECH during the fall season. If it is below 30, a §804 analysis will determine the allocation of permits among the Federally qualified subsistence users.

Since 2000, managers at Tetlin NWR have used a 20:1 mixing ratio of Nelchina caribou to Mentasta caribou as the minimum threshold for considering winter season openings. The Tetlin NWR monitors the location and movement of radio-collared Mentasta and Nelchina caribou through aerial surveys. This information is used to determine a reliable mixing ratio with the NCH. In 2016 and 2017 the number of active collars in the MECH declined to 10, which was too few to adequately determine a reliable mixing ratio with the NCH. In 2018-19, staff from the WRST and ADF&G deployed an additional 20 GPS/Satellite radio-collars in the MECH (Putera 2021, pers. comm.). ADF&G has also deployed several GPS/Satellite collars in the NCH.

The MECH population declined from an estimated 3,160 caribou in 1987 to an estimated 495 caribou in 2021 (**Table 1**). The fall population estimate in 2020 was 1,150 caribou; however, the increase from 479 caribou in 2019 is not explained by calf production the previous year but may be due in part to Nelchina caribou returning late from their winter range. Some of these late returning caribou may have failed to migrate back to their traditional calving grounds, remaining within the Mentasta summer range. This theory is supported by the presence of three radio-collared Nelchina caribou in the Mentasta caribou summer range in 2020. The number of caribou observed during the Mentasta caribou

survey in June 2021 dropped back to levels observed in 2019, further supporting the temporary presence of Nelchina caribou in the Mentasta caribou summer range in 2020. However, one radio collared Nelchina cow was present during the 2021 June census (Putera 2021, pers. comm.).

The extremely low calf:cow ratios of 2-6 calves: 100 cows from 1991-1993 (OSM 1992d) resulted in a complete failure of fall recruitment of young in the MECH (Jenkins and Barton 2005). Dale (2000) postulated that this may have been due to poor body condition from poor forage quality in the summer. Poor forage quality in the summer can cause cow caribou to skip a breeding season to regain body condition due to being nutritionally stressed. The resulting decrease in body condition in female caribou can have a negative effect on productivity by causing lower weight gain or survival in calves (Crete and Huot 1993, Dale 2000).

Between 1990 and 1997, Jenkins and Barten (2005) confirmed predation, particularly by gray wolves and grizzly bears, as the proximate cause of the MECH population decline. Grizzly bears were the most important predators of neonates, and gray wolves mostly predated on older juvenile caribou in the MECH. The combined predation by bears and wolves was 86% during the neonate and summer periods. In comparison, predation of calves in the Denali Caribou Herd from 1984 to 1987 by wolves and bears was only 53% (Adams et al. 1995b). Factors such as the timing of birth and habitat at the birth site, particularly snow patterns, affected the vulnerability and survival of neonates, and birth mass affected the survival of juveniles through summer (Jenkins and Barten 2005). The MECH declined at the greatest rate from 1990-1993 compared to 1994-1997. Winter severity was postulated to decrease the birth mass of neonates and, thus, the survival and vulnerability of neonates and juveniles (Jenkins and Barton 2005).

The MECH population has remained stable at relatively low levels since 2000 as evidenced by low calf productivity (barring the anomalous 2020 population estimate) (Putera 2021, pers. comm.). Between 2000 and 2022, June and fall calf:cow ratios fluctuated ranging from 1-38 calves:100 cows and 0-34 calves:100 cows, respectively (**Table 1**, OSM 2018). Low calf production and survival and high cow mortality from 1987-2009 were the primary causes for the population declines in the MECH. The number of cows observed during the fall surveys declined from 2,065 in 1987 to 54 in 2016 (OSM 2012b).

Between 1987 and 2021, the bull:cow ratio has fluctuated widely (Putera 2019, Putera 2021, pers. comm.), ranging from 35-142 bulls:100 cows and averaging 66 bulls:100 cows. Fall surveys conducted within the same 23-year period also revealed severe declines in total observed Mentasta bulls from 847 bulls in 1987 to 40 bulls in the fall 2011 survey. Since 2011, the number of Mentasta bulls has slightly rebounded to 78 bulls observed in the fall 2021 survey (**Table 1**). Although observed fall bull:cow ratios appear high, the number of cows observed is small and the bull component likely includes a significant number of Nelchina bulls. While Nelchina bulls have wintered within the range of the Mentasta herd (OSM 2018), the range of the Nelchina herd has varied widely due to burns and their effect on lichen availability within the Nelchina herd's traditional area (Collins et al. 2011). Thus, there is limited ability to predict the extent or frequency of mixing between Nelchina and Mentasta bulls,

and it is impossible to discern whether the harvest of a bull would be from the Nelchina or Mentasta herd.

Higher numbers of adult bulls in the population are important as it helps maintain synchrony in parturition. Holand et al. (2003) showed that skewed sex ratios and an increased proportion of young bulls in populations of reindeer could result in fewer adult females conceiving during their first estrous cycle due to their hesitation to mate with young bulls. Maintaining synchrony in parturition also provides increased survival chances for calves since parturition is typically timed with the start of plant growth (Bergerud 2000). Late-born offsprings have been shown to have lower body mass than caribou offspring produced earlier in the season (Holand et al. 2003), which can lead to lower juvenile survival rates due to density dependent factors of winter food limitation (Skogland 1985) and deep snows (Bergerud 2000).

The term ecotype designates populations of the same species that evolved different demographic and behavioral adaptations to cope with specific ecological constraints. The MECH is considered a sedentary and low-density ecotype (Bergerud 1996, Hinkes et al. 2005) versus a migratory and high density ecotype, such as the Nelchina herd, and is thus more susceptible to extreme random events. A key factor in distinguishing between two ecotypes is whether animals are dispersed or aggregated when young are born (Seip 1991, Bergerud 2000). The chronic low calf productivity and recruitment of the MECH could make random environmental events a primary driver for a more severe population decline (Tews et al. 2006). Increased winter mortality due to icing events may result in malnutrition and starvation for more susceptible calves as well as for bulls with depleted energy reserves following the rut (Dau 2011, Miller and Gunn 2003). Bull caribou die at a higher rate than cows due to greater energy demands during early winter rutting activities, which greatly reduce their body reserves (Russell et al. 1993, Miller and Gunn 2003).



Map 2. Ranges of the Nelchina, Mentasta, Macomb, and Chisana caribou herds.

Table 1. Population size and composition of the Mentasta caribou herd (OSM 2012b, 2018, 2020)
FWS 2018, Putera 2019, Putera 2021, pers. comm.).

Year	June Calves:100 Cowsª	Fall Cows	Fall Calves	Fall Bulls	Fall Calves: 100 cows	Fall Bulls: 100 cows ^b	Fall Population Estimate ^c
1987	18	2065	248	847	12	41	3,160
1988	34	1540	277	662	18	43	2,480
1989	31	1615	727	258	16	45	2,600
1990	-	-	-	-	-	-	-
1991	3	1347	27	566	2	42	1,940
1992	16	973	58	399	6	41	1,430
1993	9	683	27	260	4	38	970
1994	19	591	65	224	11	38	880
1995	26	541	119	189	22	35	850
1996	16	534	59	187	11 ^d	35 ^d	780

	lune				Fall	Fall	
Year	Calves:100	Fall	Fall	Fall	Calves:	Bulls:	Fall Population
	Cows ^a	Cows	Calves	Bulls	100 cows	100	Estimate ^c
					100 00110	cows ^b	
1997	15	432	23	159	5	40	610
1998	13	350	35	150	10	42	540
1999	13	230	22	177	10	77	430
2000	1	297	0	175	0	59	470
2001	11	228	12	150	5	66	586 ^g
2002	21	190	55	86	29	45	410 ^g
2003	17	223	38	101	16	46	522 ^g
2004	8	-	-	-	5 ^e	-	293 ^f
2005	23	113	17	78	15	69	261
2006	-	66	20	51	30	77	-
2007	23	93	27	72	29	77	280
2008	14	89	18	65	20	73	319 ^h
2009	12	79	8	68	10	86	421 ^h
2010	25	88	22	106	25	120	336 ^h
2011	-	101	29	40	29	40	
2012	-	58	20	49	34	84	-
2013	38	88	20	68	23	77	512
2014	-	-	-		-	-	-
2015	-	60	20	44	33	73	-
2016	-	54	18	77	33	142	-
2017	11	91	18	79	18	87	389
2018		72	16	66	22	92	470
2019		113	29	100	26	95	479
2020	6	98	18	75	18	77	1150
2021	12	100	14	78	14	78	495

^a Includes small bulls that are indistinguishable from cows during fixed-wing flights.

^b Observed high bull:cow ratios likely due to presence of Nelchina bulls.

^c Population estimates between 2008 and 2017 are based on a June census of cows corrected for sightability, the fall calf:cow ratio, and a fall ratio of 30 bulls:100 cows.

^d 1996 fall composition count was not conducted, because of early mixing with the NCH. Fall calf/cow was estimated from postcalving calf/cow ratio and survival radio-collared cows (0.70; 30 June – 30 September).

^e 2004 Fall composition count was not conducted due to budget restraints. Fall calf/cow ratio estimated from post-calving calf:cow ratio and average (1987-2003) calf survivorship (0.63).

^f 2004 population estimate is based on extrapolation from June census, adjusted for average calf survivorship and average bull ratios.

⁹ September population estimates are adjusted based on sightability probabilities.

^h September population estimates are adjusted based on sightability probabilities and assuming a ratio of 30 bulls: 100 cows within the MECH to adjust for mixing with the NCH.

Harvest History

There has been no Federal open season since 1993 for the area west of the Nabesna River and Nabesna Glacier in Unit 12. In Unit 11, there was a small Federal subsistence harvest from 1996–1998 due to MECH management objectives being met for calf production and recruitment (MECH Cooperative Management Plan 1995). Harvest in the 1996/97 season was one caribou with 15 permits issued. In the 1997/98 season, 12 permits were issued but no caribou harvest was reported. There has been no reported harvest from the MECH since 1998 as both State and Federal seasons have remained closed. However, some incidental harvest of Mentasta caribou may take place during winter hunts targeting the Nelchina and Forty-mile Caribou Herds in Unit 12, remainder. While the MECH Management Plan does not specify an appropriate mixing ratio, the 20:1 ratio has been used as the minimum threshold for considering winter season openings by the Federal in-season managers since at least 2000 (OSM 2000). The MECH Management Plan suggests that incidental harvest of Mentasta caribou is usually minimal (MECH Management Plan 1995). In 2012, the Board excluded the area west of the Nabesna River and Nabesna Glacier to protect the MECH when it established a Federal registration hunt for the CCH in Unit 12 east of the Nabesna River and Nabesna Glacier and south of the Winter Trail (OSM 2012a). The caribou hunt established in 2022 in Unit 11 may also result in incidental harvest of Mentasta caribou, if announced, although the hunt was designed to mitigate harvest from the MECH.

Other Alternatives Considered

One alternative considered is to delegate authority to the WRST Superintendent to announce season dates, harvest quotas, and the number of permits to be issued; to define harvest areas; and to open and close the season for caribou on Federal public lands in the southeastern portion of Unit 12, similar to the may-be-announced caribou hunt just established in Unit 11 via adoption of Proposal WP22-35. The location, timing and numbers of the NCH mixing with the MECH varies year-to-year and in some years Nelchina caribou do not mix with the MECH. Granting delegated authority to the WRST Superintendent would allow harvest and seasons to reflect when the NCH is present and allow use of the most current biological data to minimize incidental harvest of Mentasta caribou, while providing for subsistence opportunity. This would also align the eastern portion of WRST in Unit 12 with the recent changes in the western portion of WRST in Unit 11.

Delegating authority to define harvest areas would facilitate opening areas of WRST to harvest where the caribou present are primarily from the Nelchina herd, while avoiding areas with concentrated numbers of Mentasta caribou.

However, this is outside of the scope of a closure review and would require a proposal be submitted.

Effects

The MECH remains at very low numbers and any harvest from the herd would be of conservation concern. If the closure is rescinded, then all users could hunt caribou in this area. However, proposals would need to be submitted and adopted to establish hunts as State and Federal seasons are both currently closed. Similarly, if the closure were modified to open to Federally qualified subsistence users only, there'd be potential for increased harvest opportunity, but a proposal to the Board would be

needed to establish a hunt. If the status quo is retained, then hunting pressure on the MECH, which is still of a great conservation concern, would continue to be minimized.

OSM PRELIMINARY CONCLUSION

- X Retain the Status Quo
- _ Rescind the Closure
- _ Modify the closure to . . .
- _ Defer Decision on the Closure or Take No Action

Justification

The MECH population remains low despite a moratorium on hunting since 1993, and no harvestable surplus is available. The closure should be retained to protect the MECH and remains necessary to assure its continued viability.

Opportunity to harvest Nelchina caribou in this hunt area may be possible if reliable mixing ratios can be determined and authority is delegated to a Federal manager to allow for flexible and timely inseason hunt management. However, that option is beyond the scope of this closure review.

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	WP24-01 Executive Summary
General Description	Proposal WP24-01 is a request to allow the sale of brown bear hides. Submitted by: Kaleb Rowland
Proposed Regulation	 §25 Subsistence taking of fish, wildlife, and shellfish: general regulations (j) Utilization of fish, wildlife, or shellfish (13) You may sell the raw/untanned and tanned hide or cape from a legally harvested brown bear, caribou, deer, elk, goat, moose, musk ox, and sheep.
OSM Preliminary Conclusion	 Support Proposal WP24-01 with modification to allow the sale of brown bear hides with claws attached in areas where the Federal harvest limit is two bears every regulatory year and after first obtaining a permit available at the time of sealing from an ADF&G sealing officer. The modified regulation should read: §25 Subsistence taking of fish, wildlife, and shellfish: general regulations (j) Utilization of fish, wildlife, or shellfish (13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, sheep, and brown bear with claws attached harvested in an area with a two brown bear limit per regulatory year in Federal regulations only after first obtaining a permit at the time of sealing from the Alaska Department of Fish and Game.
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	

WP24-01 Executive Summary		
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation		
Bristol Bay Subsistence Regional Advisory Council Recommendation		
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation		
Western Interior Alaska Subsistence Regional Advisory Council Recommendation		
Seward Peninsula Subsistence Regional Advisory Council Recommendation		
Northwest Arctic Subsistence Regional Advisory Council Recommendation		
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation		
North Slope Subsistence Regional Advisory Council Recommendation		
Interagency Staff Committee Comments		
ADF&G Comments		

	WP24-01 Executive Summary
Written Public Comments	None

DRAFT STAFF ANALYSIS WP24-01

ISSUE

Proposal WP24-01, submitted by Kaleb Rowland of McCarthy, Alaska, is a request to allow the sale of brown bear hides.

DISCUSSION

The proponent states federally qualified subsistence users in many areas of Alaska must salvage the hides of brown bears, however, the hides must not be sold. The proponent continues that the hides of many other legally harvested big game species may be sold, and brown bears should be added to this regulation.

Existing Federal Regulation

§____.25 Subsistence taking of fish, wildlife, and shellfish: general regulations¹

(j) Utilization of fish, wildlife, or shellfish

. . .

(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.

¹ Sections of the regulatory booklet produced for the public that describe legal utilization of brown bears are incorrect. The Code of Federal Regulations regarding the utilization of brown bears are correctly reflected in the **Appendix**.

Proposed Federal Regulation

§____.25 Subsistence taking of fish, wildlife, and shellfish: general regulations

(j) Utilization of fish, wildlife, or shellfish

. . .

(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested **brown** *bear*, caribou, deer, elk, goat, moose, musk ox, and sheep.

Existing State Regulation

5 AAC 92.200—Purchase and sale of game

. . .

(b) Except as provided in 5 AAC 92.031, a person may not purchase, sell, advertise, or otherwise offer for sale:

(1) any part of a brown bear, except an article of handicraft made from the fur of a brown bear, and except skulls and hides with claws attached of brown bears harvested in areas where the bag limit is two bears per regulatory year* by permit issued under 5 AAC 92.031;

*Note: The harvest limit for a resident hunting in Units 16B, 17, 19A, 19D, 20E, 21, 22A, 22B, 22D, 22E, 23, 24B, 25D, and 26A is two brown bears per regulatory year. A person may not take more than one brown bear, statewide, in any regulatory year, except that in these units, a person may take two brown bears per regulatory year (5 AAC 92.132 Bag limit for brown bears).

5 AAC 92.031 - Permit for selling skins, skulls, and trophies

. . .

(g) A person may sell, advertise, or otherwise offer for sale a skull or hide with claws attached of a brown bear harvested in an area where the bag limit is two brown bears per regulatory year only after first obtaining a permit* from the department. Any advertisement must include the permit number assigned by the department, and the department will permanently mark all hides and skulls intended for sale. All bears sold under this permit must be reported to the department within the time frame specified on the permit.

*Note: A "Permit to Sell a Brown/Grizzly Bear Hide and/or Skull" is available at the time of sealing from the sealing officer.

Extent of Federal Public Lands

Federal public lands comprise approximately 54% of Alaska and consist of 20% U.S. Fish and Wildlife Service managed lands, 15% Bureau of Land Management managed lands, 14% National Park Service managed lands, and 6% U.S. Forest Service managed lands.

Customary and Traditional Use Determinations

This is a statewide proposal. For more information refer to the customary and traditional use determinations at ____.24 *Customary and traditional use determinations*.

Background

Convention on International Trade in Endangered Species of Wild Fauna and Flora

All Alaskan brown/grizzly bears are classified as the same species, *Ursus arctos*, but are referred to differently depending on where they are found and their diet. In general, the common name "brown bear" refers to those Ursus arctos found in the coastal regions, and the common name "grizzly bear" refers to those found in the interior. The brown bear conservation environment in the lower 48 is related but very different than in Alaska, which is the only remaining state with an abundant brown bear population. Brown bears once ranged from northern Alaska and western Canada south to Mexico, and from the west coast east across the great plains of the United States. Over the last 200 years, the number and range of brown bears south of Canada has declined by more than 95% largely as a result of excessive human caused mortality and habitat loss (ADF&G 2000). In 1990, fewer than 1,000 brown bears remained in the states south of the Canadian border (Schoen 1990). Today, Alaska is home to more than 98% of the brown bear population in the United States and 70% of the brown bears in North America (ADF&G 2000). With the demise of brown bears in other areas, Alaska has become a premier locale for trophy bear hunting.

In 1975 the North American brown bear was listed by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as an Appendix II species, which means it may become threatened by extinction if trade is not strictly regulated and monitored. This listing is designed to protect threatened populations elsewhere in North America, outside of Alaska. Commercial trade, in Appendix II species is allowed only if the state of export issues permits reporting that the trade will not be detrimental to the survival of the species in the wild. The transport of brown bear parts between states or countries is subject to both State and Federal consideration and permitting (USFWS 2023).

Licensed hunting of brown bears occurs in four provinces and territories in Canada (Yukon, Northwest Territories, Nunavut, and British Columbia). In Canada, almost all trade in brown bear parts, including gall bladders and paws, is prohibited (some exceptions apply to Aboriginal groups for personal or ceremonial use). Some manufactured, non-food items, such as tanned hides, may be sold, but such trade in brown bear parts is low. In Canada, brown bears are mainly traded as hunting trophies (skins, rugs, or taxidermy mounts). A provincial or territorial permit is needed to legally possess, sell, and

export brown bear parts, including those killed by accident or for defense of life and property. A CITES export permit is required for international export (Government of Canada 2012, 2014).

Sale of Hides

People have sold and exported brown bear pelts from Alaska for centuries. During the Russian Period in Alaska, the Russian American Company exported large numbers of brown bear skins to St. Petersburg and Asia (Bockstoce 2009).

Conservation efforts, led by Eastern conservationists, began with the passage of the Game Law of 1908 that implemented hunting seasons and a licensing system for brown bear parts that were being shipped out of Alaska, and limited exports to three brown bear hides annually per person and a \$5 dollar fee on each hide. The primary deterrent to the sale and export of brown bear hides was the export limit and fee (Holzworth 1930).

In 1925 a new game law was passed that eliminated market hunting of big game, including brown bears, and established the Alaska Game Commission, the predecessor to the Alaska Department of Fish and Game (ADF&G), that was responsible for imposing and revising seasons and harvest limits in Alaska. However, lack of enforcement and increases in sport and trophy hunting, especially for big coastal bears, continued to threaten brown bear populations in some areas of Alaska. Alaska Natives were exempted under the new law and were still permitted to hunt game at any time of year for food and to sell game hides within the state unless otherwise restricted (Dufresne 1965).

Beginning in 1961 after Alaska statehood, the purchase, sale, or barter of brown bears or brown bear parts was prohibited by the State of Alaska (State of Alaska 1961). Salvage and sealing requirements, introduced in 1961, mandated that a hunter retrieve the hide with claws attached and skull so that scientific information regarding the sex, age, and hide quality of harvested bears could be obtained by biologists. Beginning in 1968, the harvest limit in all units open to brown bear hunting was one bear every four regulatory years. Beginning in 1977, all hunters were required to purchase a tag before hunting a brown bear. However, in rural western Alaska, participation by subsistence users was very limited, and few subsistence harvests were reported through this system (Thornton 1992).

The issue of claw retention was examined extensively by the Brown Bear Claw Handicraft Working Group. The group was formed by the Federal Subsistence Board in 2009 to discuss a range of issues relating to brown bear claws including their use in handicrafts, the feasibility of tracking, and potential changes to regulations. Of particular concern to this group was preventing the illegal harvest and sale of brown bear parts that can garner significant monetary value in worldwide markets, and which may incentivize illegal harvest of brown bear claws, paws, and gall bladders are the primary illegal items sought for these markets (OSM 2010).

Sealing requirements help to track the sale of wildlife parts, to validate that an animal was legally harvested, and to provide documentation to allow individuals traveling to another country to obtain a CITES permit for the item to be legally transported across international borders (OSM 2010). For

example, during Alaska Board of Game deliberations on Proposal 57 (sale of brown bear hides with claws attached and/or skulls, see Regulatory History, below) in March 2016, Alaska Wildlife Troopers testified that law enforcement tracks internet activity for hides and attempts to verify permit and sealing records when bear products are encountered. Very few brown bear hides had been encountered. At the time of the testimony, all bear hides sold by Alaska residents were appropriately harvested under a predation control permit. These permits are for the purpose of predation control to recover depleted prey populations such as moose and caribou (ADF&G 2023a).

Western/Northwestern Alaska Brown Bear Management Areas

In 1992, the Alaska Board of Game adopted the Western Alaska and Northwestern Alaska brown bear management areas and more liberal subsistence harvesting regulations. Brown bear subsistence harvest seasons in most of these areas were lengthened to September 1–May 31, and harvest limits were increased to one brown bear every regulatory year. Under subsistence regulations, Alaska residents did not have to seal brown bears unless the hide or skull was being removed from the area or presented for commercial tanning. For brown bears, sealing means taking the skull and hide (with claws and evidence of sex attached) of the bear you killed to an officially designated "sealing officer." The skull must be skinned from the hide (*5 AAC 92.165 - Sealing of bear skins and skulls*). Hides and skulls are permanently marked by ADF&G (*5 AAC 92.990 – Definitions*).

An Alaska resident hunting in these management areas was required to have a State subsistence registration permit and to salvage the meat, but the hide and skull need not be salvaged. Over time the Alaska Board of Game has further modified these regulations. Currently, State subsistence registration hunts in which the hide and skull need not be sealed, unless removed from the area or presented for commercial tanning, occur in Unit 9B, all drainages in Unit 9E that drain into the Pacific Ocean between Cape Kumliun and the border of Unit 9D and Unit 9E, Unit 17, Unit 18, that portion of Units 19A and 19B downstream of and including the Aniak River drainage, Unit 21D, Unit 22, Unit 23, Unit 24, and Unit 26A (*5 AAC 92.165 Sealing of bear skins and skulls*).

Regulatory History

Customary Trade

In 1992, the Federal Subsistence Board adopted final Federal subsistence regulations in which it defined customary trade to be the following: "*Customary trade means cash sale of fish and wildlife resources regulated herein, not otherwise prohibited by Federal law or regulation, to support personal and family needs; and does not include trade which constitutes a significant commercial enterprise*" (§____.4 *Definitions*). The Board said it would continue to refine the definition of customary trade (57 Fed. Reg. 104, 22941 [May 29, 1992]). Customary trade is part of the definition of subsistence uses in Federal regulations.²

² Subsistence means the customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making

Sale of Brown Bear Hides

In 2002, Proposal WP02-01, submitted by a resident of Fort Yukon, requested the Federal Subsistence Board to classify black bears and brown bears as furbearers, which opened up the possibility that bear hides may be sold (*If you are a Federally qualified subsistence user, you may sell the raw fur or tanned pelt with or without claws attached from legally harvested furbearers* ((25)(8)).

Regional Advisory Councils differed in their recommendations. The Southeast Alaska Council was the only one that supported legalizing the sale of brown bear and black bear hides. The Southeast Alaska Council justification read,

The Council was in favor of full use of subsistence resources and did not believe that allowing sale of bear parts would increase bear harvests, promote illegal trade, or cause conservations concerns. The Council noted that hunting regulations for bear limit the number of bears that can be taken and that sale of parts of legally taken bears would provide only a minor financial return to the harvester. There were no conservation concerns for the brown bear population under existing management; the southeast population is healthy, and fewer bears are taken than the harvest guideline would allow. This change in classification would not affect other users and could be positive for subsistence users (OSM 2002: 23).

One Council supported the sale of black bear pelts only, and five other Councils supported allowing the sale of only handcrafts that incorporate black bear fur (thereby aligning Federal and State regulations). One Council said the sale of bear parts could threaten bear populations and was not a customary and traditional use in the region. A Western Interior Alaska Council member abstained from voting on the proposal because of a cultural taboo that women do not talk about bears. Two Councils said that such decisions should be made on a region-by-region basis and not statewide (OSM 2002).

and selling of handicraft articles out of nonedible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for **customary trade** (§____.4 Definitions)

The Board adopted a motion to only allow the sale of handicrafts incorporating black bear fur: *If you are a Federally qualified subsistence user, you may sell handicraft articles made from the skin, hide, pelt, or fur, including claws, of a black bear (§____.25(j)(6)) (67 Fed. Reg. 125, 43711 [June 28, 2002]).*

In 2006, the Alaska Board of Game adopted regulations to allow the sale of raw brown bear hides, with claws attached, harvested in specific predator control management areas under a State permit: "*After the skin and skull is sealed as required under 5 AAC 92.165(a), a person may sell the untanned skin, with claws attached, and skull of a brown bear taken in an active brown bear predator control area listed in 5 AAC 92.125 only under a permit issued by the department" (5 AAC 92.031(d)).* The purpose of predation control is to recover depleted prey populations such as moose and caribou (ADF&G 2006a, 2006b:5, 2023a).

In 2016, the Alaska Board of Game adopted Proposal 57 to allow the sale of brown bear hides and/or skulls by Alaska residents in units where the harvest limit is two bears annually: *A person may sell, advertise, or otherwise offer for sale a skull or hide with claws attached of a brown bear harvested in an area where the bag limit is two brown bears per regulatory year.* . . . (5 AAC 92.031(g)). Currently, these units with two-bear harvest limits in State regulations are 16B, 17, 19A, 19D, 20E, 21, 22A, 22B, 22D, 22E, 23, 24B, 25D, and 26A (5 AAC 92.132 Bag limit for brown bears) (ADF&G 2016a, 2016b:32, 2016c:5).

In 2018, the Federal Subsistence Board rejected the recommendations of affected Councils on Proposal WP18-44 to allow the sale of brown bear hides with claws attached and/or skulls in Unit 23. The Board said black markets for illegally acquired brown bear parts are known to encourage poaching and increasing market availability for brown bear parts may intensify illegal harvest. The Board also noted there is insufficient evidence that residents of Unit 23 have an established pattern of customary trade involving brown bear hides and skulls, and few residents of Unit 23 harvest brown bears under the Federal subsistence regulation due to meat salvage and sealing requirements. The lack of a component to the proposal that would require a permit for sale in line with State regulations was also a factor in the Board's justification for rejecting the proposal (OSM 2018).

Current General Regulations

Federal subsistence regulations prohibit the sale of wildlife or their parts unless specifically allowed under Federal subsistence regulations: "*You may not exchange in customary trade or sell fish or wildlife or their parts, taken pursuant to the regulations in this part, unless provided for in this part*" (\S ____.7(b) Restriction on use).

One specific authorization in Federal subsistence regulations for the sale of the non-edible byproducts of brown bears harvested for subsistence is for handicrafts: "*If you are a Federally qualified subsistence user, you may sell handicraft articles made from the skin, hide, pelt, or fur, including claws, of a brown bear taken from Units 1–5, 9A–C, 9E, 12, 17, 20, 22, 23, 24B (only that portion within Gates of the Arctic National Park), 25, or 26*" (§____.23(j) Utilization of fish, wildlife, or *shellfish*).

Federal subsistence regulations define a brown bear hide as having claws attached: . . . *skin, hide, or pelt of a bear shall mean the entire external covering with claws attached*" (§____.23(a) Definitions).

Additionally, customary trade shall not constitute a significant commercial enterprise: *Customary trade means exchange for cash of fish and wildlife resources regulated in this part, not otherwise prohibited by Federal law or regulation, to support personal and family needs; and does not include trade which constitutes a significant commercial enterprise* (§____.4 *Definitions*). Sales that rise to the level of a significant commercial enterprise are not defined on a statewide basis and instead may be defined on a region-by-region basis by placing monetary caps on sales and/or requiring permits for and reporting of *customary trades* (see examples of these regulations in the **Appendix** at §____.27 *Subsistence taking of fish*).

Biological Background

Brown bears on Kodiak Island are the only distinct subspecies (*Ursus arctos middendorffi*) because they are genetically and physically isolated from other Ursus arctos. However, all "grizzly bears" and "brown bears" are considered "brown bears" for purposes of harvest in Alaska.

Alaska has an estimated 30,000 brown bears statewide (ADF&G 2023b). Brown bears range throughout most of Alaska, except the islands of the Aleutian Chain west of Unimak and in Southeast Alaska south of Frederick Sound (**Figure 1**). High densities of brown bears occur on Kodiak Island, the Alaska Peninsula, and the Admiralty, Baranof, and Chichagof Islands of Southeast Alaska. The density of brown bears in Alaska varies considerably with habitat and ranges anywhere from 2.6 bears/1,000 km² on the North Slope (Lenart 2021) to 275 bears/1,000 km² in Southeast Alaska (Bethune 2021), although these estimates are extrapolated from an estimate derived from a reanalysis of 20-year-old data. Except for breeding pairs and females with offspring, brown bears are typically solitary creatures and avoid the company of other bears.



Figure 1. Map showing the range of brown bears in Alaska (ADF&G 2023c).

Brown bear populations are extremely sensitive to disruption. This is because brown bears exhibit the lowest reproduction rate of any North American mammal. In some areas with low population densities, such as in northern Alaska, brown bear populations are often managed conservatively for several reasons: large home ranges are required to meet resource needs (McLoughlin et al. 2002); female brown bears generally do not successfully reproduce until they are more than five years old and have low reproductive rates, small litters, and long intervals between litters. Sows exhibit high fidelity to home ranges with little emigration or immigration, and monitoring methods are imprecise and expensive (USFWS 1982, Reynolds 1989, Miller et al. 2011)

Brown bears are difficult to survey precisely due to their solitary nature and their sensitivity to disturbance, as is evident from the lack of current population data. Statewide, population estimates are sometimes based on surveys conducted in the 1990s or early 2000s and extrapolated to arrive at a current estimate. In Unit 4 in Southeast Alaska, there has not been a population estimate for brown bears for almost two decades (Bethune 2021). Historically, ADF&G estimated densities of between 227 and 275 bears/1000 km², with population estimated for Unit 4 of 4,303 bears. In Unit 13, there is currently no population monitoring (Hatcher 2023). The last population estimate was in 1998 and it

estimated 1,260 bears in the unit, with a density of 21.3 bears/1,000 km². In Units 25 and 26 current population estimates are based on models using population data from 1999. These calculations give an estimated density of 2.6 bears/1,000 km², with a non-statistically derived estimate of 333 bears for Unit 26B (Lenart 2021).

Most population data collected is from sealing records of harvested brown bears. In some areas, brown bears harvested under Federal or State subsistence regulations are not required to be sealed except under certain conditions. Where sealing is not required, a Federal or a State hunting permit is required that sometimes allows for the collection of similar data to sealing records The data collected from each is used to assess trends in harvest and to inform in-season management actions (Bethune 2021).

Harvest History

Harvests levels of brown bears have generally increased through the years. Spring seasons have been established in addition to fall hunts in many units. The Alaska Board of Game authorized brown bears to be taken over a bait station starting in 2012 in some areas. Also, intensive management plans are implemented occasionally to increase the population of certain game animals by allowing for the removal of more predators, such as brown bear.

Concerning the sale of the hides with claws attached of legally harvested brown bears in State regulations since 2016, ADF&G has not detected increased harvest. Although brown bear harvest increased slightly (then decreased right back to "normal" levels) when brown bears were first allowed to be taken over bait, hunting seasons were also being lengthened that might have contributed to this slight increase in harvest around the same time. Staff have been instructed to issue sale permits to anyone that harvested a brown bear in a two-bear harvest limit area that might possibly be interested in selling it down the road. However, just because a permit was issued (41 permits since 2018) does not mean the hide was sold (Bogle 2023, pers. comm.; Weber 2023, pers. comm.).

Federal subsistence permits have been available in some areas of Alaska to harvest brown bears since 1995. In the 20 years from 2002 to 2021, 158 subsistence hunters have reported harvesting a total of 40 brown bears by Federal permit cumulatively from Units 5, 8, 9, and in the Southcentral Alaska Region (OSM 2023). Subsistence hunters use these Federal permits because it allows them to hunt in areas where there is competition in the State system to obtain permits (for example draw hunts in Units 8), where there formerly was competition in the State system to obtain permits (for example in Unit 15), the hunt area is on National Park or Monument lands (such as in Unit 9), which are closed to the harvest of brown bears except by subsistence users, or in areas with more liberal Federal harvest limits (in Unit 5 for example).

Cultural Knowledge and Traditional Practices

Alaska Natives have harvested bears and competed with them for subsistence resources for at least 14,000 years (Birkedal 2001). Brown bears have traditionally been a very important part of the Alaska Native cultures. Because of their powerful senses and ability to hear through the ground, brown bears are usually referred to indirectly" and respectfully so that they will continue to give themselves to

hunters. For this reason, the Yup'ik call them *carayak* (terrible fearsome thing), *ungungssiq* (land animal, quadruped), *naparngali* (one who stands upright) or *kavirluq* (red thing, as opposed to *tan'gerliq*, black bear)" (Fienup-Riordan 2007:164). Athabaskans call the brown bear *ghonoy*, *ghonoy tlaaga* or *dlil ta bahoolaanee*. Tlingits call it *yats'inEt* or *ya'Et'gu tutw'adi'at*. The Iñupiat call it *aklaq*.

Brown bears have been hunted for their meat and hides, and other parts of the bear have been used for traditional medicine or fashioned into such things as tools, amulets, ceremonial regalia, and art (Thornton 1992, Nelson 1983, Fall and Hutchinson-Scarborough1996, Loon and Georgette 1989, Behnke 1981, ADF&G 1990). Nelson (1983) reports that the brown bear takes an apex of power among Koyukon Athabascan spirits of the natural world, perhaps below only the wolverine. People's behavior toward the brown bear is subject to a number of culturally based requirements. Nelson (1983) reports that disregard or violation of these cultural requirements is sharply punished. Traditionally, when Koyukon men hunted brown bears, they followed prescribed rituals. For example, a man is not to openly discuss the brown bear hunt before or after it occurs, and care must be taken to prevent the hide from coming in contact with women. The Koyukon Athabascans have a taboo against women eating brown bear meat or young men eating meat from a brown bear's head (Nelson 1983). Dena'ina Athabascans in the Lake Clark and Katmai areas competed directly with brown bears for subsistence resources; it is thought that the Dena'ina likely displaced brown bear from the very best salmon fishing sites on certain rivers (Birkedal 2001). The Dena'ina reserved some secondary stream drainages for the exclusive use of bears and for bear hunting. It is reported that Alutiiq residents of the Alaska Peninsula believed that bears are human ancestors that must be shown respect (Sherwonit 1998). In the Chignik Bay, Chignik Lagoon, Chignik Lake, Ivanof Bay and Perryville area, brown bear hunting is governed by a system of traditional Alutiig beliefs that emphasize respectful treatment of the bear and protection of the hunters (Fall and Hutchinson-Scarborough 1996). According to these traditions, the skull and hide of the bear are left at the kill site; the skull is placed facing in a southern or southeastern direction. Traditional Southeast Alaska, brown bear hunting by Alaska Natives was surrounded by numerous behavioral prescriptions that were considered vital to the success of the hunt. Brown bears are an important symbol of Tlingit social and ceremonial life, and there is emphasis on the close relationship between humans and bears (Thornton 1992). Bear hides were used for ceremonial robes, clothing, rugs and bedding. Thornton (1992) reported that the Tlingit traditionally preferred brown bear hides for children's bedding, as the hides provided not only warmth, but also were thought to prevent illnesses. Loon and Georgette (1989) and Georgette (2001) described the widespread respect of the Iñupiat for bears and the belief that the bears must be treated appropriately. An Iñupiat man is not to openly discuss the bear hunt before or after it occurs. Traditionally, the bear's head is given to the eldest member of the community or hung on a tree or pole in camp. The Iñupiat give the bear hide to an elder or use it for bedding and clothing. It has been customary practice of some Yup'ik villagers to use bear hides for mattresses, trimming on clothing and skin for boats and to bury the bear's skull facing east at the kill site. Brown bear harvesting is a specialized pursuit that is concentrated in certain villages and certain families (Coffing 1991).

Effects of the Proposal

If Proposal WP23-01 is adopted, the sale of the hide of a brown bear legally harvested from Federal public lands under Federal regulations will be legal as long as the edible meat is salvaged for human consumption, claws are attached to the hide, and the hide is sealed by a representative of ADF&G.

However, this outcome might conflict with CITES and State regulations implementing CITES. CITES provides for the commercial trade of hides of legally harvested brown bears only if the state of export issues permits reporting that the trade will not be detrimental to the survival of the species in the wild. The State of Alaska currently issues these permits but only for the sale of the hides of brown bears legally harvested in areas with a two-brown bear harvest limit (in Units 16B, 17, 19A, 19D, 20E, 21, 22A, 22B, 22D, 22E, 23, 24B, 25D, and 26A).

It is already legal under State regulations to sell the hide of brown bears legally harvested in areas of Alaska where the harvest limit is two brown bears per year except for lands designated as National Park or Monument, which are only open to hunting under Federal subsistence regulations. Effects on nonsubsistence users are not anticipated. Effects on the resource, specifically whether, or how much, the harvest of brown bears will increase is anticipated to be minimal.

If Proposal WP23-01 is not adopted, the sale of brown bear hides will not be legal under Federal regulations but will remain legal in areas of Alaska under State regulations where the harvest limit is two brown bears per year including on most Federal public lands, except for lands designated as National Park or Monument. No effects on nonsubsistence users or the resource are anticipated.

OSM PRELIMINARY CONCLUSION

Support Proposal WP24-01 **with modification** to allow the sale of brown bear hides with claws attached in areas where the Federal harvest limit is two bears every regulatory year and after first obtaining a permit available at the time of sealing from an ADF&G sealing officer.

The modified regulation should read:

§____.25 Subsistence taking of fish, wildlife, and shellfish: general regulations

(j) Utilization of fish, wildlife, or shellfish

. . .

(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, sheep, and brown bear with claws attached harvested in an area with a two brown bear limit per regulatory year* in Federal regulations only after first obtaining a permit* at the time of sealing from the Alaska Department of Fish and Game.

*Note: Harvest limits of two brown bears per regulatory year in 2022/24 Federal regulations include all or portions of Units 22B, 22D, 23, 24B, 25D, and 26A. A "Permit to Sell a

Brown/Grizzly Bear Hide and/or Skull" is available at the time of sealing from the sealing officer.

Justification

Conservation is a concern regarding brown bear populations in Alaska for several reasons including their low productivity rates, their solitary nature, difficulty obtaining population estimates, and high sport use in some areas. The OSM modification to the proposal puts limits on sales of brown bear hides. The sale of brown bear hides could only occur for brown bears shown to be legally harvested from Federal public lands under Federal regulations, and only in areas where there is a two brown bear harvest limit in Federal regulations. Currently, such areas are all or portions of Units 22B, 22D, 23, 24B, 25D, and 26A. Further, the edible meat must be salvaged ($§_.25(j)(2)(ii)$), the hide must have the claws attached ($§_.25(a)$), and the hide must be sealed by ADF&G before it can be removed from the area ($§_.26(j)$).

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) provides for the commercial trade of hides of legally harvested brown bears only if the state of export issues permits reporting that the trade will not be detrimental to the survival of the species in the wild. Therefore, a permit from ADF&G is required. The Alaska Department of Fish and Game issues this type of permit before selling the hide of a brown bear legally harvested under State regulations but only in areas with a two brown bear harvest limit (in Units 16B, 17, 19A, 19D, 20E, 21, 22A, 22B, 22D, 22E, 23, 24B, 25D, and 26A). Allowing the sale of the hide of a brown bear harvested from other areas would require negotiation with the State over the use of its permitting system.

These requirements would limit from where and how many hides would be sold by federally qualified subsistence users. Limiting legal sales to only brown bears taken from areas with two-bear harvest limits would be a protection from over harvest. Other tools exist for the Board to use if harvests were to rise above sustainable yields in an area. These tools include reducing seasons and harvest limits, placing monetary caps on sales on a region-by-region bases, and requiring permits for and reporting of customary trades.

This is a statewide proposal that will be reviewed by all 10 Regional Advisory Councils. Each Council can inform the Board whether the regulation is culturally appropriate for their region.

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