

WP26–40 Executive Summary

General Description	Wildlife Proposal WP26-40 requests to close Federal public lands in portions of Units 17A and 17C to caribou hunting by non-federally qualified users (NFQUs) and federally qualified subsistence users (FQSUs), except those FQSUs residing in Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point and Ekuk, regardless of the population size of the Nushagak Peninsula Caribou Herd (NPCH). <i>Submitted by: Kenneth Nukwak</i>
Proposed Regulation	<p>Units 17A and 17C—Caribou</p> <p><i>Unit 17—Units 17A and 17C, that portion of 17A east of the Ungalikthluk River and South of Buchia Ridge, and within the lower Kuluklak River drainage south of Buchia Ridge and within the Kanik River drainage downstream of the Tithe Creek, that portion of 17C south of the Igushik River and south of and including the Tuklung River drainage—up to 5 caribou by Federal registration permit (FC0102)</i></p> <p><i>Aug. 1—Mar. 31</i></p> <p><i>Federal public lands are closed to the harvest of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point and Ekuk hunting under these regulations. Federal qualified subsistence users unless the population estimate exceeds 900 caribou.</i></p>
OSM Preliminary Conclusion	Oppose
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	

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Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

Draft Wildlife Analysis WP26-40

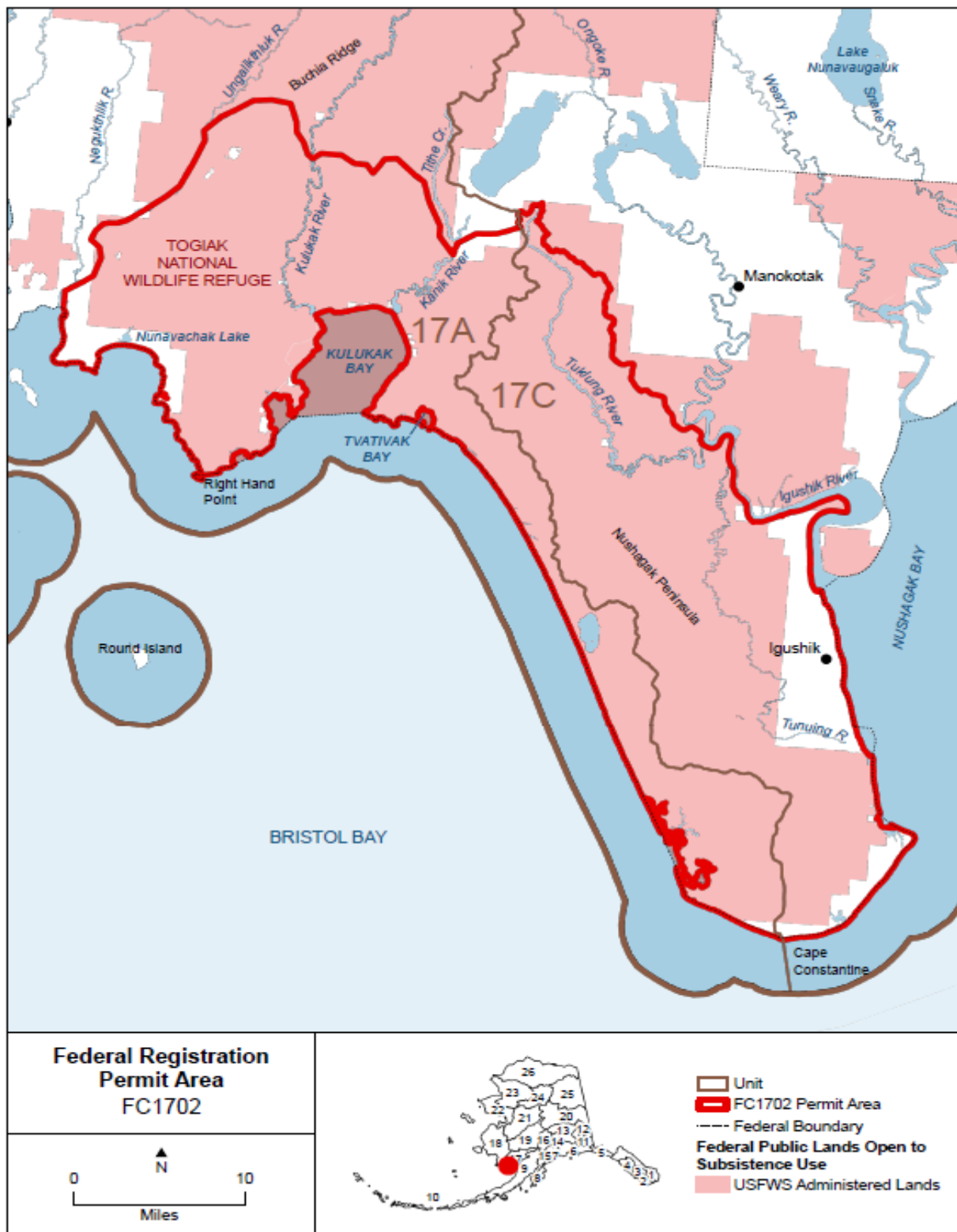
ISSUE

Proposal WP26-40, submitted by Kenneth Nukwak, requests to close Federal public lands in portions of Units 17A and 17C to caribou hunting by non-federally qualified users (NFQUs) and federally qualified subsistence users (FQSUs), except those FQSUs residing in Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point and Ekuk, regardless of the population size of the Nushagak Peninsula Caribou Herd (NPCH) (**Map 1**).

Proponent Statement

The proponent states that the proposed changes were the regulations for the NPCH prior to 2018, and would like to change them back to how they were at that time. The reintroduction of caribou to the Nushagak Peninsula in 1988 aimed to restore a vital subsistence resource for local communities, many of which have historically relied on caribou for subsistence and cultural practices. The proposed regulation change, which prioritizes federally qualified subsistence users in the communities of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point, and Ekuk, ensures that these communities can continue to engage in sustainable hunting practices. This change will also serve as a starting point for future deliberations among the seven communities to ensure that the management of the caribou population aligns with their subsistence needs and cultural traditions.

The proposed regulation focuses solely on subsistence uses of caribou, recognizing the importance of these animals to the food security and way of life of local residents. By limiting hunting to these users and specified communities, the regulation supports sustainable harvesting practices, protects cultural traditions, and promotes long-term food security. It also provides a framework for continued collaboration and discussion about how to best manage the resource for future generations.



Map 1. Hunt area boundary for the Nushagak Peninsula Caribou Herd in Units 17A and 17C.

Current Federal Regulations

Units 17A and 17C—Caribou

Unit 17—Units 17A and 17C, that portion of 17A east of the Ungalikthluk River and South of Buchia Ridge, and within the lower Kuluklak River drainage south of Buchia Ridge and within the Kanik River drainage downstream of the Tithe Creek, that portion of 17C south of the Igushik River and south of and including the Tuklung River drainage—up to 5 caribou by Federal registration permit (FC0102)

Aug. 1—Mar. 31

Federal public lands are closed to the harvest of caribou except by Federal qualified subsistence users unless the population estimate exceeds 900 caribou.

Proposed Federal Regulations

Units 17A and 17C—Caribou

Unit 17—Units 17A and 17C, that portion of 17A east of the Ungalikthluk River and South of Buchia Ridge, and within the lower Kuluklak River drainage south of Buchia Ridge and within the Kanik River drainage downstream of the Tithe Creek, that portion of 17C south of the Igushik River and south of and including the Tuklung River drainage—up to 5 caribou by Federal registration permit (FC0102)

Aug. 1—Mar. 31

*Federal public lands are closed to the harvest of caribou except by **residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point and Ekuk hunting under these regulations.** ~~Federal qualified subsistence users unless the population estimate exceeds 900~~ caribou.*

Current State Regulations

Unit 17–Caribou

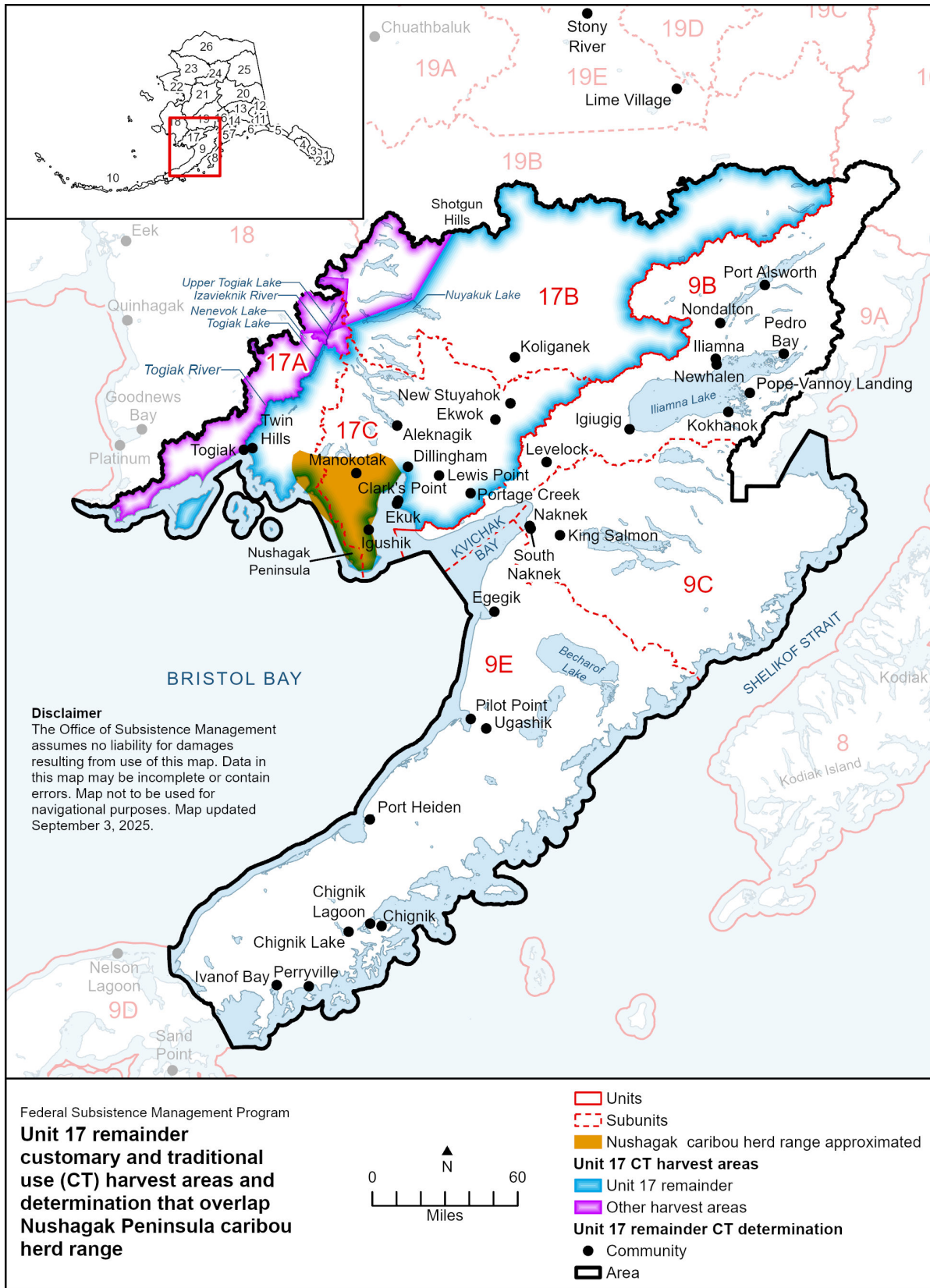
<i>Unit 17A, all drainages that terminate east of Right Hand Point</i>	<i>Residents: Two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, Palmer, Soldotna, and at local license vendors beginning July 11</i>	<i>RC501</i>	<i>May be announced</i>
<i>Unit 17C remainder</i>	<i>Residents: Two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, Palmer, Soldotna, and at local license vendors beginning July 11</i>	<i>RC501</i>	<i>May be announced</i>

Extent of Federal Public Lands

The FC1702 hunt area in Units 17A and 17C is comprised of 85% Federal public lands and consists entirely of U.S. Fish and Wildlife Service (USFWS) managed lands that are part of Togiak National Wildlife Refuge (NWR) (**Map 1**).

Customary and Traditional Use Determination

Rural residents of Units 9B, 9C, 9E, 17, Lime Village, and Stony River have a customary and traditional use determination for caribou in Unit 17 remainder, which includes the Nushagak Peninsula hunt area (**Map 2**).



Map 2. Communities with a customary and traditional use determination for Nushagak Peninsula Caribou, in relation to the approximate range of the herd.

Regulatory History

Caribou were reintroduced to the Nushagak Peninsula (Units 17A and 17C, **Map 1**) in 1988, with the intention of providing a subsistence resource to area residents (NPCH Management Plan 1994). In 1992, the Federal Subsistence Management Program announced codified subsistence regulations. At this time, rural residents of Unit 9B, Unit 17, Lime Village, and Stony River had a customary and traditional use determination for caribou throughout Unit 17 (57 Fed. Reg. 104, 22960 [May 29, 1992]). Residents of Kwethluk had a customary and traditional use determination for caribou in those portions of Units 17A and 17B north and west of a line beginning from the Unit 18 boundary at the northwest end of Nenevok Lake, to the southern point of Upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where the Unit 17 boundary intersected the Shotgun Hills (57 Fed. Reg. 104, 22960 [May 29, 1992]). However, caribou harvest under Federal regulations was only open in Units 17B and 17C – that portion of 17C east of the Nushagak River, with a harvest limit of 4 caribou (57 Fed. Reg. 103, 22548 [May 28, 1992]).

In 1994, the Federal Subsistence Board (Board) adopted Proposal P94-42, which established a Jan. 1–Mar. 31 harvest season for the NPCH in portions of Units 17A and 17C and instituted a closure to all users except FQSUs residing in Aleknagik, Clark’s Point, Dillingham, Ekuk,¹ Manokotak, Togiak, and Twin Hills (FSB 1994). The Board explained that these seven communities located in the vicinity of the herd had been integral to the reintroduction and management of the herd, that studies had shown caribou to be a key component of subsistence economies in four of the seven communities (Aleknagik, Clark’s Point, Dillingham, and Manokotak), and that supporting the proposal was consistent with the Bristol Bay Council’s recommendation and the terms of the Nushagak Caribou Management Plan. The newly established season began on January 1, 1995, with a harvest limit of 1 caribou (FSB 1994). This Board action implemented an Alaska National Interest Lands Conservation Act (ANILCA) Section 804 restriction, prioritizing a subset of the FQSUs with a customary and traditional use determination for caribou in Unit 17 over others. However, it appears that due to the unique way that the herd was reintroduced and cooperatively managed, a formal Section 804 subsistence user prioritization analysis was never conducted for the restrictions that were enacted in 1994.

In 1995, the Board approved Temporary Special Action S95-06 and extended the season from Jan. 1–Mar. 31 to Dec. 1–Mar. 31 for the 1995/96 regulatory year. In 1996, the Board adopted Proposal P96-34, which codified the extended caribou season from Jan. 1–Mar. 31 to Dec. 1–Mar. 31 and established an Aug. 1–30 fall season (FSB 1996). In 1997, the Board adopted Proposal P97-47, which increased the harvest limit from 1 caribou to 2 caribou on the Nushagak Peninsula, as there was a harvestable surplus of caribou and the previous year’s harvest had been well below the management objective (FSB 1997). In 1998, the Board approved Special Action S97-10, which extended the fall season from

¹ Ekuk was a major Yup’ik village at one time. However, it is now comprised of seasonal residents working in the summer commercial cannery and residents of other communities who primarily come to the area in the spring and summer to conduct subsistence activities. The cannery watchman and his/her family are the only permanent residents of Ekuk today (ADCCED 2024).

Aug. 1-30 to Aug. 1-Sep. 30. This extension became codified regulation when the Board adopted Proposal P99-39 in 1999 (FSB 1999).

In 2001, the Board adopted Proposal WP01-18, authorizing the use of a designated hunter permit (FSB 2001). In 2002, the Board approved Temporary Wildlife Special Action WSA02-13, which reduced the 2002/03 harvest limit from 2 caribou to 1 caribou for the NPCH hunt, and delegated authority to the Togiak NWR Manager to close the season when harvest objectives were met. This action was intended to prevent overharvest of the declining NPCH. In 2003, Board action on WP03-22 changed the codified harvest limit from two caribou to “up to 2 caribou” and delegated authority to the Togiak NWR Manager to set harvest objectives and limits, determine the number of permits to be issued, and to close the season. The new regulation also required that hunters report their harvest within 24 hours after returning from the field (FSB 2003). These changes provided management flexibility and reduced the need for special actions and follow-up proposals.

Emergency Wildlife Special Action WSA15-02, submitted by the Manokotak Village Council President in April 2015, requested that the caribou season be extended to May 31, due to poor winter travel conditions and subsequent low caribou harvest. The Board rejected WSA15-02 because immobilization drugs used during a recent capture and collaring project could have posed a human health risk prior to May 10, and because any season extension beyond May 10 would have overlapped with the calving season (OSM 2016).

Wildlife Closure Review WCR15-07 initiated a review of the NPCH closure to NFQUs and a subset of FQSUs that was originally established in 1994. The Bristol Bay Council considered WCR15-07 at its February 2017 meeting, and voted to rescind the closure, due to concerns about the herd exceeding the carrying capacity of its range (BBSRAC 2017a). This action was consistent with the Board’s Closure Policy, which specifies that closures “should be removed as soon as practicable when conditions that originally justified the closure have changed to such an extent that the closure is no longer necessary.”

The Nushagak Peninsula Caribou Planning Committee submitted four special action requests for the 2015/16 regulatory year. Temporary Wildlife Special Action WSA15-14 requested increasing the harvest limit to three caribou through March 31, 2016. Temporary Wildlife Special Action WSA15-15 requested opening Federal public lands to caribou harvest by all residents of Alaska through March 31, 2016. Emergency Wildlife Special Action WSA15-16 requested extending the winter season from Dec. 1–Mar. 31 to Dec. 1–Apr. 15. Temporary Wildlife Special Action WSA15-17 requested that subsistence harvest of Nushagak caribou be exempted from the prohibition on same-day airborne harvest Jan. 1–Apr. 15. These requests sought to increase harvest and slow population growth of the NPCH. All 4 special actions were approved by the Board, with a modification of WSA15-14 that retained the 3 caribou limit through April 15, 2015 (OSM 2016).

In early 2016, ADF&G announced a State season by Emergency Order (EO 04-03-16), targeting caribou migrating off the Nushagak Peninsula in portions of Units 17A and 17C. This season opened on March 4, 2016. Approval of WSA15-15 provided an opportunity for ADF&G to expand the hunt to include Federal public lands on the Nushagak Peninsula. The State season was open through March 31,

2016, had a harvest limit of two caribou of either sex, and it required the use of a State registration permit (RC501).

After the Federal and State seasons closed in spring 2016, the Manokotak Village Council submitted Emergency Wildlife Special Action Request WSA15-18, requesting that the Federal caribou season on the Nushagak Peninsula be extended through the end of May or until females begin calving. WSA15-18 was approved with modifications to: 1) reopen the season through May 10, a date that provided reasonable assurance that the season would not overlap with calving and 2) raise the harvest limit to three caribou, consistent with recent action on WSA15-14 and WSA15-16. As a result, the season was reopened May 3–10, 2016.

Several proposals related to Nushagak caribou were submitted for the 2016–2018 regulatory years. Proposals WP16-25/26, submitted by the Togiak Fish and Game Advisory Committee (AC) and the Nushagak AC, respectively, requested increasing the harvest limit from 2 caribou to 3 caribou and modifying the existing split season to a single Aug. 1–Mar. 31 season. The Bristol Bay Council supported WP16-25 as modified by OSM. The OSM housekeeping modification moved authority delegated in regulation into a letter (BBSRAC 2015). The Council explained that the NPCH was growing and could sustain a longer season and increased harvest limit, and that these changes would provide FQSUs with additional harvest opportunity (BBSRAC 2015). In April 2016, the Board adopted WP16-25 with further modification to raise the harvest limit to “up to 5 caribou” (FSB 2016). The Board took this action based on the recommendation of the Bristol Bay Council and information received that indicated a harvest limit of up to five caribou would be more efficient and beneficial to subsistence users. The Board took no action on WP16-26 (FSB 2016).

Proposals WP16-31/32, submitted by the Togiak AC and the Nushagak AC, respectively, both requested that same day airborne harvest of Nushagak Peninsula caribou be allowed during the winter season, Jan. 1–Mar. 31. The Bristol Bay Council supported WP16-31 because the population of the NPCH had increased but rural residents had not been able to access the herd in recent years due to poor weather conditions. The Council noted that the proposal would provide FQSUs with greater access and opportunity during the NPCH winter hunt, without adversely affecting the caribou herd population (BBSRAC 2015). The Board adopted WP16-31 in deference to the recommendation of the Bristol Bay Council and took no action on WP16-32 (FSB 2016). During deliberations on WP16-31/32, the Bristol Bay Council also discussed other means of potentially increasing harvest to control the growth of the NPCH population and address concerns about overgrazing (BBSRAC 2015). In this discussion, Council members expressed interest in expanding the customary and traditional use determination for caribou in Unit 17 in order to open harvest opportunities to a larger pool of FQSUs before opening the hunt to all users (BBSRAC 2015). However, it was determined that this option was outside the scope of WP16-31/32 (BBSRAC 2015).

In spring 2016, Togiak NWR and ADF&G submitted Temporary Wildlife Special Action WSA16-02, which requested that the closure be lifted for the 2016/17 regulatory year, as long as the population did not fall below the upper population objective of 900 animals (OSM 2016). Members of the public and Tribal representatives acknowledged the need for population reduction but offered limited support due

to concerns about maintaining subsistence priority, particularly during the winter season, concerns about the limitations imposed by current customary and traditional use determinations, and concerns that the 900 caribou threshold for opening Federal public lands might persist beyond regulatory year 2016/17 and become a permanent management parameter (OSM 2016). The Board acknowledged these concerns and encouraged revision of the Nushagak Peninsula Caribou Management Plan to accommodate a wider range of situations, but approved WSA16-02 with modification to delegate authority to the manager of Togiak NWR to reinstate the closure if the population falls below 900 animals, given the biological need for population reduction (FSB 2016).

In fall 2016, ADF&G announced a State season in portions of Units 17A and 17C by Emergency Order (EO 04-50-16). The season was limited to Alaska residents, required a registration permit (RC501), and had a harvest limit of two caribou. Although the season was open Aug. 1, 2016–Mar. 31, 2017, on State lands, harvest of caribou on Federal public lands on the Nushagak Peninsula was allowed only through September 30, 2016 under State regulations. This effectively limited opportunity for winter harvest within the core range of the herd to federally qualified subsistence users.

The Bristol Bay Council subsequently submitted Proposal WP18-22, which requested eliminating the Federal caribou closure on the Nushagak Peninsula. However, during their deliberations, the Council decided to support a modified version of WP18-22, which would open Federal Public lands within the NPCH range to all users when the herd population was above 900 but would close these lands to NFQUs when the herd's population was below 900 (BBSRAC 2017b). The Council noted that this modification was intended to address concerns regarding overgrazing, while also preventing overharvest and maintaining subsistence priority (BBSRAC 2017b). In April 2018, the Board adopted Proposal WP18-22 as modified by the Council. The Board stated the Council's modification addressed concerns over both over-grazing and overharvest, and also provided management flexibility that would reduce the need for additional special action requests (FSB 2018).

Also during the 2018-2020 regulatory cycle, the Board adopted Proposal WP18-23 as modified by OSM and supported by the Bristol Bay Council. The modification was to add residents of Units 9C and 9E to the customary and traditional use determination for caribou in the existing customary and traditional use area of Unit 17 remainder (rather than create a new area) (**Map 2**, FSB 2018). The Bristol Bay Council noted that residents of Units 9C and 9E displayed wide-ranging caribou search and harvest practices, and adopting WP18-23 would allow for greater caribou harvest by a larger pool of FQSUs, and that this regulatory change was also appropriate since the caribou that were initially reintroduced to the Nushagak Peninsula in 1988 came from the Alaska Peninsula (BBSRAC 2017b, FSB 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 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 April 2022, the Board voted to maintain the status quo on wildlife closure review WCR22-07 (FSB 2022). The Board noted that maintaining the closure to non-federally qualified users when the NPCH population estimate is below 900 caribou provides a subsistence priority, while opening the hunt to all users when the NPCH exceeds 900 caribou helps keep the herd within carrying capacity of its habitat and prevents unnecessary restrictions on non-subsistence users (FSB 2022).

In April 2024, the Board adopted proposal WP24-18 with modification (FSB 2024). WP24-18 requested expanding the FC1702 hunt area because the Nushagak herd has expanded its range, and frequently occupied areas outside of the existing hunt area, curtailing harvest and subsistence opportunity (OSM 2024). The Board modified the proposal to further expand the hunt area based on public and Tribal testimony during its meeting to, “*Units 17A and 17C, that portion of 17A east of the Ungalikthluk River and South of Buchia Ridge, and within the lower Kulukak River drainage south of Buchia Ridge and within the Kanik River drainage downstream of the Tithe Creek, that portion of 17C south of the Igushik River and south of and including the Tuklung river drainage*” (**Map 1**, FSB 2024). The Board also recommended changes to the delegation of authority letter (DAL) (**Appendix 1**) to allow the in-season manager the ability to set harvest areas (FSB 2024). This provides the in-season manager the ability to open portions of the hunt area and close other portions, especially if the Mulchatna caribou herd is within the FC1702 hunt boundary.

Current Events

Proposal WP26-01 requests to move authority to manage Federal hunts currently delegated to Federal in-season managers through DALs into unit-specific regulations for many hunts across Alaska and to rescind the associated DALs. The delegated authority to the Togiak NWR manager for in-season management of the FC1702 hunt area for Nushagak caribou is included in this proposal (**Appendix 1**).

Closure review WCR26-07 reviews the Federal public lands closure in portions of Units 17A and 17C to the taking of caribou except by federally qualified subsistence users unless the NPCH population estimate exceeds 900 caribou (**Map 1**). The OSM preliminary conclusion presented to the Bristol Bay Subsistence Regional Advisory Council (Council) was to modify the closure to reduce the population threshold to 600 caribou.

Biological Background

The NPCH was established in 1988 when 146 caribou were reintroduced to the Nushagak Peninsula where caribou had been an important subsistence resource for area residents (NPCH Management Plan 1994). The herd is cooperatively managed by the Nushagak Peninsula Caribou Planning Committee (Committee), which consists of Federal, State, Tribal, and local representatives. In 2020, the Committee revised the NPCH population objective from 400–900 caribou, with 750 caribou being the optimum to the objectives stated below due to concerns about overgrazing (Aderman 2020b, pers. comm.).

Management objectives for the NPCH agreed upon by the Committee include (Aderman 2020a):

- Population: 200–600 caribou, optimum 400 caribou
- Bull:cow ratio: 35–45 bulls:100 cows (if ratio is < 25 bulls:100 cows, manage for viability; if ratio is > 55 bulls:100 cows, manage for increased bull harvest).
- Harvest objective: 10–30 caribou

Within the first 10 years following reintroduction, the NPCH grew from 146 animals in 1988 to over 1,200 caribou by 1997. Subsequently, calf recruitment and adult female survival decreased, and the population fell below 500 caribou by 2006. By 2015, the population had increased to an estimated size of over 1,400 caribou and remained above population objectives through 2019. However, the population declined to a minimum count of 209 caribou in 2020, which is the lowest count since the year following reintroduction (Aderman 2020b, pers. comm.). Since 2020, the population increased to a minimum count of 573 caribou in 2024 (Aderman 2024, pers. comm.) (**Table 1**).

The causes of the population decline between 1999 and 2007 are not clearly understood and are almost certainly multi-factored (Aderman and Lowe 2012). The most likely explanation for the decline is that the exceptionally high population growth through 1998 produced large annual cohorts of females that survived until a relative old age, at which time they declined in productivity. This high proportion of unproductive females, combined with high harvest years in 2001 and 2002, changed the population trajectory from an increasing trend to a decreasing trend, which persisted until the replacement of old, unproductive females with younger, more productive females. Changing nutritional conditions (both short-term, such as those associated with drought or winter icing, as well as longer-term changes, such as lower overall carrying capacity due to continuous grazing on the Nushagak Peninsula since 1988) underlaid and exacerbated this decline. Wolf predation has been shown to not be a significant factor. A study of wolf predation from 2007 to 2011 found that wolf predation was not a primary driver of Nushagak Peninsula caribou population dynamics (Walsh and Woolington 2008). Brown bears are common on the Nushagak Peninsula and likely have learned to exploit the caribou population, but their impact on the NPCH is not known (Aderman and Lowe 2012).

Between 2007 and 2015, the population increased due to improved fall calf recruitment and adult female survival (Aderman 2015). Between 2015 and 2020, the population decreased due to increased caribou harvest (Aderman 2017, pers. comm.; 2020b pers. comm.). Specifically, the substantial population decline in 2020 is attributed to hunting related mortality (reported and unreported harvest, and wounding loss) as 863 caribou were reported harvested between 2015/16 and 2019/20, with over 300 caribou harvested in some years (**Tables 1 & 3**). This changed due to harvest restrictions in 2020/21 and continued through 2023/24, when there was a total reported harvest of only nine caribou across these four regulatory years (**Tables 5 & 6**). This drastic decrease in harvest is a primary factor in the population increase during these four years (Alderman 2023 pers. Comm.) (**Tables 1 & 3**). Predation by bears and wolves accounted for an unknown amount of mortality (NPCPC 2020).

Since reintroduction in 1988, bull:cow ratios have ranged from 12–71 bulls:100 cows, averaging 43 bulls:100 cows. The 2023 surveys estimated 33 bulls:100 cows, which is within management objectives. Over the same time period, calf:cow ratios have ranged from 10–72 calves:100 cows,

averaging 45 calves:100 cows. 2023 surveys estimated 63 calves:100 cows (**Table 1**) (Aderman 2020b, pers. comm.; Aderman 2023 pers. comm).

The Committee is concerned over the potential for the NPCH to overgraze its habitat. Between 2002 and 2017, lichen cover on the Nushagak Peninsula declined from 30% to 48% (NPCPC 2020). Assuming the current rate of change continues, lichen cover is projected to be zero by 2026 (Aderman 2020a). Previous research conducted on the Nelchina herd has highlighted the importance of lichen as a winter food for caribou, showing that lichen tends to be much more available in older growth, undisturbed forest and rangelands, and that caribou preferentially migrate to winter habitat with good lichen cover (Collins et al. 2011). The Nushagak Peninsula caribou have started moving to the northwest, off the peninsula, prompting the recent expansion in hunt area (OSM 2024). However, it is unknown whether this emigration will be temporary, seasonal, or long term (NPCPC 2020). Current management efforts are aimed at preventing overgrazing, while recovering the population and providing for subsistence harvest opportunity.

Table 1. Sex and age composition, minimum counts and population estimates for the NPCH, 1988-2025 (Aderman 2015; Aderman 2020b pers. comm., 2023 pers. comm., 2024 pers. comm.; Togiak NWR 2025).

Year	Bulls: 100 Cows	Calves: 100 Cows	Minimum Count ¹	Population Estimate ²		
1988	12	10	146		---	
1989	---	---	202		---	
1990	---	---	268		---	
1991	---	---	383		---	
1992	60	72	561		---	
1993	---	---	734		---	
1994	71	65	1,007		---	
1995	---	---	1,156		---	
1996	---	---	1,112		---	
1997	64	62	1,255		---	
1998	57	63	1,237		---	
1999	48	53	972		---	
2000	52	38	1,024		---	
2001	46	35	930		---	
2002	43	36	678		---	
2003	47	44	757		---	
2004	43	34	588		---	
2005	38	32	594		---	
2006	31	36	477		---	
2007	49	40	462		---	
2008	44	60	579	683	±	108

Year	Bulls: 100 Cows	Calves: 100 Cows	Minimum Count ¹	Population Estimate ²		
2009	37	35	679	861	±	160
2010	42	45	706	758	±	83
2011	29	39	859	847	±	64
2012	52	50	902	925	±	63
2013	32	40	926	1,033	±	135
2014	44	53	1,014	1,056	±	103
2015	65	46	1,313	1,424	±	172
2016	51	40	1,230	1,294	±	68
2017	30	42	786	968	±	218
2018	25	34	709	787	±	114
2019	33	26	710	822	±	164
2020	33	49	209	226	±	47
2021	39	48	258	287	±	48
2022	41	63	359	442	±	118
2023	33	63	470	511	±	86
2024 ³	-	-	573	589	±	58
2025 ³	-	-	-	650	-	-

¹Reported minimum counts were obtained pre-calving (January–March) in 1988–1994, 1997, 2000 and post-calving (June–July) in all other years.

²Population estimates are based on Rivest et al. (1998) caribou abundance estimator.

³Not all 2024 and 2025 data received.

Cultural Knowledge and Traditional Practices

Archaeological surveys and historical accounts document the primacy of the ocean in feeding the people of the Alaskan Peninsula, but they also describe the importance of caribou, particularly for those communities of the western Bristol Bay portion of the peninsula (Lantis 1984; Morseth 2003; VanStone 1984a; VanStone 1984b). Historically, a large caribou herd roamed the coast of the Bering Sea from Bristol Bay to Norton Sound (Skoog 1968, Aderman 2015). Archaeological excavations conducted near Togiak suggest that caribou were important to people living in the area from 1000–1700 A.D. (Kowta 1963, Aderman 2015). Numerous large caribou herds were observed near the headwater lakes of the Igushik River in the early 1800s (VanStone 1988), and large numbers of caribou were also observed near Cape Newenham in the late 1800s (Petroff 1884). However, as Aderman (2015: 2) explains, “while still present in the Upper Kuskokwim drainage, caribou were absent in the Togiak and Goodnews drainages as early as 1900. Reindeer were brought to the Bristol Bay mainland in the early 1900s, and several herds became established in the vicinity of the Nushagak Peninsula. However, the industry had failed by the mid-1940s.”

The NPCH was re-established in 1988, when 146 caribou were relocated from the Northern Alaska Peninsula Caribou Herd (NAPCH) near Becharof Lake in Unit 9E (Paul 2009, Aderman 2015). The

purpose of this effort was to eventually provide local residents with a subsistence resource (NPCH Management Plan 1994). As the herd grew, a Nushagak caribou hunt was established in 1994 on Federal public lands in Unit 17 (Aderman 2015). Though the customary and traditional use determination for caribou in Unit 17 included residents of Unit 9B, Unit 17, Lime Village, and Stony River at the time, this hunt was initially limited to seven communities in Unit 17: Aleknagik, Clark's Point, Dillingham, Ekuk, Manokotak, Togiak, and Twin Hills (NPCH Management Plan 1994). These seven communities were located in closest proximity to the Nushagak herd and had been most directly involved with the reintroduction and management effort (NPCH Management Plan 1994). This decision was consistent with the recommendations of the Nushagak Peninsula Caribou Planning Committee and Bristol Bay Council. Caribou had also been shown to be a key component of subsistence economies in four of the seven prioritized communities (Aleknagik, Clark's Point, Dillingham, and Manokotak) through subsistence studies previously conducted by ADF&G researchers (Wolfe et al. 1983, 1986, Wright et al. 1985, Fall et al. 1986, Schichnes and Chythlook 1988).

Opening this hunt to a subset of FQSUs with a customary and traditional use determination for caribou in Unit 17 initiated an ANILCA Section 804 restriction for all other FQSUs residing outside of the seven prioritized communities. However, it appears that due to the unique way that the herd was reintroduced and cooperatively managed, a formal Section 804 analysis was never conducted for the restrictions enacted in 1994. An ANILCA Section 804 analysis formally identifies which FQSUs should have a priority for the harvest of a limited resource in a particular area, when it is determined that harvest restrictions among FQSUs are needed due to significant conservation concerns or the need to ensure the continuation of subsistence uses among a subset of users most dependent on the resource. According to the regulation, three criteria are used to make these Section 804 priority determinations:

- (1) Customary and direct dependence upon the resource as a mainstay of livelihood
- (2) Local residency/proximity to the resource
- (3) Availability of alternative resources

However, it is important to recognize that the Planning Committee is a strong example of a successful cooperative management, co-stewardship organization. It was formed in the early 1990s, and it is comprised of representatives from the Togiak NWR, Bristol Bay Native Association, Choggiung Limited, Nushagak Fish and Game Advisory Committee, ADF&G, and the Traditional Councils of Manokotak, Togiak, Twin Hills, Dillingham, Aleknagik, and Clark's Point (Aderman 2015). The Planning Committee determines by consensus the number of Federal registration permits to make available each year, with Tribal Councils typically distributing these permits in their respective communities (Aderman 2015, FSB 2024). Before 2018, the Nushagak caribou hunt was only open to residents of the seven prioritized communities in codified regulations. In 2018, the Section 804 restriction was removed, and Federal harvest was opened to all communities with a customary and traditional use determination for caribou in the Nushagak caribou hunt area in codified regulation. The

customary and traditional use determination was also expanded to include residents of Units 9C and 9E.²

There are currently thirty-two communities included in the customary and traditional use determination for caribou in the Nushagak hunt area. The total population of these thirty-two communities was estimated at 6,541 people in 2024 (**Table 2**). Most of these communities are located in traditional Yup'ik territory (ADCCED 2025). Dillingham is the largest community in the area and functions as the hub of transportation, health care, and trade in the Bristol Bay region, with a population estimated at 2,086 in 2024 (**Table 2**). Human populations in the area steadily increased from about 1960 to 2000, but they have generally decreased since this time (**Table 2**).

Commercial fishing and fish processing have been important to the regional economy since the late 1800s (ADCCED 2025). Sport fishing and hunting, as well as support services for these industries have also become important sources of income and employment in the area. Federal, State, local, and/or Tribal governments also have a significant presence and provide employment in many of the communities in the region. Today, community members maintain permanent residences while visiting seasonal hunting and fishing camps and/or conducting subsistence related activities during day or overnight trips. Large harvests of salmon remain integral to subsistence economies in the area, as well as harvests of moose and caribou (VanStone 1984b, Van Lanen et al. 2018, ADCCED 2025).

Hunters in the Bristol Bay region generally search for caribou in a wide area surrounding their communities (Krieg et al. 1996; Krieg et al. 1998; Holen et al. 2011, OSM 2018), because caribou populations and migration patterns regularly fluctuate (Behnke 2000, Gunn 2003). The caribou herds reasonably accessible to residents of Units 9 and/or 17 include the NAPCH, the Southern Alaska Peninsula Caribou Herd (SAPCH), the Unimak Caribou Herd (UCH), the Mulchatna Caribou Herd (MCH), and the NPCH (Aderman 2015). The NPCH can be particularly important to area hunters when the typically larger MCH does not migrate within reasonable proximity of their homes, or when the MCH hunt is closed (Aderman 2015). The seven communities in closest proximity to the NPCH (Aleknagik, Clark's Point, Dillingham, Ekuk, Manokotak, Togiak, and Twin Hills) hunt for caribou throughout the Togiak, Nushagak, Igushik, and Wood River drainages (Wolfe et al. 1983, Fall et al. 1986, Wolfe et al. 1986, Schichnes and Chythlook 1988, Seitz 1996, Coiley-Kenner et al. 2003, Holen et al. 2005, Fall et al. 2012, Holen et al. 2012, Evans et al. 2013, Van Lanen et al. 2018; Jones et al. 2024). Historically, harvest levels have fluctuated based on the availability of caribou, as well as hunters' ability to access them (**Appendix 2; Tables 3 & 4**).

Weather has become an increasingly important factor in when and where hunters seek caribou in recent years, as hunters have reported that weather has generally gotten warmer over the past several decades (FSB 2024). Local hunters have explained that, "In addition to trends towards warmer temperatures during late-fall and early-spring, study respondents reported large-scale changes in snow and ice cover throughout the duration of winter, and that the normal freezing of waterbodies such as lakes and rivers has now also become unreliable" (Van Lanen et al. 2018: 140). These changing weather patterns can

² The Nushagak caribou hunt has only been open to NFQUs during the 2015/2016 – 2019/2020 regulatory years (**Table 3**).

lead to changes in caribou migration patterns and make well-established methods of accessing caribou more difficult and dangerous (Van Lanen et al. 2018). For example, hunters may not cross the Wood River or Nushagak River when ice conditions are unsafe (Van Lanen et al. 2018). This prevents hunters from Manokotak, Aleknagik, and Dillingham from hunting Mulchatna caribou along the Nushagak River and its tributaries (Van Lanen et al. 2018). Likewise, ice cover is not as reliable from year-to-year on the Osviak, Matogak, Quigmy, Togiak, and Negukthilik rivers and their tributaries, discouraging Togiak and Twin Hills residents from hunting in these areas (Van Lanen et al. 2018).

During years when the MCH is difficult to access, hunters may focus their efforts more on the NPCH (Aderman 2015, Van Lanen et al. 2018). However, late freeze up, early break up, and inadequate snow and ice cover can also make hunting the NPCH difficult from snowmachines, which have functioned as the main means of winter travel for decades (Aderman 2015; Van Lanen et al. 2018; Jones et al. 2021). During these years, the NPCH may only be accessed safely by airplane. Caribou harvests have increased and decreased in tandem with the availability of adequate snow and ice cover for travel, as well as the size of caribou populations and the length of the hunting season (Aderman 2015, Van Lanen et al. 2018).

Still, subsistence studies conducted by ADF&G continue to document the importance of caribou for the residents of Bristol Bay (**Appendix 2 & 3**; Fall et al. 1986; Schichnes and Chythlook 1988; Seitz 1996; Coiley-Kenner et al. 2003; Holen et al. 2005; Kreig et al. 2009; Holen et al. 2012; Evans et al. 2013; Jones et al. 2024). Caribou usually contribute a significant portion of the total per person harvest of wild resources for most Bristol Bay communities (**Appendix 2**). Subsistence survey reports document caribou harvests ranging from 0% of the total per person harvest in Aleknagik in 2008 (Holen et al. 2012) and Dillingham in 2021³ (Jones et al. 2024), to a high of around 60% of the total per person harvest in Egegik in 1984 and Port Heiden in 1987 (**Appendix 2**). In all communities over each study year (1973 – 2021), caribou accounted for an average of 14% (74 lbs.) of the total per person harvest of wild resources (**Appendix 2**), with an average of 78% of all households using caribou, and 42% of all households successfully harvesting caribou (**Appendix 3**). Caribou was also typically shared at high rates within and between communities in the area during these study years (**Appendix 3**). It is important to note that the subsistence survey data shown in **Appendix 2 and 3** estimates all caribou harvest and use for each study community and year, regardless of the herd of origin.

Comparing the average caribou harvest and use rates of the seven communities initially prioritized for the Nushagak caribou hunt with those of other Unit 17 communities, Unit 9 communities, and Lime Village and Stony River is complicated by issues like the relative size of Dillingham, differences in historical access to the various caribou herds in the region, and differences in the number of times each community has been studied (**Appendix 2 & 3**). However, on average, the seven Unit 17 communities that are the focus of this proposal exhibited the lowest per person caribou harvest amounts, lowest household usage rates, and lowest household rates of sharing across their study years (**Appendix 2 &**

³ There was no open season for the NPCH and MCH under state regulations during the 2021 study year due to low herd numbers. Hunting for the NPCH was available by Federal permit, but only 8 Federal permits were issued in 2021 (Jones et al. 2024).

3). This could be an indication that residents of other communities typically have greater access to and/or focus more of their yearly harvesting efforts on caribou. Still, these seven communities have accounted for the vast majority of all Nushagak caribou harvested since 1994 (**Table 4**). It is likely that most of the caribou harvested and used by other communities in the area have been taken from other herds due to issues of proximity, access, and the lack of NPCH permits available to these communities from 1994 to 2017.

Caribou Hunting by Communities in Unit 9

The current proposal asks to close Nushagak Peninsula caribou hunting to NFQUs and a subset of FQSUs residing in some communities within Unit 17, all the communities in Unit 9, and residents of Lime Village and Stony River. However, it is important to note that harvest surveys conducted by ADF&G have demonstrated that Unit 9 residents have consistently searched for and harvested caribou in portions of Unit 17, for as long as reports have been kept (Krieg et al. 1996; Krieg et al. 1998; Holen et al. 2011, OSM 2018).

The caribou herds present in Unit 17 are the MCH and the NPCH. Both herds remain distinct with ranges that only minimally overlap. The NPCH range is bounded by the Nushagak Peninsula; however, residents of Unit 9 may also claim ties to the herd as it was established with animals from the NAPCH (Aderman 2015), whose range lies completely within Unit 9. The Bristol Bay Council has previously expressed support for the inclusion of Unit 9C and 9E residents in the customary and traditional use determination for caribou in Unit 17 (OSM 2018), specifically to provide access to the NPCH (OSM 2018). Further, residents of Unit 17 also have a customary and traditional use determination for caribou in Units 9C and 9E, demonstrating the type of wide-ranging, regional pattern of caribou search and harvest that has historically been necessary due to changes in weather conditions and caribou migration patterns and associated changes in accessibility (OSM 2018).

Table 2. Populations of communities with a customary and traditional use determination for Nushagak Caribou (ADCCED 2025).

Unit/Group	Community	1960	1970	1980	1990	2000	2010	2020	2024
Proposed Unit 17 Communities	Aleknagik	231	128	154	185	221	219	211	209
	Clark's Point	138	95	79	60	75	62	67	57
	Dillingham	424	914	1,563	2,017	2,466	2,329	2,249	2,086
	Ekuk	- ⁴	-	-	-	2	2	-	-
	Manokotak	149	214	294	385	399	442	488	492
	Togiak	220	383	470	613	809	817	817	726
	Twin Hills	0	67	70	66	69	74	103	93
	Total	1,162	1,801	2,630	3,326	4,041	3,945	3,935	3,663

⁴ Dashed lines in this table indicate that this information was not collected or is not available for this study year.

Unit/Group	Community	1960	1970	1980	1990	2000	2010	2020	2024
Other Unit 17 Communities	Ekwok	106	103	77	77	130	115	111	116
	New Stuyahok	145	216	331	391	471	510	512	451
	Koliganek	100	142	117	181	182	209	183	169
	Total	351	461	525	649	783	834	806	736
Unit 19	Lime Village	32	25	48	42	46	29	13	9
	Stony River	75	74	62	51	61	54	57	61
	Total	107	99	110	93	107	83	70	70
Unit 9	Chignik	99	83	178	188	79	91	97	66
	Chignik Lagoon	108	0	48	53	103	78	72	65
	Chignik Lake	107	117	138	133	145	73	61	60
	Egegik	150	148	75	122	116	109	39	29
	Igiugig	36	36	33	33	53	50	68	63
	Iliamna	47	58	94	94	102	109	108	109
	Ivanof Bay	15	48	40	35	22	7	1	1
	King Salmon	227	202	545	696	442	374	307	311
	Kokhanok	57	88	83	152	174	170	152	135
	Levelock	88	74	79	105	122	69	69	57
	Naknek	249	178	318	575	678	544	470	407
	Newhalen	63	88	87	160	160	190	168	163
	Nondalton	205	184	173	178	221	164	133	105
	Pedro Bay	53	65	33	42	50	42	43	42
	Perryville	93	94	111	108	107	113	88	81
	Pilot Point	61	68	66	53	100	68	70	53
	Port Alsworth	0	0	22	55	104	159	186	175
	Port Heiden	74	66	92	119	119	102	100	88
	South Naknek	142	154	145	136	137	79	67	59
	Ugashik	36	0	13	7	11	12	4	3
	Total	1,910	1,751	2,373	3,044	3,045	2,603	2,303	2,072
Overall Total		3,530	4,112	5,638	7,112	7,976	7,465	7,114	6,541

Harvest History

In 2011, the Nushagak Peninsula Caribou Management Plan's harvest strategy was revised to make it more responsive to a dynamic caribou population (Aderman 2015). The strategy established an annual harvest goal based on population size and trend, allowing harvest when the population exceeds 200 caribou and is stable or increasing. It calls for a liberal harvest when the population is 800 caribou or greater, and it recommends harvesting all animals over a minimum count of 750 caribou (Aderman 2015). In 2025, the Nushagak Peninsula Caribou Planning Committee set a harvest objective of 200 caribou for the RY2025/26 season (Togiak NWR 2025).

Hunting effort is influenced by travel conditions, availability of and opportunity to harvest other resources, including Mulchatna caribou and moose, as well as economic factors (Aderman and Lowe 2012). Historically, most of the reported harvest has occurred in February and March (**Appendix 3**), due to improved hunter access to the herd via snowmachine (Aderman and Lowe 2012). Between RY1994/95 and RY2023/24, 18% and 68% of the NPCH harvest occurred in February and March, respectively. Total reported harvest has sometimes been lower than expected, given the NPCH size (Alderman 2023, pers. comm). Winter harvest was low for several years due to poor travel conditions, resulting from low snowfall and warm temperatures. This low winter harvest has continued in recent years, as the NPCH has been spending the winter outside the hunt area. Proposal WP24-18, which expanded the NPCH hunt area was submitted and adopted in response to the herd expanding its range.

Between 1994/95 and 2023/24, the reported yearly Nushagak caribou harvest was quite variable, ranging from 0 to 378 caribou per year, with an average harvest of about 62 caribou per year (**Table 3**). The highest harvests occurred in RY2016/17 and RY2019/20 (Aderman 2020b, pers. comm.). These years of high harvest (over 300 caribou/year) likely contributed to the population decline between RY2017/18 – 2020/21.

Local subsistence hunters from Aleknagik, Dillingham, Manokotak, and Togiak have accounted for the vast majority of caribou harvested under Federal and State regulations, and most Nushagak caribou are harvested under Federal regulations (**Table 4**). Between 2015/16 and 2019/20, nine percent of the total reported harvest occurred under State regulations (Aderman 2020a). The State hunt RC501 has not occurred since 2019/20 due to conservation concerns and the Federal lands closure. Similarly, there has been very limited harvest of Nushagak caribou by FQSUs since 2020 (0-5 caribou/year), due to conservation concerns over low herd numbers (Jones et al. 2024) and/or difficulties accessing the herd due to changing weather patterns (**Tables 3 & 4**).

Table 3. Reported harvest of the NPCH, by month, for regulatory years 1994/1995–2023/2024 (Aderman 2015; OSM 2015; Aderman 2017, pers. comm., 2020b pers. comm., 2023 pers. comm., 2024 pers. comm.; ADF&G 2017).

Year	Month								Unknown	Total
	Aug.	Sep.	Oct.	Dec.	Jan.	Feb.	Mar.	Apr.		
1994/1995	NS ^a	NS	NS	NS	3	1	25	NS	6	35
1995/1996	NS	NS	NS	3	0	5	43	NS	1	52
1996/1997	5	NS	NS	0	0	2	13	NS	0	20
1997/1998	5	NS	NS	0	2	25	35	NS	0	67
1998/1999	0	2	NS	0	0	0	50	NS	3	55
1999/2000	0	0	NS	0	2	7	54	NS	0	63
2000/2001	0	6	NS	0	0	22	98	NS	0	126
2001/2002	0	3	NS	0	0	9	115	NS	0	127
2002/2003	3	0	NS	0	0	0	0	NS	0	3
2003/2004	2	3	NS	0	0	0	29	NS	0	34
2004/2005	1	0	NS	0	0	0	8	NS	0	9
2005/2006	1	1	NS	0	0	0	9	NS	0	11
2006/2007	NS	NS	NS	NS	NS	0	NS	NS	0	0
2007/2008	NS	NS	NS	NS	NS	0	0	NS	0	0
2008/2009	NS	NS	NS	NS	NS	5	2	NS	1	8
2009/2010	NS	NS	NS	NS	NS	3	14	NS	1	18
2010/2011	NS	NS	NS	NS	NS	18	27	NS	0	45
2011/2012	0	2	NS	NS	NS	20	64	NS	0	86
2012/2013	6	3	NS	0	5	6	89	NS	0	109
2013/2014	3	1	NS	0	0	0	98	NS	0	102
2014/2015	8	7	NS	0	0	1	0	NS	0	16
2015/2016 ^b	28	14	NS	0	0	0	15	7	0	64
2016/2017 ^c	29	15	1	2	38	113	180	0	0	378
2017/2018 ^d	8	3	0	1	2	19	67	NS	0	100
2018/2019 ^e	6	3	2	0	0	1	2	NS	0	14
2019/2020 ^f	11	3	0	0	9	69	215	NS	0	307
2020/2021	0	0	NS	NS	NS	NS	NS	NS	0	0
2021/2022	0	0	0	0	0	0	4	0	0	4
2022/2023	0	0	0	0	0	0	0	0	0	0
2023/2024	5	0	0	0	0	0	0	0	0	5
Average	5	3	0.4	0.3	3	11	45	1	0.4	62

^a NS = No season

^b Includes 10 caribou harvested under State regulation

^c Includes 28 caribou harvested under State regulation

^d Includes 5 caribou harvested under State regulation

^e Includes 2 caribou harvested under State regulation

^f Includes 12 caribou harvested under State regulation and 7 harvested illegally

Table 4. Nushagak Caribou Reported Harvested under Federal FC1702 permit by Community from 1994–2024 (Jones et al. 2021, OSM 2025). Dashed lines in this table indicate that no permits were issued for the year/community where they appear. (The “Other” column includes any harvests made by hunters residing outside the seven prioritized communities).

Year	Aleknagik	Dillingham	Manokotak	Togiak	Twin Hills	Clark's Point /Ekuk	Other	Total
1994/1995	3	5	25	1	1	0	-	35
1995/1996	0	2	50	0	0	0	-	52
1996/1997	1	10	9	0	0	0	-	20
1997/1998	4	38	25	0	0	0	-	67
1998/1999	0	45	10	0	0	0	-	55
1999/2000	1	40	16	6	0	0	-	63
2000/2001	0	107	19	0	0	0	-	126
2001/2002	5	76	46	0	0	0	-	127
2002/2003	0	0	3	0	0	0	-	3
2003/2004	0	7	27	0	0	0	1	35
2004/2005	0	2	7	0	0	0	-	9
2005/2006	1	0	10	0	0	0	-	11
2006/2007	-	-	0	-	-	-	-	0
2007/2008	-	-	0	-	-	-	-	0
2008/2009	-	-	8	-	-	-	1	9
2009/2010	1	6	11	-	-	-	-	18
2010/2011	11	10	24	-	-	-	-	45
2011/2012	17	22	32	15	0	-	-	86
2012/2013	26	38	37	4	4	-	-	109
2013/2014	9	52	41	-	-	-	-	102
2014/2015	4	8	4	-	-	-	-	16
2015/2016	6	33	23	-	-	2	2	66
2016/2017	40	241	87	8	-	-	-	376
2017/2018	0	61	39	0	0	0	-	100
2018/2019	1	5	8	-	-	-	0	14
2019/2020	34	191	55	17	4	0	6	307
2020/2021	-	-	-	-	-	-	-	0
2021/2022								4
2022/2023	-	-	-	-	-	-	-	0
2023/2024	-	5	-	-	-	-	-	5
2024/2025	-	0	-	-	-	-	-	0
Total	164	1004	616	51	9	2	10	1856

Alternative(s) Considered

Given recent reductions in the NPCH population objective, it may be warranted to modify the proposed Federal regulations to reduce the population threshold at which non-federally qualified users may hunt NPCH on Federal public lands. However, this alternative is beyond the scope of the current proposal and is addressed in related closure review WCR26-07.

Another alternative considered was to create a new customary and traditional use area for the Nushagak Peninsula. Currently, the Nushagak Peninsula is part of the Unit 17 remainder customary and traditional use area, which encompasses the majority of the unit (**Map 2**). However, this alternative is outside the scope of this proposal and would require a separate proposal to be submitted.

Discussion and Effects

If this proposal is adopted, only residents of Aleknagik, Clark's Point, Dillingham, Ekuk, Manokotak, Togiak, and Twin Hills would be able to harvest Nushagak caribou on Federal public lands, while NFQUs and other FQSUs would not. The effect of this change would be similar to the restrictions that existed prior to the adoption of Proposals WP18-22 and WP18-23 in 2018. This may increase harvest opportunity for residents of the seven prioritized communities in the short-term, but it could also result in reduced opportunity in the long-term as the NCPH could grow to exceed carrying capacity and experience a population crash or outmigration off the peninsula.

The current regulations balance concerns of overharvest with those of overgrazing. Closing the hunt to NFQUs when the NPCH population estimate is below a population threshold (currently 900 caribou) provides a subsistence priority, while opening the hunt to all users when the NPCH exceeds a population threshold helps keep the herd within the carrying capacity of its habitat and prevents unnecessary restrictions on non-subsistence users. The current population threshold of 900 caribou was established in 2018 because the upper bound of the NCPH population objective range was 900 caribou at that time. However, since then, the Committee reduced the upper bound of the population objective range to 600 caribou due to concerns about overgrazing (Aderman 2020b, pers. comm.).

While this proposal would prioritize the harvest of Nushagak caribou by FQSUs residing in seven communities over other FQSUs, the in-season manager currently has authority to determine the number of permits available by community, which is done in close coordination with the Nushagak Peninsula Caribou Planning Committee. As permit numbers are generally limited when the herd is below 900 caribou, these seven communities are typically issued most of the permits in these situations. This effectively achieves the proponent's intent while maintaining more management flexibility to respond to changing herd status and environmental conditions.

OSM would also like to receive feedback from the Bristol Bay Council, Tribal representatives, and other stakeholders before proceeding further with a formal 804 analysis on this issue. An analysis based on the three 804 criteria in regulation may or may not result in the same priority recommendations that were initially advanced by the Nushagak Peninsula Caribou Planning Committee in 1994.

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP26-40.

Justification

Closure to NFQUs and a subset of FQSUs is not warranted for either conservation concerns or for the continuation of subsistence uses. The current regulations balance concerns of overharvest with those of overgrazing. Closing the hunt to NFQUs when the NPCH population estimate is below a population threshold (currently 900 caribou) provides a subsistence priority, while opening the hunt to all users when the NPCH exceeds that threshold helps keep the herd within the carrying capacity of its habitat and prevents unnecessary restrictions on non-subsistence users. In-season management of permit numbers and permit distribution prioritizes the communities most dependent on the resource when the herd's population is low, achieving the proponent's intent.

Further, residents of the communities in Unit 9 that have a customary and traditional use determination for the NPCH have consistently searched for and harvested caribou in portions of Unit 17 for as long as reports have been kept (Krieg et al. 1996; Krieg et al. 1998; Holen et al. 2011, OSM 2018). The Bristol Bay Council has previously expressed support for the inclusion of Unit 9 residents into the customary and traditional use determination for caribou in Unit 17 (OSM 2018), specifically to provide access to the NPCH (OSM 2018). Residents of Unit 17 also have a customary and traditional use determination for caribou in Units 9C and 9E, demonstrating the type of wide-ranging, regional pattern of caribou search and harvest that has historically been necessary due to changes in caribou numbers and migration patterns (OSM 2018).

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APPENDIX 1



Federal Subsistence Board

Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503 - 6199



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

June 20 2024

FOREST SERVICE

In Reply Refer To:
OSM.B24042

Togiak National Wildlife Refuge Manager
U.S. Fish and Wildlife Service
P.O. Box 270 MS 569
Dillingham, Alaska 99576

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Togiak National Wildlife Refuge (Refuge) to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of a wildlife population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Units 17A and 17C, that portion of 17A east of the Ungalikthluk River and South of Buchia Ridge, and within the lower Kulukak River drainage south of Buchia Ridge and within the Kanik River drainage downstream of the Tithe Creek, that portion of 17C south of the Igushik River and south of and including the Tuklung River drainage for the management of caribou on these lands.

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

DELEGATION OF AUTHORITY

1. Delegation: The Togiak NWR manager is hereby delegated authority to issue emergency or temporary special actions affecting caribou on Federal lands as outlined under the **Scope of**

Delegation. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

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

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

- Determine the harvest quota.
- Set the harvest limit.
- Close the season.
- Set harvest areas.
- Determine the number of permits to be issued, and the number of permits available by community.

This delegation also permits you to close and reopen Federal public lands to non-subsistence 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 Unit 17A and 17C, that portion of 17A east of the Ungalikthluk River and South of Buchia Ridge, and within the lower Kulukak River drainage south of Buchia Ridge and within the Kanik River drainage downstream of the Tithe Creek, that portion of 17C south of the Igushik River and south of and including the Tuklung River drainage.

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

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

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

For management decisions on special actions, consultation is not always possible, but to the extent practicable, two-way communication will take place before decisions are implemented. You will also establish meaningful and timely opportunities for government-to-government consultation related to pre-season and post-season management actions as established in the Board's Consultation Policies (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 federally qualified 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.

Sincerely,

A handwritten signature in black ink, appearing to read "Anthony Christianson". The signature is fluid and cursive, with the first name "Anthony" being more prominent than the last name "Christianson".

Anthony Christianson
Chair

cc: Federal Subsistence Board
Office of Subsistence Management
Chair, Bristol Bay Subsistence Regional Advisory Council
Chair, Western Interior Alaska Subsistence Regional Advisory Council
Benjamin Mulligan, Deputy Commissioner, Alaska Department of Fish and Game
Mark Burch, Assistant Director of Wildlife Conservation, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

APPENDIX 2

Caribou harvested from any herd by residents of communities with a customary and traditional use determination for Nushagak Caribou, according to subsistence surveys conducted from 1973–2021 (ADF&G CSIS 2025). (Dashed lines in this table indicate that this information was not collected or is not available for this study year.)

Unit/Group	Community	Study Year	Households Harvesting Caribou (%)	Caribou Harvest per Person (lbs.)	Total Subsistence Harvest per Person (lbs.)	Percent of Total Harvest that is Caribou
Proposed Unit 17 Communities		1989	55%	60	379	16%
	Aleknagik	2001	47%	46	-	-
		2008	0%	0	296	0%
	Clark's Point	1989	41%	48	363	13%
		2001	57%	71	-	-
		1984	22%	28	242	12%
	Dillingham	2001	6%	21	-	-
		2010	5%	4	212	2%
		2021	0%	0	199	0%
		1985	31%	22	384	6%
	Manokotak	1999	49%	49	356	14%
		2001	42%	28	-	-
		1999	47%	37	246	15%
	Togiak	2001	-	23	-	-
		2008	30%	26	304	8%
	Twin Hills	1999	75%	54	499	11%
		2001	-	16	-	-
	Average		34%	31	316	9%
Other Unit 17 Communities	Ekwok	1987	62%	80	797	10%
		2001	31%	40	-	-
	New Stuyahok	1987	82%	108	700	15%
		2001	66%	80	-	-
		2005	59%	64	389	16%
	Koliganek	1987	74%	150	830	18%
		2001	56%	76	-	-
		2005	61%	92	899	10%
	Average		61%	86	723	14%
Unit 19	Lime Village	2007	43%	159	936	17%

Unit/Group	Community	Study Year	Households Harvesting Caribou (%)	Caribou Harvest per Person (lbs.)	Total Subsistence Harvest per Person (lbs.)	Percent of Total Harvest that is Caribou
Unit 19 (cont.)	Stony River	2003	29%	35	-	-
		2004	20%	33	-	-
		2005	0%	0	-	-
		2009	8%	3	533	1%
	Average		20%	46	734	9%
Unit 9	Chignik	1984	21%	7	188	4%
		1989	23%	15	209	7%
		1991	17%	16	357	4%
		1994	4%	2	-	-
		1995	11%	6	-	-
		1996	13%	9	-	-
		2003	4%	2	-	-
		2016	12%	11	-	-
	Chignik Lagoon	1984	18%	11	220	5%
		1989	20%	15	211	7%
		1994	41%	33	-	-
		1995	28%	25	-	-
		1996	13%	10	-	-
		2003	25%	17	389	4%
		2016	0%	0	-	-
	Chignik Lake	1984	74%	79	279	28%
		1989	57%	173	453	38%
		1991	58%	120	442	27%
		1994	56%	105	-	-
		1995	68%	88	-	-
		1996	71%	76	-	-
		2003	29%	25	256	10%
		2016	14%	9	-	-
	Egegik	1984	72%	233	384	61%
		1994	54%	186	-	-
		1995	76%	144	-	-
		1996	48%	86	-	-
		2014	0%	0	155	0%
		2016	0%	0	-	-
	Igiugig	1983	33%	16	618	3%

Unit/Group	Community	Study Year	Households Harvesting Caribou (%)	Caribou Harvest per Person (lbs.)	Total Subsistence Harvest per Person (lbs.)	Percent of Total Harvest that is Caribou
Unit 9 (cont.)	Igiugig (cont.)	1992	100%	200	725	28%
		2001	91%	128	-	-
		2005	58%	91	542	17%
	Iliamna	1983	20%	17	416	4%
		1991	70%	164	848	19%
		2001	43%	66	-	-
		2004	8%	7	469	1%
	Ivanof Bay	1984	67%	82	456	18%
		1989	86%	108	490	22%
		1994	50%	21	-	-
		1995	29%	52	-	-
		1996	71%	78	-	-
	King Salmon	1983	44%	74	220	34%
		1994	59%	92	-	-
		1995	54%	66	-	-
		1996	35%	46	-	-
		2007	12%	10	313	3%
	Kokhanok	1983	5%	1	697	0.20%
		1992	64%	118	1013	12%
		2001	25%	22	-	-
		2005	26%	21	680	3%
	Levelock	1988	74%	118	1253	9%
		1992	77%	116	884	13%
		2001	53%	68	-	-
		2005	64%	120	527	23%
	Naknek	1983	36%	55	188	29%
		1994	64%	118	-	-
		1995	43%	70	-	-
		1996	49%	82	-	-
		2007	21%	21	264	8%
	Newhalen	1983	36%	28	767	4%
		1991	81%	146	747	20%
		2001	65%	72	-	-
		2004	44%	59	692	9%
	Nondalton	1973	60%	112	803	14%

Unit/Group	Community	Study Year	Households Harvesting Caribou (%)	Caribou Harvest per Person (lbs.)	Total Subsistence Harvest per Person (lbs.)	Percent of Total Harvest that is Caribou
Unit 9 (cont.)	Nondalton (cont.)	1980	71%	69	1036	7%
		1981	68%	61	738	8%
		1983	86%	109	1175	9%
		2001	27%	23	-	-
		2004	13%	17	358	5%
	Pedro Bay	1982	6%	15	865	2%
		1996	15%	35	397	9%
		2001	0%	0	-	-
		2004	6%	3	306	1%
	Perryville	1984	35%	38	391	10%
		1989	22%	28	394	7%
		1994	10%	18	-	-
		1995	9%	27	-	-
		1996	18%	29	-	-
		2003	18%	15	518	3%
		2016	15%	8	-	-
	Pilot Point	1987	76%	229	388	59%
		1994	56%	182	-	-
		1995	50%	65	-	-
		1996	46%	170	-	-
		2014	0%	0	211	0%
	Port Alsworth	1983	23%	13	361	4%
		2001	10%	6	-	-
		2004	9%	9	133	7%
	Port Heiden	1987	68%	245	408	60%
		1991	72%	227	-	-
		1994	50%	197	-	-
		1995	69%	275	-	-
		1996	68%	228	-	-
		2016	48%	44	-	-
		2018	67%	64	297	21%
	South Naknek	1983	57%	147	268	55%
		1992	46%	91	297	31%
		1994	68%	119	-	-

Unit/Group	Community	Study Year	Households Harvesting Caribou (%)	Caribou Harvest per Person (lbs.)	Total Subsistence Harvest per Person (lbs.)	Percent of Total Harvest that is Caribou
Unit 9 (cont.)	South Naknek (cont.)	1995	62%	133	-	-
		1996	54%	157	-	-
		2007	5%	7	267	3%
	Ugashik	1987	80%	300	814	37%
		1994	100%	350	-	-
		1995	100%	300	-	-
		1996	100%	435	-	-
		2014	0%	0	949	0%
	Average		42%	81	504	15%
Overall Average			78%	50%	41%	57%

APPENDIX 3

Use, attempted harvest, and sharing of caribou taken from any herd by households in communities with a customary and traditional use determination for Nushagak Caribou, according to subsistence surveys conducted from 1973–2021 (ADF&G CSIS 2025). (Dashed lines in this table indicate that this information was not collected or is not available for this study year.)

Unit/Group	Community	Study Year	Households Using Caribou (%)	Households Attempting to Harvest Caribou (%)	Households Giving Caribou (%)	Households Receiving Caribou (%)
Proposed Unit 17 Communities	Aleknagik	1989	84%	60%	60%	60%
		2001	89%	56%	28%	53%
		2008	13%	6%	0%	13%
	Clark's Point	1989	76%	53%	47%	65%
		2001	86%	71%	57%	43%
	Dillingham	1984	70%	27%	15%	55%
		2001	13%	10%	7%	8%
		2010	36%	15%	9%	29%
		2021	12%	0%	5%	12%
	Manokotak	1985	89%	43%	46%	65%
		1999	88%	57%	63%	65%
		2001	88%	42%	32%	53%
	Togiak	1999	71%	56%	41%	45%
		2001	-	-	-	-
		2008	82%	39%	36%	65%
	Twin Hills	1999	92%	83%	67%	67%
		2001	-	-	-	-
	Average		66%	41%	34%	47%
Other Unit 17 Communities	Ekwok	1987	93%	72%	38%	59%
		2001	97%	41%	16%	78%
	New Stuyahok	1987	97%	82%	57%	60%
		2001	98%	77%	62%	73%
		2005	92%	69%	41%	61%
	Koliganek	1987	90%	74%	59%	62%
		2001	91%	70%	43%	65%
		2005	89%	75%	57%	46%
	Average		93%	70%	47%	63%
Unit 19	Lime Village	2007	86%	71%	43%	71%

Unit/Group	Community	Study Year	Households Using Caribou (%)	Households Attempting to Harvest Caribou (%)	Households Giving Caribou (%)	Households Receiving Caribou (%)
Unit 19 (cont.)	Stony River	2003	53%	47%	24%	35%
		2004	60%	60%	0%	40%
		2005	33%	0%	0%	33%
		2009	42%	42%	0%	33%
	Average		55%	44%	13%	42%
Unit 9	Chignik	1984	68%	32%	37%	63%
		1989	77%	46%	14%	66%
		1991	87%	30%	33%	80%
		1994	71%	8%	21%	67%
		1995	71%	14%	29%	64%
	Chignik Lagoon	1996	63%	23%	27%	50%
		2003	54%	14%	9%	59%
		2016	46%	12%	12%	33%
		1984	76%	29%	29%	65%
		1989	73%	33%	27%	53%
		1994	93%	56%	41%	67%
		1995	83%	44%	11%	67%
		1996	93%	33%	7%	8%
		2003	63%	44%	31%	50%
		2016	30%	15%	5%	30%
	Chignik Lake	1984	100%	74%	70%	91%
		1989	95%	67%	62%	86%
		1991	100%	58%	58%	79%
		1994	94%	66%	50%	72%
		1995	100%	74%	95%	89%
		1996	100%	76%	94%	100%
		2003	95%	33%	62%	95%
		2016	61%	32%	29%	54%
	Egegik	1984	96%	80%	64%	60%
		1994	86%	54%	50%	59%
		1995	94%	79%	41%	41%
		1996	83%	55%	45%	48%
		2014	0%	0%	0%	0%
		2016	10%	10%	0%	10%

Unit/Group	Community	Study Year	Households Using Caribou (%)	Households Attempting to Harvest Caribou (%)	Households Giving Caribou (%)	Households Receiving Caribou (%)
Unit 9 (cont.)	Igiugig	1983	-	33%	-	67%
		1992	100%	100%	90%	70%
		2001	100%	91%	82%	36%
		2005	100%	75%	75%	83%
	Iliamna	1983	-	30%	-	10%
		1991	96%	70%	65%	61%
		2001	76%	57%	48%	57%
		2004	77%	46%	23%	69%
	Ivanof Bay	1984	100%	67%	67%	83%
		1989	100%	86%	57%	86%
		1994	87%	75%	62%	87%
		1995	100%	57%	71%	100%
		1996	100%	86%	86%	86%
	King Salmon	1983	74%	53%	-	35%
		1994	86%	65%	46%	32%
		1995	86%	59%	40%	35%
		1996	76%	40%	22%	43%
		2007	33%	22%	4%	22%
	Kokhanok	1983	-	5%	-	47%
		1992	97%	64%	64%	72%
		2001	94%	31%	12%	87%
		2005	80%	46%	26%	63%
	Levelock	1988	100%	78%	85%	85%
		1992	100%	80%	70%	70%
		2001	100%	59%	41%	65%
		2005	100%	71%	57%	64%
	Naknek	1983	73%	48%	-	52%
		1994	85%	68%	42%	36%
		1995	56%	50%	19%	21%
		1996	67%	57%	26%	23%
		2007	49%	37%	9%	33%
	Newhalen	1983	-	36%	-	-
		1991	100%	81%	69%	77%
		2001	94%	73%	53%	82%
		2004	88%	52%	60%	68%

Unit/Group	Community	Study Year	Households Using Caribou (%)	Households Attempting to Harvest Caribou (%)	Households Giving Caribou (%)	Households Receiving Caribou (%)
Unit 9 (cont.)	Nondalton	1973	-	-	-	-
		1980	-	-	-	-
		1981	-	-	-	-
		1983	-	86%	-	5%
		2001	94%	42%	36%	91%
		2004	53%	32%	29%	47%
	Pedro Bay	1982	-	6%	-	-
		1996	54%	15%	23%	38%
		2001	21%	5%	0%	21%
		2004	28%	6%	6%	28%
	Perryville	1984	100%	40%	50%	95%
		1989	67%	37%	26%	59%
		1994	75%	20%	35%	75%
		1995	82%	23%	23%	77%
		1996	86%	23%	23%	77%
		2003	70%	37%	30%	59%
		2016	50%	38%	23%	35%
	Pilot Point	1987	94%	82%	53%	59%
		1994	100%	56%	59%	81%
		1995	100%	50%	63%	90%
		1996	100%	46%	75%	100%
		2014	0.10%	0%	0%	0.10%
	Port Alsworth	1983	-	46%	-	8%
		2001	90%	35%	20%	90%
		2004	86%	32%	23%	86%
	Port Heiden	1987	100%	70%	51%	62%
		1991	100%	75%	80%	75%
		1994	100%	53%	53%	84%
		1995	100%	73%	46%	65%
		1996	91%	68%	41%	50%
		2016	79%	52%	45%	52%
		2018	93%	67%	67%	63%
	South Naknek	1983	90%	71%	-	52%
		1992	86%	63%	37%	60%
		1994	96%	76%	52%	72%

Unit/Group	Community	Study Year	Households Using Caribou (%)	Households Attempting to Harvest Caribou (%)	Households Giving Caribou (%)	Households Receiving Caribou (%)
Unit 9 (cont.)	South Naknek (cont.)	1995	86%	68%	40%	65%
		1996	89%	57%	35%	68%
		2007	62%	9%	5%	62%
	Ugashik	1987	80%	80%	80%	-
		1994	100%	100%	100%	100%
		1995	100%	100%	100%	50%
		1996	100%	100%	50%	67%
		2014	0%	0%	0%	0%
	Average		80%	50%	43%	59%
Overall Average			78%	50%	41%	57%