ALASKA DEPARTMENT OF FISH AND GAME

STAFF COMMENTS

WESTERN ARCTIC/WESTERN REGION PROPOSALS

ALASKA BOARD OF GAME MEETING

NOME, ALASKA

JANUARY 17-20, 2020

The following staff comments were prepared by the Alaska Department of Fish and Game for use at the Alaska Board of Game meeting, January 17-20, 2020 in Nome, Alaska, and are prepared to assist the public and board. The stated staff comments should be considered preliminary and subject to change, if or when new information becomes available. Final department positions will be formulated after review of written and oral testimony presented to the board.

PROPOSAL 1- 5 AAC 92.106 Intensive Management. Prohibit nonresident taking of moose and caribou until population objectives are met in the Western Arctic/Western Region.

PROPOSED BY: Resident Hunters of Alaska

WHAT WOULD THE PROPOSAL DO? This proposal would prevent nonresidents from hunting moose and caribou populations in the Arctic/Western Region that are managed under an intensive management plan until the intensive management population or harvest objectives for those populations have been reached.

WHAT ARE THE CURRENT REGULATIONS? The board has not adopted any intensive management plans in the Arctic/Western Region so no current regulations would be affected. Nonresident moose hunting seasons are listed in 5 AAC 85.045 and nonresident caribou hunting seasons are listed in 5 AAC 85.025. The regulations are also summarized in the current Alaska Hunting Regulations.

IM programs have been established to restore moose and caribou populations throughout Alaska. A list of current IM programs and their status is maintained on the department's website at:

http://www.adfg.alaska.gov/index.cfm?adfg=intensivemanagement.programs.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If this proposal is adopted, in the case of future IM plans, hunting would be limited in areas that have intensive management plans to residents only until the minimum intensive management population or harvest objectives for that prey species have been reached.

BACKGROUND: Intensive management programs have been considered for the Arctic/Western Region, but no programs have been adopted into regulation.

IM programs are developed to meet IM objectives for caribou, moose and deer populations that have been identified as important for high levels of consumptive use. During the program development process, the department develops Feasibility Assessments and Operational Plans that are reviewed by the board. Codified regulations are adopted for programs that are feasible and have reasonable chance of success.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocation of hunting opportunity between resident and nonresident hunters. This proposal was also submitted for the Interior/Northeast Arctic Region meeting which would indicate that the proponent would prefer the regulation implemented statewide.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs for the department.

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PROPOSAL 2 - 5 AAC 92.115 Control of predation by bears. Establish intensive management programs for bear across the Western Arctic/Western Region.

PROPOSED BY: Alissa Nadine Rogers

WHAT WOULD THE PROPOSAL DO? The proposal asks the Board of Game and the department to establish predator control for bears in the Arctic and Western Region of the state (Region 5) with the goal of reducing bear predation on ungulate populations.

WHAT ARE THE CURRENT REGULATIONS? Moose hunting seasons are listed in 5 AAC 85.045 and caribou hunting seasons are listed in 5 AAC 85.025. The regulations are also summarized in the current Alaska Hunting Regulations.

IM programs have been established to restore moose, caribou, and deer populations throughout Alaska and are listed in 5 AAC 92.111-127. A list of current intensive management (IM) programs and their status is maintained on the department's website at:

http://www.adfg.alaska.gov/index.cfm?adfg=intensivemanagement.programs .

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, the department will complete a feasibility assessment for each big game prey population (Table 2-1) that has been identified as having a positive IM finding in 5 AAC 92.108. Once the feasibility assessments have been delivered to the board and approved, an intensive management plan will be prepared and presented to the board to be codified in regulation. Anticipated beginning and end dates of approved intensive management programs will be included in adopted programs.

Table 2-1. Caribou and moose populations with positive Intensive Management findings (5 AAC 92.108).

Caribou	IM Finding[1]	Population Objective	Harvest Objective	Current Population Estimate	Current Avg. Harvest (2013-2018)[2]
Teshekpuk Herd	Positive	15,000-28,000	900-2800	56,000	Unknown (2,000-4,000)
Western Arctic Herd	Positive	≥ 200,000	12,000-20,000	259,000	Unknown (10,000-14,000)
Moose					
GMU 18	Positive	1,000-2,000	60-200	15,000-18,000	750- 1000
GMU 22	Positive	5,100-6,800	300-680	6275-7275	250-300
GMU 23	Positive	3,500-9,200	210-920	5000- 6000	up to 300

[1] Caribou and moose populations with negative Intensive Management findings are omitted.

[2] Harvest values are estimates using reported harvest (harvest tickets and permits) and results from household harvest surveys.

BACKGROUND: IM programs are developed to meet IM objectives for caribou, moose and deer populations that have been identified as important for high levels of consumptive use. During the program development process, the department develops feasibility assessments and operational plans that are reviewed by the board. Codified regulations are adopted for programs that are feasible and have reasonable chance of success.

It is important to note that while many populations of moose and caribou have positive IM findings listed in 5 AAC 92.108, most of these populations do not have a formal IM program. There are currently no intensive management plans in Region 5.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. The department considers implementing predator control when ungulate populations are below IM objectives, and follows guidance in AS 16.05.255 and 5 AAC 92.106, when warranted. Population and harvest objectives are currently being met for all regional populations identified under intensive management regulations. Seasons, and in some cases bag limits, in Region 5 are very liberal in efforts to increase harvest and great efforts are made to capture complete and accurate harvest data from the populations listed in Table 2-1 to inform the Board and the department on each population's status relative to intensive management statutes and regulations.

COST ANALYSIS: Approval of this proposal is expected to result in additional costs to the department.

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PROPOSAL 3 –5 AAC 92.015 Brown bear tag fee exemptions. Reauthorize the brown bear tag fee exemption for Units 18, 22, 23, and 26A.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? The proposal: The proposal would reauthorize the resident tag fee exemptions for brown bears for Units 18, 22, 23, and 26A.

WHAT ARE THE CURRENT REGULATIONS? Brown bear tag fees are not required for residents in drawing, registration, or subsistence permits hunts in Units 18, 22, 23, and 26A.

Below are the C&T findings and ANSs for subsistence uses for brown bears in Units 18, 21, 22, 23, 24, and 26:

Game Management Unit	Finding	Amounts Reasonably Necessary
Unit 18	Positive	23-30
Units 21 and 22	Positive	20-25
Units 23, 24, 26	Positive	25-35

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED?

Resident hunters would not be required to purchase a resident locking tag for general season, drawing or registration permit brown bear hunts in Units 18, 22, 23 and 26A. Hunters participating in subsistence registration permit hunts would also not be required to purchase a brown bear

locking tag to harvest a bear, although possession of the subsistence registration permit would be required.

BACKGROUND: The Board of Game must reauthorize brown bear tag fee exemptions annually or the fee automatically becomes reinstated. Brown bear general season, drawing, and registration permit hunts have had the tag fees exempted in Unit 18 and 26A for 6 years, in Unit 22 for 16 years, and in Unit 23 for 11 years. Exemptions have been implemented to allow: 1) incremental increases in harvest; 2) additional opportunity for residents; and 3) harvest for a wide range of uses. Current harvest in each of the Units are appropriate based on sealing and anecdotal information, and previous exemptions of resident tag fees have not caused dramatic or unexpected increases in overall harvest.

In subsistence brown bear registration permit hunts, reauthorizations are needed for Unit 18, 22, 23 and 26A where requirements include: 1) a registration permit; 2) a tag fee exemption; 3) salvage of meat for human consumption; 4) no use of aircraft in Units 22, 23 and 26A; 5) no sealing requirement unless hide and skull are removed from the subsistence registration permit hunt area; 6) if sealing is required, the skin of the head and the front claws must be removed and retained by the department at the time of sealing. Continuing the tag fee exemption helps facilitate participation in the associated brown bear harvest programs maintained by the department for subsistence registration permit hunts. In all units, subsistence brown bear registration permit harvest rates are low and believed to be appropriate based on harvest reports; exempting the resident tag fee has not caused an increase in subsistence harvest.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. Brown bear numbers in the identified units are stable or increasing and the increased harvests that result from the tag fee exemption do not present a conservation concern.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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Proposal 4 – 5 AAC 85.050 Hunting season and bag limits for muskox. Extend the season for muskox on Nelson Island.

Extend the resident and non-resident season on Nelson Island by 6 days, to end on March 31 instead of March 25.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would extend the spring season for resident and non-resident hunting opportunity to hunt muskox on Nelson Island by 6 additional days.

WHAT ARE THE CURRENT REGULATIONS? The current resident and non-resident muskox hunt seasons and bag limits on Nelson Island are 1 muskox by registration permit (RX070 [bulls only], RX071 [cows only]) from Feb. 1-Mar. 25.

There is a negative customary and traditional use finding for muskox in Unit 18.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would allow hunters with registration permits a longer season to hunt. The current season is short and the number of days hunters can spend hunting is frequently cut short by multiple weather events. In years with multiple weather events, hunters can have a hard time accessing the hunt area which reduces success rates for these hunts. Extending the season would help hunters be successful. The Department gives out a limited number of permits through a rotation system every year, so overharvest is not a concern.

BACKGROUND: The management goal for the Nelson Island muskox population is 250-500 muskox. For most years between 2010 and 2017 the Nelson Island muskox population was above the upper management goal of 500 animals (Table 4-1). To reduce the population, the Department increased the number of registration permits to as many as 300. Not all hunters that obtained permits participated in the hunt and poor weather prevented other hunters from being successful. The Department counts on most permit holders to be successful in order to keep the population within management goals. A survey of Nelson Island in July of 2019 found 380 animals, well within the management goal of 250-500 muskox.

The Nelson Island muskox population is limited by winter browse and there is a danger in having too many animals on the island for long periods of time. Most of the land on Nelson Island is privately owned Alaska Native corporation land; a small percentage is managed by USFWS. The villages of Newtok, Tununak, Toksook Bay, Nightmute, Chefornak, and USFWS established the current management goals for muskox, including the rotation order of the communities where permits are distributed every year.

Table 4-1. Nelson Island Muskox Harvest and Population Chronology.

Year	Bull Permits Issued	Cow Permits Issued	Bull harvest	Cow Harvest	Total Harvest	Estimated Population
2007	24	18	23	17	40	374
2008	25	**14**	**24**	**11**	**35**	**No survey**
2009	25	17	21	15	36	541
2010	25	17	20	17	37	561
2011	25	**17**	**20**	**15**	**35**	**No survey**
2012	25	17	21	15	36	761
2013	**10**	**32**	**10**	**28**	**38**	**No survey**
2014	100	200	87	138	225	979
2015	75	200	68	148	216	944
2016	40	115	39	92	131	795
2017	100	174	84	108	192	755
2018	25	24	20	17	37	444
2019	15	10	-	-	-	380

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal to provide additional hunting opportunity by lengthening the season.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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Proposal 5 – 5 AAC 85.050 Hunting season and bag limits for muskox. Modify the season and bag limit for muskox in Unit 18, Nunivak Island.

Extend the fall resident and non-resident season on Nunivak Island 31 days by opening the hunt on August 1 instead of September 1; and extend the spring season by 32 days by opening the hunt on January 15 instead of February 1 and ending on March 31 instead of March 15.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would extend the fall and spring seasons for resident and non-resident hunting opportunity to hunt muskox on Nunivak Island.

WHAT ARE THE CURRENT REGULATIONS? The current resident and non-resident muskox seasons on Nunivak Island are September 1–September 30, and the bag limit is 1 bull by draw permit (up to 110 permits may be issued), or 1 muskox by registration permit (DX001, DX003, RX060, RX061 RX062). The department currently uses its discretionary authority to restrict the bag limit for the registration hunts to cows only.

There is a negative C&T finding for muskox in Unit 18.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would allow hunters with draw and registration permits a longer season to hunt. Most draw winners and a few hunters with registration permits rely on the 1 guide or 3 transporters that operate on Nunivak to access the hunt area. Guide and transporter availability have been one of the limiting factors for hunter successes. Hunters can have a hard time finding a transporter or guide that is available when they are able to hunt or are unable to reschedule a hunt if weather conditions are poor on days they had originally booked. Extending the season would help hunters be successful.

BACKGROUND: In July of 2018 the department surveyed Nunivak Island and found 944 animals (Table 5-1). This is 287 animals over the management goal of 500 animals one year of age or older. To bring the population down the department increased the number of draw permits and registration permits it issued with the intent of bring the population within the population goals in a 3-year period of time. This increased number of permits put a lot of pressure on the 1 guide and 3 transporters that operate on Nunivak. Hunters found it difficult to find someone with available time slots. Nunivak is also subject to large fall and winter storms that effectively cut off access to the island. Because of long periods of bad weather and low hunter participation the department has issued E.O.s extending the season multiple years. It is in the best interest of the resource, the Department, hunters, guide and transporters to have longer seasons to accommodate poor weather and years when the department needs increased harvest of animals. Because Nunivak is an island, winter browse is limited and creating a danger in having too many animals on the island for long periods of time. Also, most of the land on Nunavik is managed by the U.S. Fish

and Wildlife Service (USFWS). The department has a signed management agreement with the Village of Mekoryuk and USFWS that establishes the current management goals for muskox.

Table 5-1. Nunivak Island Muskox harvest and population chronology

Year	Bull Permits Issued	Cow Permits Issued	Bull Harvest	Cow Harvest	Total Harvest	Total Population
2007	63	45	38	41	79	No Survey
2008	49	45	39	38	77	No Survey
2009	56	35	44	29	73	567
2010	70	25	47	20	67	517
2011	62	10	33	5	38	452
2012	37	5	29	5	34	No Survey
2013	52	5	34	6	40	533
2014	30	5	26	5	31	563
2015	15	40	16	36	52	740
2016	50	45	38	44	82	No Survey
2017	43	50	33	46	79	No Survey
2018	91	80	67	71	138	946
2019	100	12*	20*	7*	27*	856

*incomplete data for 2019

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal to provide additional hunting opportunity by lengthening the season.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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PROPOSAL 6 – 5 AAC 92.034. Permit to take and use game for cultural purposes. Add muskoxen to the list of game allowed for take under a cultural education permit on Nunivak Island.

PROPOSED BY: Peter Hawkins

WHAT WOULD THE PROPOSAL DO? This proposal seeks to add muskoxen to the list of game species allowed for take and use for cultural education purposes on Nunivak Island in GMU 18.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 92.034 states that deer, moose, caribou, black bear, mountain goat, small game, furbearers and migratory birds are the only game animals allowed to be taken for cultural purposes.

There is a negative C&T finding for muskox in Unit 18.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, muskoxen would become an allowed game animal to be taken for cultural education purposes on Nunivak Island in GMU 18.

BACKGROUND: Muskoxen were widely distributed in northern and western Alaska but were extirpated by the middle or late 1800s. Muskoxen were first reintroduced on Nunivak Island in 1935-1936 and the herd grew slowly until approximately 1958 when it began a period of rapid growth. The first hunting season was opened in 1975. Since 1981, the population has fluctuated between an estimated 400 and 950 animals and harvest has been modified as needed from 25 to 135 animals. Although cow muskox harvest has varied during low and high population regimes, the typical split of harvest is 50% cows, 50% bulls. Harvest occurs during fall and winter hunts, with cow muskox being managed under a registration permit (RX060/RX061) and bulls under a drawing permit (DX001/DX003). Any additional harvest of muskoxen using a cultural education permit will be small and the Department can adjust quotas or deny cultural education permits when additional harvest of muskoxen is not warranted.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal because there are no biological concerns for the population. This proposal is specific to Nunivak Island; however, the Board may want to defer this proposal to the statewide meeting in 2021. Muskoxen occur in both western and interior Alaska game management units and it may be more appropriate to discuss on a statewide basis.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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Proposal 7 – 5 AAC 85.045 Hunting season and bag limits for moose. Change resident moose hunting season dates in the Unit 18 Kuskokwim Area (RM615).

Change the start date for RM615 from September 1 to September 5.

Residents: [Sept.1- Sept. 30] **Sept. 5-**Sept. 30;
one antlered bull by registration permit;

PROPOSED BY: Lower Kuskokwim Fish and Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? This proposal would shift the start date for moose hunting for Zone 1 in the Unit 18 Kuskokwim Area (RM615) hunt by 5 days and reduce the overall time available for the hunt to be offered. Adoption of this proposal would also separate the state and federal moose hunting season in this area.

WHAT ARE THE CURRENT REGULATIONS? The current resident moose season in Unit 18 Kuskokwim Area is September 1–September 30 with a bag limit of 1 antlered bull by registration permit RM615

There is a positive C&T finding for moose in Unit 18, and an ANS of 200–400.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? As written, this proposal would stagger the start dates of two zones within the RM615 hunt areas. For the Zone 1 (mainstems of the Kuskokwim and Gweek rivers), the start date of the hunt would be Sept. 5; Zone 2, tributaries south and east of the Kuskokwim River, would start Sept. 1. Although regulations would show there would be a reduction in time, season lengths in Zone 1 would remain between 7 and 10 days long because the department would shift season closure dates based on harvestable surplus.

BACKGROUND: There was a 5-year moratorium for moose hunting along the Kuskokwim River and tributaries within Unit 18 from 2003-2008. In 2009 the moratorium was lifted, and state managed lands opened for moose hunting. In 2010 federal lands also opened to hunting. Starting in 2010 the RM615 hunt has been managed with one permit for both state and federal lands. From 2010-2014 state and federal lands had identical start and end dates. Starting in 2015, federal hunt managers increased the length of the federal moose season to reach the harvest objective. This created confusion for hunters and did not shift harvest to areas as managers had hoped. Additionally, land ownership is checkerboarded, which made interpreting the regulation difficult for members of the public. In 2017, ADF&G and USF&W began defining the hunt areas as Zone 1 and Zone 2. Both zones have a mix of state and federal lands, but this allowed for more definable boundaries and allowed managers the ability to spread harvest out geographically. Zone 1 is comprised of mostly state managed lands and has closed by EO after 5-7 days for the past 7 years, due to reaching the harvest quota. Zone 2 is comprised of mostly federally managed lands and the hunt has remained open longer than Zone 1. Currently Zone 2 is open for all 30 days of September. In regulatory year 2019 the Zone 1 season was changed using the department's discretionary authority to a fixed 7-day season (Sept. 1-Sept. 7) to reduce confusion among hunters as to when the season would end.

The Department and the Yukon Delta National Wildlife Refuge (YDNWR) collaborate to complete moose population surveys and administer cooperative state and federal moose hunts in this portion of Unit 18. There are two survey areas in this portion of Unit 18. The first survey area includes the mainstem of the Kuskokwim River and the second survey area includes tributaries that flow into the Kuskokwim. Population surveys completed in combined survey areas during 2015 indicate the moose population continues to grow in both survey areas. Poor snow cover and flying weather did not allow the department to complete a population estimate in the spring of 2019, but all other indicators point towards continued growth. Browse surveys conducted in 2015 and 2019 show habitat in the hunt areas can support more moose.

Part of the RM615 hunt area (mostly USFWS administered federal lands) is less accessible to boat-borne hunters than the mainstem of the Kuskokwim. In 2018, federal lands remained open for 30 days with a harvest objective of 110 moose but only 70 were harvested. State managed lands were closed after 7 days when the quota of 170 moose was anticipated to be met.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. If the board adopts this proposal, the department anticipates that season lengths in Zone 1 would remain between 7-10 days long because the department would shift season closure dates based on harvestable surplus. The department recommends that the start date for Zone 2 remain Sept. 1 because the harvest objective has not been achieved the last three years in Zone 2 and a shorter season is not warranted at this time.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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Proposal 8– 5 AAC 85.045 Hunting season and bag limits for moose. Extend resident hunting season for moose in Unit 18 Remainder.

Extend the resident winter moose hunting season for 2 moose from Dec. 1 – Mar. 15 to Dec. 1 – Apr. 30.

PROPOSED BY: Orutsararmiut Native Council

WHAT WOULD THE PROPOSAL DO? This proposal would create additional resident hunting opportunity by allowing the department to extend the moose season when conditions warrant. It would also align state and federal regulations.

WHAT ARE THE CURRENT REGULATIONS? There are three state moose seasons in Unit 18 Remainder. The first is Aug. 1- Sept. 30 for two moose, only one of which may be an antlered bull (a person may not take a calf, or a cow accompanied by a calf). The second is Oct. 1-Nov. 30 and the bag limit is 2 antlerless moose. The third is Dec. 1-Mar. 15 for two moose.

Effective in 2018, federal managers adopted identical bag limits but extended the federal hunt 46 days longer, to end April 30.

There is a positive C&T finding for moose in Unit 18, and an ANS of 200–400.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would increase resident opportunity on state managed lands. This proposal addresses concerns about inconsistent safe travel conditions during hunting seasons as well as concerns from people who would like the state to provide more opportunity when weather windows allow for safe travel. This proposal would also simplify the regulations for the public by aligning state and federal regulations in the Unit 18 Reminder area.

BACKGROUND: The Department and the Yukon Delta National Wildlife Refuge (YDNWR) collaborate to complete moose population surveys. There are three survey areas in the remainder portion of Unit 18. These three areas are described as the Paimiut survey area, including lands upstream of Marshall to the Unit 18 border; the Andreafsky survey area, including land around the Andreafsky River and Yukon River from Mountain Village to Marshall; and the Lowest Yukon survey area downstream of Mountain Village. The most recent survey information indicates the moose population in the Paimiut survey area has decreased from 5,597 to 3,793 (2013-2018), while moose populations in the Andreafsky and Lowest Yukon survey areas have increased from 418 to 2,748 (2002-2012) and 2,827 to 8,226 (2009-2017), respectively. Reported harvest of moose in Unit 18 remainder has increased over the last 10 years by nearly 200 moose annually (Figure 8-1).

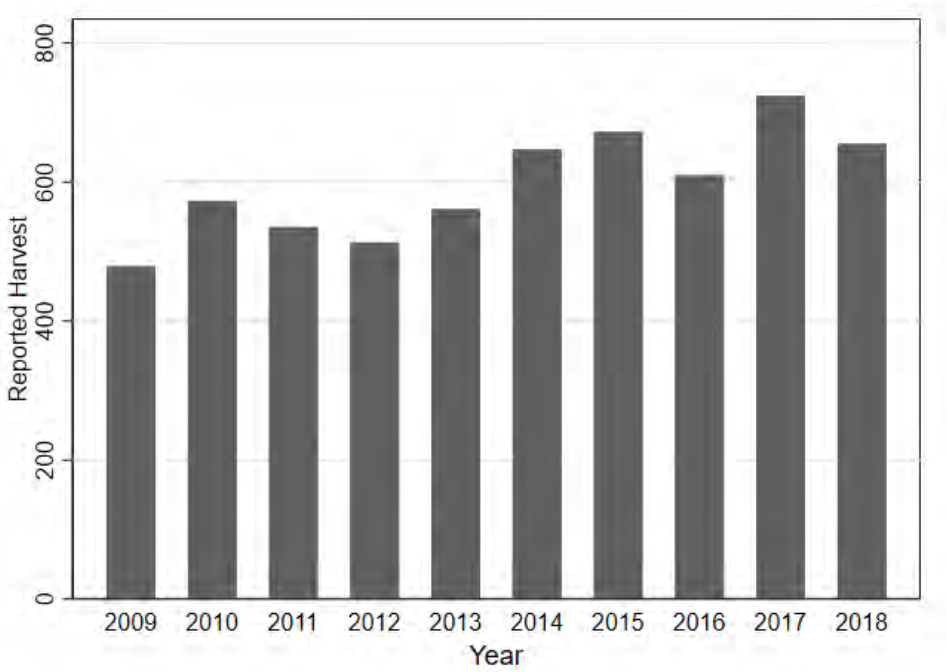

Figure 8-1. Reported harvest of moose in the Unit 18 Remainder hunt area 2009-2018.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal to allow additional harvest opportunity because there is no biological concern for the moose population in the remainder of Unit 18 and also supports simplifying the regulations.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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Proposal 9 – 5 AAC 85.045 Hunting season and bag limits for moose. Modify the season for moose in Unit 18.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would provide the Department with flexibility in creating additional resident hunting opportunity by extending the winter moose season in a portion of Unit 18. The proposal changes the hunt boundary for the RM620, RM621 and RM617 moose hunts.

The hunt boundary would change to include all waters draining into Goodnews Bay, rather than just the river drainage. This would add about 107 square miles to the hunt areas for RM620 and RM621 and reducing the RM 617 area by the same area.

The period that a resident winter season could be offered would be extended to **Dec. 1-March 31** (rather than Jan. 1- Jan.31). This would create a season of up to **155** days, to be announced by emergency order (EO). The bag limit would remain the same, at 1 moose; by registration permit only; during the new winter season.

WHAT ARE THE CURRENT REGULATIONS? The current resident moose season in the Unit 18 Goodnews Hunt area is September 1–September 30 with a bag limit of 1 antlered bull by registration permit (RM620). Harvest is managed by quota and if the quota is not achieved in the fall hunt, additional opportunity is available during a winter season (Jan. 1-Jan. 31) which may be announced by EO for 1 moose by registration permit.

The current hunt boundary only includes waters draining into the Goodnews River and excludes nearby drainages that flow into Goodnews Bay.

There is a positive C&T finding for moose in Unit 18, and an ANS of 200–400.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would provide more flexibility for offering hunting opportunity in the winter season and expand the hunt area to include all waters draining into Goodnews Bay.

BACKGROUND: The winter seasons have been opened the past 2 years by EO. Due to severe winter weather and poor travel conditions the season has been extended beyond Jan. 31. Total harvest has remained below the allowable harvest quota for the last 9 years. The harvest quota from 2017 - 2019 has been for 30 moose each year.

The Department and the Togiak National Wildlife Refuge (TNWR) collaborate to complete moose population surveys and administer cooperative state and federal moose hunts in this portion of Unit 18. There is only one survey area in this portion of Unit 18. The survey area includes the North, Middle, and South forks of the Goodnews River drainage. Population surveys completed in 2009 and 2012 indicate the moose population has grown rapidly after a 4-year (2004-2007) state and federal closure. Minimum count surveys found 54 moose in 2006, 142 moose in 2009, and 203 moose in the spring of 2012. Poor weather and survey conditions have not allowed a minimum count survey since 2012.

Part of the hunt area (mostly USFWS administered Federal lands) is less accessible to boat borne hunters in the fall season, especially when water levels are low. The hunt quota was only met the first 3 years of the hunt, when the quota was 10 moose (2008-2010), after which the quota was raised to 20 moose. In 2017 it was increased to 30 moose, and a winter season was opened for the first time. A longer winter season would allow more flexibility for hunters to take advantage of conditions for safe travel to access moose. Because winter weather patterns are difficult to predict, hunter success has been low, with 5 and 0 moose taken in 2017 and 2018, respectively.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. The season date change gives the department more flexibility in managing a growing moose population and the hunt boundary change more closely resembles local hunting patterns.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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PROPOSAL 10 - 5 AAC 85.045 Hunting season and bag limits for moose. Reauthorize the antlerless moose seasons in Remainder of Unit 18.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal reauthorizes the resident and nonresident antlerless moose season south of and including the Goodnews River drainage and in the remainder of Unit 18.

WHAT ARE THE CURRENT REGULATIONS? Antlerless hunting during the winter seasons is allowed for resident hunters south of and including the Goodnews River drainage in Unit 18 in a "may be announced" season in the month of January. The season timing and length depend on the winter travel conditions and how many moose are left from the fall quota.

Antlerless hunting during fall and winter seasons is allowed for resident hunters in the "Remainder of Unit 18". There are three components to antlerless seasons:

1) during August 1–September 30 the bag limit is 2 moose; however, only one antlered bull may be taken and taking calves or cows accompanied by calves is prohibited;

2) during October 1–November 30 the bag limit is 2 antlerless moose with no additional restrictions; and

3) during December 1–March 15 the bag limit is 2 moose with no additional restrictions.

There is a positive C&T finding for moose in Unit 18, and an ANS of 200–400.

Antlerless moose hunting is also allowed for nonresident hunters in Unit 18 remainder. The current season for nonresidents is December 1- March 15 and the bag limit is one antlerless moose.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The antlerless hunts in the areas south of and including the Goodnews River drainage and the remainder of Unit 18 would be reauthorized for RY2019. Hunters would have the same seasons and bag limits as RY2018 (see Current Regulations above).

BACKGROUND: Antlerless moose seasons must be reauthorized annually. Both hunt areas support a large moose population, reaching a conservative estimated minimum population of 15,500 moose. In all areas surveyed, moose populations had twinning rates of 20-42% in 2019.

Harvests by residents in RY2018 (n=688) is slightly higher than the previous 3-year average harvest (n=657). In RY2018, the harvest ticket reports from the remainder of Unit 18 included 158 cows taken, along with the harvest of 530 bull moose. The combined harvest for the remainder of Unit 18 represented in this reauthorization is well within sustained yield, and the population trajectory has not been affected by antlerless harvests.

RY2017 was the first year for antlerless hunts for nonresidents. No nonresidents reported harvesting moose from Dec. 1 through March 31 in RY2017 or RY2018.We anticipate that participation in this hunt will remain low.

The total harvest in the area south of and including the Goodnews River drainage was 14 bull moose.

Continuing antlerless moose harvest opportunity will benefit hunters and may also help slow the growth rate of the population.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal to maintain antlerless hunts in areas where moose populations are increasing.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional cost to the department.

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PROPOSAL 11 - 5 AAC 92.085. Unlawful methods of taking game; exceptions. Add minimum caliber requirement of .243 or larger for moose hunts in Unit 18.

PROPOSED BY: Bethel Fish & Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? This proposal sets a minimum standard of centerfire .243 or 6mm caliber rifle cartridges for the taking of moose in Unit 18.

WHAT ARE THE CURRENT REGULATIONS?

Big game may only be harvested with center-fire firearms, with a few exceptions, as noted in regulation:

The following methods and means of taking big game are prohibited in addition to the prohibitions in 5 AAC 92.080:

(1) with the use of a firearm other than a shotgun, muzzleloader, or rifle or pistol using center firing cartridge, except that
  (A) in units 23 and 26, swimming caribou may be taken with a firearm using rim fire cartridges:

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, moose hunters in Unit18 would have more strict weapons requirements than for other big game species. The commonly used centerfire .223 caliber and any other smaller centerfire cartridges would not be legal for the taking of moose.

Costs to the hunter may increase, if hunters had to purchase new firearms.

BACKGROUND: The board has established standards for some weapons, and the department in turn educates hunters as to the pros and cons of legal weapons and calibers. The decision as to which legal caliber is used to harvest game is left to the individual hunters and their capabilities.

Reducing wounding loss is a primary consideration for the taking of big game in all areas of the state. The board has considered similar proposals asking for caliber restrictions for all big game on unit wide, regionwide, and statewide bases. Small caliber cartridges leave little room for error when it comes to shot placement for lethal results, so off-target shots are likely to result in wounding loss. Alternatively, those favoring the use of small cartridges explain that when small

calibers are used correctly, they can be effective in taking big game, including moose, and small calibers allow younger hunters a greater opportunity to hunt.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. The board has differentiated between big game and small game and set weapon-specific standards accordingly. Creating an additional level of weapons restrictions for individual big game species in individual units adds complexity to the regulations, may cause some confusion and cost for the public, and may result in a reduction of subsistence opportunity through methods and means. If a minimum caliber is adopted the department recommends it be adopted for all big game species and be considered at the next statewide board meeting.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 12 - 5 AAC 92.085. Unlawful methods of taking game; exceptions. Add minimum caliber requirement of .243 or larger for moose hunts in Unit 18.

PROPOSED BY: Mid-Lower Yukon Fish & Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? This proposal sets the minimum caliber of centerfire rifle at .243 to take moose in Unit 18.

WHAT ARE THE CURRENT REGULATIONS? Big game may only be harvested with center-fire firearms, with a few exceptions, as noted in regulation:

The following methods and means of taking big game are prohibited in addition to the prohibitions in 5 AAC 92.080

(1) with the use of a firearm other than a shotgun, muzzleloader, or rifle or pistol using center firing cartridge, except that
    (A) in units 23 and 26, swimming caribou may be taken with a firearm using rim fire cartridges:

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, moose in Unit 18 would have more strict weapons requirements than other big game species and could only be taken with .243 or larger caliber ammunition.

This means that the commonly used centerfire .223 caliber and any other smaller center-fire cartridges would not be legal for the taking of moose. This may affect a hunter's ability to harvest moose in Unit 18, depending on if they can acquire firearms and ammunition in compliance with the new regulation. It is unknown if adoption would help with wounding loss. This would add complexity to moose hunting regulations.

BACKGROUND: The board has established standards for some weapons, and the department in turn educates hunters as to the pros and cons of legal weapons and calibers. The decision as to which legal caliber is used to harvest game is left to the individual hunters and their capabilities.

Reducing wounding loss is a primary consideration for the taking of big game in all areas of the state. The board has considered similar proposals asking for caliber restrictions for all big game on a unit wide, regionwide, and statewide bases. Small caliber cartridges leave little room for error when it comes to shot placement for lethal results, so off-target shots are likely to result in wounding loss. Commercial ammunition available for small cartridges is also not considered appropriate for hunting moose. Alternatively, those favoring the use of small cartridges explain that when small calibers are used correctly, they can be effective in taking big game, including moose, and small calibers allow younger hunters a greater opportunity to hunt.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. The board has differentiated between big game and small game and set weapon-specific standards accordingly. Creating an additional level of weapons restrictions for individual big game species in individual units adds complexity to the regulations and may cause some confusion for the public. This may also reduce reasonable opportunity for a subsistence user to participate in a hunt with a reasonable expectation of success of taking game, if they cannot acquire the correct firearm and ammunition by the time the hunts are offered. If a minimum caliber is adopted the department recommends it be adopted for all big game species and be considered at the next statewide board meeting.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 13 – 5 AAC 92.200. Purchase and sale of game. Prohibit the sale of moose antlers in Unit 18.

PROPOSED BY: Mid-Lower Yukon Fish and Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? This proposal seeks to add moose antlers to the list of prohibited game parts to purchase, sell, advertise or otherwise offer for sale in GMU 18 under 5 AAC 92.200 section (b).

WHAT ARE THE CURRENT REGULATIONS? It is currently legal to sell cut-off and naturally shed antlers statewide.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, purchasing, selling, advertising or otherwise offering to sell moose antlers in GMU 18 would be prohibited.

BACKGROUND: Moose in GMU 18 have rapidly increased their range and population size in recent decades, especially along the Lower Yukon River. Moose densities in the survey area downstream of Mountain Village to the Bering Sea and including Kuslivak Mountain have increased from 1.1 moose/mi^2 in 2005 to 4.8 moose/mi^2 in 2017. Moose in the survey area upstream of Marshall to the Unit 18 border increased in density from 1.5 moose/mi^2 in 2002 to 3.6 moose/mi^2 in 2013 and have subsequently decreased to 2.4 moose/mi^2. Bull:cow ratios along the Yukon River in the GMU18 Remainder hunt area were last estimated in 2016 and ranged from 25 bulls:100 cows in the area downstream of Mountain Village to 58 bulls:100 cows upstream of Russian Mission to the Unit 18 border.

In 2018 the Mid-Lower Yukon Fish and Game Advisory Committee submitted an agenda change request to prohibit the sale of moose antlers in Unit 18 except for naturally shed antlers and antlers that have been made into an article of handicraft. The board denied the request.

The Mid-Lower Yukon AC submitted this proposal to address social issues in their local communities. Reports of antlers being stolen have gone up. Other concerns expressed included a shift in cultural hunting practices. Historically, local hunters targeted bulls with small antlers and tender meat. Currently it is reported that younger hunters are starting to target large-antlered bulls so they can sell the antlers.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. There is currently no biological concern related to the sale of moose antlers in GMU 18.

COST ANALYSIS: Adoption of this proposal would not to result in additional costs to the department.

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PROPOSAL 14 – 5 AAC 85.065. Hunting seasons and bag limits for small game. Modify the bag limit for ptarmigan (willow, rock, and white-tailed) in Unit 18.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal seeks to reduce the bag limit of ptarmigan to 15 per day, 30 in possession.

WHAT ARE THE CURRENT REGULATIONS? Current bag limits for ptarmigan are 50 per day, 100 in possession.

There is a positive customary and traditional use finding for ptarmigan in Unit 18, and an amount reasonably necessary for subsistence of 3,000–23,000 birds (all species combined).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Due to the current low abundance, this proposal likely would not result in lost hunting opportunity because few birds are currently available to hunters.

BACKGROUND: Residents of Unit 18 have been reporting low rock and willow ptarmigan abundance and poor harvest since 2014. In 2004–2017, ptarmigan annual subsistence harvest estimates for the Yukon-Kuskokwim Delta averaged 7,486 (range=4,667–22,946; as estimated by the Alaska Migratory Bird Co-Management Council subsistence harvest assessment program). Consecutive wet, cool early summers have likely had a strong negative effect on early chick survival: a phenomenon that has been demonstrated to dramatically affect other Alaskan grouse and ptarmigan populations. In addition, consecutive mild and largely snow-free winters have likely increased the effects of predation due to the plumage/landscape color mismatch as well as the inability to effectively thermo-regulate through snow-roosting.

During the 2018 meeting cycle, the Federal Subsistence Board changed the ptarmigan (both rock and willow combined) daily bag limit to 15 ptarmigan per day for Unit 18 (proposal WP18-30) due to local residents' concerns about multiple years of low abundance. In addition to the

conservation concerns, this proposal also seeks to reduce hunter confusion by aligning the federal and state hunting regulations for ptarmigan in Unit 18.

The department is planning on pilot study willow ptarmigan movement and mortality study across Unit 18. Nearly 100 VHF radio necklace collars are scheduled to be deployed during spring and summer 2020. The results of this study will hopefully lead to more effective and efficient planning for a larger multi-year study and possibly even suggest potential locations where annual spring breeding surveys could efficiently be completed.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal due to biological concern related to recent declines of ptarmigan abundance in GMU 18. The board should consider how adoption of this proposal will affect reasonable opportunity for subsistence uses of ptarmigan in Unit 18.

COST ANALYSIS: Adoption of this proposal would not to result in additional costs to the department.

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PROPOSAL 15 – 5 AAC 85.065. Hunting seasons and bag limits for small game. Establish a season and bag limit for Alaska hares in Unit 18.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would address customary and traditional uses of Alaska hare in Unit 18, and then establish a hunting season and bag limit.

WHAT ARE THE CURRENT REGULATIONS? There is currently no closed season or bag limit for Alaska hares in Unit 18.

The board has not determined if customary and traditional uses exist for Alaska hares in Unit 18.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, the board would have followed the subsistence statute by addressing customary and traditional uses, and then the bag limit of Alaska hares in Unit 18 would be reduced to 2 per day, 6 in possession with a season from August 1 through May 31.

BACKGROUND: The once-abundant Alaska hare population in Unit 18 is now at very low density. There are small seemingly isolated Alaska hare populations throughout Unit 18. Many Unit 18 residents have raised concern about dramatically lower abundance than historically observed as recent as the 1980s and 1990s. Although there are no estimates of abundance, indices, or surveys for Alaska hares in Unit 18, regulations should be updated to address the low density, possibly declining status, lack of knowledge on abundance and trend, and biological concern for this species. The proposal may result in a slight decrease in hunting opportunity; however, when climatic and habitat conditions are favorable for Alaska hares, a low hunter harvest could protect localized populations for quicker recovery and recolonization.

Current department research on Alaska hare is in the second year of a five-year research project focusing on Alaska hare populations, annual/seasonal movements, and survey techniques. Utilizing DNA taken from pellet swabs and mark-recapture techniques the department is planning to estimate relative abundances, densities, sex ratios and other demographics. To date, the department has designed an array of genetic markers which successfully identify individual hares. In 2018, 9 individual hares were identified within 11 miles of Platinum (GMU 18) and 5 individual hares were identified in the main study area of the Selawik Hills (GMU 23). In 2019, only one individual hare was detected in the Selawik Hills, and that individual was also detected the previous year. Only two hares have been captured (both in the Selawik Hills) and both were fitted with GPS collars. The department plans on returning to Platinum, Nome and the Selawik hills for pellet DNA and captures.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal due to biological concern related to declines of Alaska hares in Unit 18. The board should also discuss adding a salvage requirement for Alaska hares taken in Unit 18, similar to the salvage requirements in Unit 9 where the hide or the meat of Alaska hares must be salvaged for human use.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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PROPOSAL 16 – 5 AAC 92.044. Permit for hunting bear with the use of bait or scent lures. Extend the hunting season for brown bear in Unit 18.

PROPOSED BY: Bethel Fish and Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? This proposal extends the spring season by one month for brown bears to be taken over bait in Unit 18. The new season would be Sept. 1 – June 30.

WHAT ARE THE CURRENT REGULATIONS? The bag limit is one brown bear every regulatory year, with season dates of Sept. 1–May 31. Resident locking tags are not required to hunt brown bears in Unit 18.

There is a positive customary and traditional use finding for brown bears in Unit 18, and an amount reasonably necessary for subsistence of 20-30 bears.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Hunters would have additional opportunity for brown bears in Unit 18. An initial increase in brown bear harvest is expected during the first few years of the liberalized season before harvests stabilize again in succeeding years. Federal lands are managed by the Fish and Wildlife Service and brown bear baiting is prohibited by federal regulation. Adoption of this proposal would provide additional opportunity on state managed and private lands only and this may create some confusion for hunters.

BACKGROUND: The author of the proposal references hunting brown bears using a bait station and notes the difference in the closing dates for black and brown bears. While the author does not explicitly state that they would like the month of June to be open to bear baiting, they imply that their intent is to extend the season for all hunting of brown bears, including hunting over bait.

Brown bear harvests in Unit 18 have been relatively stable since the early 2000s, ranging from 5 to 39, with a 10-year average of 27 (66% male) (Table 16-1). Bear baiting activity in Unit 18 has increased over the past 10 years (2009-2018). The number of bait sites registered ranges from 2-18 over the same time frame, with a high of 18 registered in 2017. Historically, the highest

proportion of the brown bear harvest occurs in the fall (Table 16-1). The spring of 2018 was the first year that brown bears were allowed to be taken over bait. To date only one brown bear has been harvested over bait in Unit 18. The department does not track the harvest of black bears in Unit 18.

The bear population in Unit 18 has not been surveyed, but observations by department staff and the public indicate that the population is distributed throughout the unit and abundant in major tributaries. Harvest rate are generally low and not believed to be a factor influencing bear numbers.

Table 16-1. Chronology of brown bear harvest in Unit 18, regulatory years 2009 through 2018.

Year	Fall	Spring	Total
2009	20	6	26
2010	23	12	35
2011	31	8	39
2012	25	7	32
2013	16	6	22
2014	23	4	27
2015	20	3	23
2016	20	5	25
2017	11	3	14
2018	15	1	16
Average	21	6	27

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal because it has not identified a biological concern for the brown bear populations in Unit18. Adoption of this proposal is not expected to significantly increase brown bear harvest.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 17– 5 AAC 92.044. Permit for hunting bear with the use of bait or scent lures. Change the opening date for bear baiting, and the date hunters can register bait stations in Unit 18.

PROPOSED BY: Sam Hancock

WHAT WOULD THE PROPOSAL DO? This proposal would allow hunters to register bear bait sites starting March 1 and would allow bear bait to be placed in the field starting April 1 in Unit 18.

WHAT ARE THE CURRENT REGULATIONS? The bear baiting season in Unit 18 is April 15-June 30. Bear bait stations can be registered April 1, and bait may not be placed at the site until

the season is open. The black bear season in Unit 18 is July 1 to June 30 with a bag limit of three bears. The brown bear season is open from September 1 to May 31 with a bag limit of one bear with a resident tag fee exemption. Baiting for brown bears was legalized at the last Region 5 BOG meeting in 2017.

There is a positive customary and traditional use finding for brown bears in Unit 18, and an amount reasonably necessary for subsistence of 20-30 bears.

There is no customary and traditional use finding for black bears in Unit 18.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted the proposal will liberalize bear baiting opportunity in Unit 18 by allowing bait sites to be registered 1 month earlier and by allowing for bait to be placed in the field 15 days earlier. No significant increase in harvest is anticipated if this proposal were to be adopted. April 1 is used statewide, where bait is allowed, as the date hunters can register bait stations, and similarly, April 15 is the date used statewide, where allowed, that bait can be placed in the field. Changing this would bring both the registration date and the first day of the baiting season out of alignment with the rest of the state.

BACKGROUND: Bear baiting was first allowed in Unit 18 in 2008. In the past 5 years the average number of bait stations registered per year has been 11. Black bears in Unit 18 do not require a permit, a harvest ticket, or sealing. Household surveys conducted by the department (n=16) in Unit 18 communities and two communities adjacent to Unit 18 indicate an estimated average annual harvest of five black bears per surveyed community during eight study years from 2003 through 2013.

Brown bear harvests in Unit 18 have been relatively stable since the early 2000s, ranging from 5 to 39 bears, with a 10-year average (2006-2018) of 27 bears (66% male) (Table 17-1). Historically, the highest proportion of the brown bear harvest occurs in the fall. (Table 17-1). To date, only one brown bear has been harvested over bait in GMU 18.

The bear population in Unit 18 has not been surveyed, but observations by department staff and information from the public indicate that the population is abundant in major river tributaries. Harvest is generally low and not believed to be a factor influencing bear numbers.

Table -1. Chronology of brown bear harvest in Unit 18, regulatory years 2009 through 2018.

Year	Fall	Spring	Total
2009	20	6	26
2010	23	12	35
2011	31	8	39
2012	25	7	32
2013	16	6	22
2014	23	4	27
2015	20	3	23
2016	20	5	25
2017	11	3	14
2018	15	1	16
Average	21	6	27

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. The department has not identified a biological concern for the brown bear population in Unit 18. Adoption of this proposal is not expected to significantly increase black or brown bear harvest. The Board may wish to consider evaluating the customary and traditional uses of black bears for subsistence in Unit 18.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 18 – 5 AAC 92.210. Game as animal food or bait. Add wings, backbone and meat of the radius, humerus, ulna and back of swans, geese and crane as allowed trapping bait.

PROPOSED BY: Sam Hancock

WHAT WOULD THE PROPOSAL DO? This proposal seeks to allow the wings of all game birds, as well as the meat attached to the humerus, radius, ulna and back of swans, geese and cranes, to be used as trapping bait, by requiring them to be salvaged for human use, in Unit 18.

WHAT ARE THE CURRENT REGULATIONS? Current regulations state that only game parts that are **not** required to be salvaged as edible meat can be used as bait or animal feed. The meat of the wings (excluding metacarpus) and back from swans, geese and cranes must be salvaged for human consumption.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted the wings of all game birds and meat attached to the humerus, radius, ulna and backs of swans, geese and cranes would be allowed for use as bait in GMU 18. If adopted, the effect on harvest for swans, geese and cranes would be negligible as the parts of the birds listed above are not the primary interest of bird hunters.

BACKGROUND: During the 2017 statewide Board of Game meeting, the board required the meat of the breast, back, femur, tibia-fibula and wings (excluding metacarpals for swans, geese and cranes) be salvaged for human consumption. Regulations prior to 2017 only required hunters to salvage the meat of the breast for human consumption. The rest of the animal did not have to be salvaged and could be used for trapping bait.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal because there is no biological concern related to the salvage of meat from swans, geese or cranes. The department recommends salvage requirements be consistent statewide to minimize regulatory complexity, to accomplish that the board may wish to defer this proposal to the next statewide meeting in 2021.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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PROPOSAL 19 – 5 AAC 85.025. Hunting seasons and bag limits for caribou. Extend the dates of bull caribou harvest in Unit 23.

PROPOSED BY: Kotzebue Sound Fish & Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? Adjust the current harvest period for bull caribou in Unit 23 by removing the current closure between October 15 and March 31. This would allow the year-round harvest of bull caribou in Unit 23 for Alaska residents.

WHAT ARE THE CURRENT REGULATIONS?

Units and Bag Limits	**Resident Open Season**	**Nonresident Open Season**
(18) Unit 23, that portion north of and including the Singoalik River drainage		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken;	July 1 - Oct. 14 Feb. 1 - June 30	
up to 5 cows per day; however, calves may not be taken	July 15 - Apr. 30	
NONRESIDENT HUNTERS:		

1 bull; however, calves may not be taken	Aug. 1 - Sept. 30

Remainder of Unit 23

RESIDENT HUNTERS:
5 caribou per day, by registration permit only, as follows:

up to 5 bulls per day; however, calves may not be taken;	July 1 - Oct. 14 Feb. 1 - June 30
up to 5 cows per day; however, calves may not be taken	Sept. 1 - Mar. 31

NONRESIDENT HUNTERS:

1 bull; however, calves may not be taken	Aug. 1 - Sept. 30

There is a positive customary and traditional use finding for the Western Arctic herd and Teshekpuk Lake herd in Units 21, 22, 23, 24, and 26 with an amount reasonably necessary for subsistence of 8,000-12,000 caribou.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the proposal were adopted, it would provide opportunity for hunters to harvest bull caribou later in the season. Harvest of bulls during and post rut within Unit 23 tends to favor younger males because meat quality is still good. This could potentially lead to hunters selecting young bulls in the late fall, which may have the benefit of reducing cow harvest. It is anticipated that with the continued implementation of the registration caribou hunt (RC907) the ability to track annual changes in harvest composition between bulls and cows will be strengthened, making it easier to evaluate the effects of such regulatory changes.

BACKGROUND: Prior to regulations enacted by the Board in 2017, bull caribou harvest was open year-round with a daily bag limit of 5 bulls per day. After peaking at nearly 500,000 animals in 2003, the Western Arctic Herd (WAH) experienced a sharp decline through 2016 (Dau 2015). In response to this decline local Advisory Committees considered a variety of different conservation measures to help reduce additive mortality. One of these measures was to institute a bull closure period between October 14 and February 1, a period when many hunters consider mature bulls to be unpalatable.

Following the adoption of the proposal in 2017 the fall migration patterns for the WAH became less consistent, with fall crossing events on the Kobuk River becoming less common and occurring later in the year (NPS 2018). This change in migration pattern reduced opportunity for Unit 23 residents who rely heavily on fall caribou harvest along the Kobuk River. The reduction in availability of prime-aged bulls in the fall appeared to lead to an increase in cow harvest, which

was the only legal animal in early winter, when most communities in Unit 23 began to have access to caribou.

In 2016, portions of Unit 22 also adopted the bull closure between October 14 and February 1. Immediately following the change, Unit 22 hunters expressed concerns about additive cow harvest and were frustrated by an increase in wildlife citations stemming from the closure. These concerns were taken to the Board of Game and the bull closure period was removed in 2017. Given conservation concerns with the increased harvest pressure on cows in the fall and winter, the Kotzebue AC has proposed eliminating the bull closure and restoring the opportunity for year-round bull harvest. The Kotzebue AC's proposal was presented to the Western Arctic Caribou Herd Working Group (WACHWG) meeting in December of 2018 and was supported unanimously by the group's participants. An identical proposal (Proposal 20) has been submitted by the WACHWG.

DEPARTMENT COMMENTS: The department is **NEUTRAL** regarding this proposal. Harvest levels appear to be at or below the harvestable surplus for the herd at the present time and bull to cow ratios have been stable at or above 40:100 for more than a decade. If the proposal were to be adopted it could potentially re-allocate a portion of the harvest from cows to bulls. A reduction of cow harvest as a result of increased bull harvest could have a positive influence on the trajectory of the population if a substantial re-allocation were to occur.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 20 – 5 AAC 85.025. Hunting seasons and bag limits for caribou. Extend the dates of bull caribou harvest in Unit 23.

PROPOSED BY: Western Arctic Caribou Herd Working Group (WACHWG)

WHAT WOULD THE PROPOSAL DO? Adjust the current harvest period for bull caribou in Unit 23 by removing the current closure between October 15 and March 31. This would allow the year-round harvest of bull caribou in Unit 23 for Alaska residents.

WHAT ARE THE CURRENT REGULATIONS?

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
(18) Unit 23, that portion north of and including the Singoalik River drainage RESIDENT HUNTERS: 5 caribou per day, by		

registration permit only,
as follows:

up to 5 bulls per day; however, calves may not be taken;	July 1 - Oct. 14 Feb. 1 - June 30
up to 5 cows per day; however, calves may not be taken	July 15 - Apr. 30

NONRESIDENT HUNTERS:

1 bull; however, calves may not be taken	Aug. 1 - Sept. 30

Remainder of Unit 23

RESIDENT HUNTERS:
5 caribou per day, by
registration permit only,
as follows:

up to 5 bulls per day; however, calves may not be taken;	July 1 - Oct. 14 Feb. 1 - June 30
up to 5 cows per day; however, calves may not be taken	Sept. 1 - Mar. 31

NONRESIDENT HUNTERS:

1 bull; however, calves may not be taken	Aug. 1 - Sept. 30

There is a positive customary and traditional use finding for the Western Arctic herd and Teshekpuk Lake herd in Units 21, 22, 23, 24, and 26 with an amount reasonably necessary for subsistence of 8,000-12,000.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the proposal were adopted, it would provide opportunity for hunters to harvest bull caribou later in the season. Harvest of bulls during and post rut within Unit 23 tends to favor younger males because meat quality is still good. This could potentially lead to hunters selecting young bulls in the late fall which may have the benefit of reducing cow harvest. It is anticipated that with the continued implementation of the RC 907 the ability to track annual changes in harvest composition between bulls and cows will be strengthened, making it easier to evaluate the effects of such regulation changes.

BACKGROUND: Prior to regulations enacted by the Board in 2017, bull caribou harvest was open year-round with a daily bag limit of 5 bulls per day. After peaking at nearly 500,000 animals in 2003 the Western Arctic Herd (WAH) experienced a sharp decline through 2016 (Dau 2015). In response to this decline, local Advisory Committees considered a variety of different

conservation measures to help reduce additive mortality. One of these measures was to institute a bull closure period between October 14 and February 1, a period when many hunters consider mature bulls to be unpalatable.

Following the adoption of the proposal in 2017 the fall migration patterns for the WAH became less consistent, with fall crossing events on the Kobuk River becoming less common and occurring later in the year (NPS 2018). This change in migration pattern reduced opportunity for Unit 23 residents who rely heavily on fall caribou harvest along the Kobuk River. The reduction in availability of prime-aged bulls in the fall appeared to lead to an increase in cow harvest, which was the only legal animal in early winter, when most communities in Unit 23 began to have access to caribou.

In 2016, portions of Unit 22 also adopted the bull closure between October 14 and February 1. Immediately following the change, Unit 22 hunters expressed concerns about additive cow harvest and were frustrated by an increase in wildlife citations stemming from the closure. These concerns were taken to the Board of Game and the bull closure period was removed in 2017. Given conservation concerns with the increased harvest pressure on cows in the fall and winter, the Kotzebue AC has proposed eliminating the bull closure and restoring the opportunity for year-round bull harvest. The Kotzebue AC's proposal was presented to the Western Arctic Caribou Herd Working Group (WACHWG) meeting in December of 2018 and was supported unanimously by the group's participants. Proposal 19, which is identical to Proposal 20, has been submitted by the Kotzebue Sound Fish & Game Advisory Committee.

DEPARTMENT COMMENTS: The department is **NEUTRAL** regarding this proposal. Harvest levels appear to be at or below the harvestable surplus for the herd at the present time and bull to cow ratios have been stable at or above 40:100 for more than a decade. If the proposal were to be adopted it could potentially re-allocate a portion of the harvest from cows to bulls. A reduction of cow harvest as a result of increased bull harvest could have a positive influence on the trajectory of the population if a substantial re-allocation were to occur.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 21– 5 AAC 85.025. Hunting seasons and bag limits for caribou. Hunting seasons and bag limits for caribou.

Reduce the resident bag limit for caribou in Unit 23 as follows:

5 caribou per day, by registration permit only, up to 25 caribou total, including 5 cow caribou annually.

PROPOSED BY: Seth Kantner

WHAT WOULD THE PROPOSAL DO? Limit total harvest per resident hunter to 5 caribou per day with a bag limit of 25 caribou annually, of which only 5 may be female.

WHAT ARE THE CURRENT REGULATIONS?

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Unit 23, that portion north of and including the Singoalik River drainage		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken	July 1-Oct. 14 Feb. 1-June 30	
up to 5 cows per day; however, calves may not be taken	July 15-Apr. 30	
NONRESIDENT HUNTERS: 1 bull; however, calves may not be taken		Aug. 1-Sept. 30
Remainder of Unit 23		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken	July 1-Oct. 14 Feb. 1-June 30	
up to 5 cows per day; however, calves may not be taken	Sept. 1-Mar. 31	
NONRESIDENT HUNTERS: 1 bull; however, calves may not be taken		Aug. 1-Sept. 30

There is a positive customary and traditional use finding for caribou in Units 21, 22, 23, 24, and 26, and a combined amount reasonably necessary for subsistence of 8,000-12,000 in those units.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal could potentially reduce both cow harvest and the overall harvest of caribou in Unit 23. Current harvest levels appear to be at or near harvestable surplus for cows. Recent data (2017-2018) from the RC 907 permits suggest that few individuals harvest more than 25 caribou total and/or more than 5 cows per year. There are, however, high harvesters who would likely be harvesting above the proposed limits in the tradition of harvesting for others within their community. In small part, the harvest levels for high harvesters may be able to be accommodated by state proxy (for elders and 70% disabled); however, the tradition of harvesting for others includes Alaska residents who would not qualify for the proxy program. For the federal public lands in Unit 23, there are also federal designated hunter opportunities.

BACKGROUND: Under state regulation the resident bag limit for caribou in Unit 23 has been 5 caribou per day for more than three decades. During much of this time, additional harvest of up to 15 caribou per day was allowed under Federal regulation. In response to a declining population, the Federal Subsistence Board reduced the daily bag limit to 5 caribou per day in 2016. The year prior to the Federal reduction, Unit 22 adopted an annual bag limit of 25 caribou per year in State regulation. However, Unit 23 use patterns are different from Unit 22 due to proximity to the range of the herd; several Unit 22 communities are outside or on the periphery of the known range of the WAH while others are located within the winter range. Per capita harvests of caribou from 2010-2018 in Unit 22 and Unit 23 communities show differing harvest patterns between the two units. Meat harvested in 14 communities in Unit 22 were on average 41 lb. per person, compared to an average of 140 lb. per capita on average for 18 surveyed Unit 23 communities. Total harvest for the WAH has been static since 1996 at around 12,000 caribou per year, regardless of fluctuations in the caribou population and changes to bag limits. At its lowest point since the early 1980s the WAH was estimated at 201,000 animals (2016), at which point the harvestable surplus may have been exceeded. More recent data suggest that harvest levels are at or near harvestable surplus for cows; however, a complete picture of actual cow harvest is not yet available. Once the caribou registration permit, RC 907, becomes more established it is anticipated that harvest information will be much more refined. A reduction in overall cow harvest may be required if the population continues to remain near the Intensive Management population level of 200,000 (5 AAC 92.108).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. Liberal bag limits may have the outward appearance of a limitless resource; however, caribou harvest in Unit 23 is largely based on availability, which is limited by access. Caribou movements can be highly variable and are typically only available to a given community at certain times of year, if at all. Since there would be a harvest cap, the board should consider how adoption of this proposal would still provide reasonable opportunity for caribou hunting in Unit 23.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 22 – 5 AAC 85.025 Hunting seasons and bag limits for caribou. Extend the cow caribou resident hunting season in Unit 23 remainder to April 15.

PROPOSED BY: Northern Seward Peninsula Fish and Game Advisory Committee

WHAT WOULD THE PROPOSAL DO?

The proposal would extend hunting opportunity for resident caribou hunters by extending the cow caribou hunting season in Unit 23 Remainder by an additional 15 days, through April 15.

WHAT ARE THE CURRENT REGULATIONS?

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Unit 23, that portion north of and including the Singoalik River drainage		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken	July 1-Oct. 14 Feb. 1-June 30	
up to 5 cows per day; however, calves may not be taken	July 15-Apr. 30	
NONRESIDENT HUNTERS: 1 bull; however, calves may not be taken		Aug. 1-Sept. 30
Remainder of Unit 23		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken	July 1-Oct. 14 Feb. 1-June 30	

up to 5 cows per day; however, calves may not be taken	Sept. 1-Mar. 31
NONRESIDENT HUNTERS: 1 bull; however, calves may not be taken	Aug. 1-Sept. 30

There is a positive C&T finding for caribou in units 21, 22, 23, 24, and 26 (Western Arctic herd, Teshekpuk Lake herd) and an ANS of 8,000-12,000 caribou (combined).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED?

If the proposal were adopted, some increase in the harvest of cow caribou may occur. The long-term impacts of adopting this proposal are unknown but the department has concerns with the overall herd abundance and additional female caribou harvest may exacerbate those concerns.

BACKGROUND: Over the last 30 years, the Western Arctic Caribou Herd (WAH) has seen large population fluxes, the most recent occurring from 2003 to 2016 when the population declined from a peak of nearly 500,000 to 201,000. This drastic decline prompted a reassessment of hunting regulations and, over the last 3 years, several proposals were adopted through the Board of Game to minimize harvest impact while maintaining hunter opportunity.

The most recent population estimate of 259,000 occurred in 2017. A census was not completed in 2018 and results from the 2019 census are pending; however, it is anticipated that the 2019 estimate will be below 259,000. Other biological indices reflect positive increases in calf production and recruitment, even though adult female mortality rates appear to be higher than average. The combination of these indices potentially indicates relative stability in the abundance of the population; however additional time is needed to see how recent fluctuations might influence the current status.

While the current harvest levels appear to be at or below harvestable surplus in general (Figure 22-1), additional cow harvest could begin to exceed the harvestable surplus of cows in this herd. Harvest reports received from Unit 23 hunters through registration permit RC 907 (RY17-18) indicate that the proportion of cow harvest has increased slightly, from approximately 70% bulls and 30% cows to 65% bulls and 35% cows. If the harvestable surplus of cows were to be exceeded now it may very likely have a negative influence on the population.

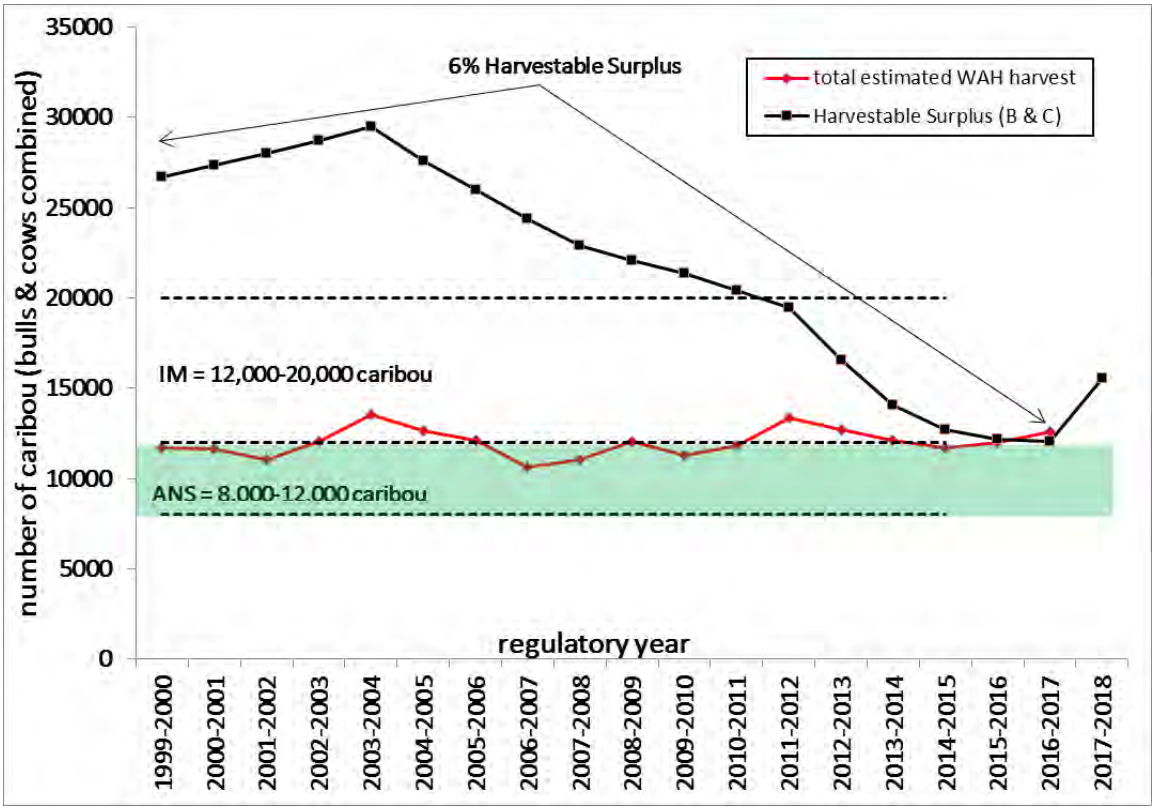

Figure 22-1. Unit 23 caribou abundance in relation to IM objectives and ANS (1999-2017).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal based on the allocative nature of the proposed change. The WAH has seen several major changes over the last 15 years, from severe population declines to appreciable departures from known migration patterns. This herd is an important resource, as evidenced by its positive IM finding in 5 AAC 92.108. It should also be noted that the bull season is open during the current cow closure, allowing for uninterrupted opportunity for harvest. The population appears to have stabilized near the Intensive Management population level of 200,000 caribou and a harvestable surplus is available.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 23 – 5 AAC 92.080 Unlawful methods of taking game; exceptions. Amend the regulation permitting the positioning of caribou by snow machine in Unit 23.

PROPOSED BY: Seth Kantner

WHAT WOULD THE PROPOSAL DO? Provide additional language to the regulation that allows the positioning of caribou for harvest by snowmobile. The intent is to reduce the frequency of hunters harassing caribou by defining the bounds of positioning to include language like that found in regulation for Unit 17, 5 AAC 92.080.

The language used in this proposal varies in function from the Unit 17 regulation only in that it replaces 300 yards with 200 yards as the acceptable approach distance.

WHAT ARE THE CURRENT REGULATIONS?

5AAC 92.080. Unlawful methods of taking game; exceptions

(4) unless otherwise provided in this chapter, from a motor-driven boat or a motorized land vehicle, unless the motor has been completely shut off and the progress from the motor's power has ceased, except that a

…

(B) motorized land vehicle may be used as follows:

(i) in Units 22, 23, and 26(A), a snow machine may be used to position a caribou, wolf, or wolverine for harvest, and caribou, wolves, or wolverines may be shot from a stationary snowmobile.

…

(viii) in Unit 17, a snow machine may be used to assist in the taking of a caribou and caribou may be shot from a stationary snow machine. "Assist in the taking of a caribou" means a snow machine may be used to approach within 300 yards of a caribou at speeds under 15 miles per hour, in a manner that does not involve repeated approaches or that causes a caribou to run. A snow machine may not be used to contact an animal or to pursue a fleeing caribou.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the proposal were adopted, it would provide a more precise definition of what is allowable under the exception to use a motorized vehicle to take game as described in 5AAC 92.080 (B)(i) as "positioning" and would align it with the newly adopted regulations addressing similar issues in Unit 17.

BACKGROUND: Caribou are a highly valued game animal utilized by various groups in Unit 23. Since 1996 harvest estimates for the Western Arctic Herd (WAH) indicate that local harvest accounts for approximately 95% of the total harvest, with non-local/non-residents taking the remaining 5%. Total harvest for the WAH has been static since 1996, at around 12,000 caribou per year, regardless of fluctuations in the population. Current harvest levels indicate that harvest is below the harvestable surplus for the herd in general; however, there is no way to account for the number of individual caribou that are shot and not recovered. The population continues to remain near the Intensive Management population level of 200,000 (5 AAC 92.108), and the current management strategy strives to balance levels of opportunity with current levels of harvest that are close to the harvestable surplus.

Caribou harvest by Unit 23 hunters typically occurs either in the fall, usually by boat, or in the winter/spring by snow machine. Recent changes in fall migration patterns (2017 & 2018) have made it more difficult for Unit 23 hunters to harvest caribou in the fall because they have been crossing major rivers later and in fewer numbers. Once snow and ice conditions are favorable for travel by snow machine, hunters have had better access to the caribou. In the past few years, large

numbers of caribou have come down the coast through Cape Krusenstern National Monument, passing near the town of Kotzebue during early winter. The abundance of caribou near a relatively large community has provided a significant opportunity in recent years.

This opportunity, and the number of hunters that participate, has resulted in public concerns over unethical hunting practices involving snow machines. During the past two winters (2017 & 2018) there have been several reports of hunters chasing caribou at high speeds, Alaska Wildlife Troopers continue to receive complaints but are unable to act on anything other than the most blatant of activities. In addition to observations of unethical behavior, many caribou have been found wounded or killed and wasted following the caribou's passage near town, and many calves have been abandoned. In part, this may be the result of shooting into herds of moving animals rather than taking the time to select an animal for harvest. Previous management reports indicate that wounding loss and failure to salvage can contribute to the mortality of at least "hundreds of caribou" annually.

Following the lead of the Kiana Elders Council, the Native Village of Kotzebue issued their own version of the "Inupiat Ilitqusiat" outlining the guidelines of winter caribou hunting. A few of the points they include in the guidelines are 1) Take your time. Observe groups before you approach; 2) Don't shoot aimlessly into a bunched-up group of caribou. Wait until they separate and target specific animals; 3) Chasing caribou and running them too much is bad for the health of the animals and results in poor quality meat. If you must chase, pick out one animal to harvest and move it away from the group; and 4) Not only is waste of caribou disrespectful, it is illegal. These and several other important points in the document provide local guidance on how winter caribou hunting can be done with minimal impact to caribou not selected for harvest.

DEPARTMENT COMMENTS: The department is **NEUTRAL** regarding this proposal. There are concerns associated with wounding loss and the effects of chasing herd animals. Proposal 23 is primarily addressing methods and means which are allocative in nature. The board may wish to consider whether or not this language should be applied to the take of caribou in Units 22 and 26A as well.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 24 – 5 AAC 85.025, Hunting seasons and bag limits for caribou. Remove the restrictions for residents on caribou calf harvest in Unit 23.

PROPOSED BY: Kotzebue Sound Fish & Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? This proposal would allow Alaska residents to take caribou calves in Unit 23.

WHAT ARE THE CURRENT REGULATIONS?

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Unit 23, that portion north of and including the Singoalik River drainage		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken	July 1-Oct. 14 Feb. 1-June 30	
up to 5 cows per day; however, calves may not be taken	July 15-Apr. 30	
NONRESIDENT HUNTERS: 1 bull; however, calves may not be taken		Aug. 1-Sept. 30
Remainder of Unit 23		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken	July 1-Oct. 14 Feb. 1-June 30	
up to 5 cows per day; however, calves may not be taken	Sept. 1-Mar. 31	
NONRESIDENT HUNTERS: 1 bull; however, calves may not be taken		Aug. 1-Sept. 30

There is a positive customary and traditional use finding for the Western Arctic herd and Teshekpuk Lake herd in Units 21, 22, 23, 24, and 26 with an amount reasonably necessary for subsistence of 8,000-12,000 caribou.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the proposal were adopted, some increase in the harvest of caribou calves may occur. This harvest is expected to be largely incidental, since calves are typically not targeted for harvest. Additional take of calves is expected to be largely compensatory, and not have significant effects on WAH abundance.

BACKGROUND: From 2003 to 2016, the WAH population saw a steady decline from its peak of nearly 500,000 to 201,000 (Dau 2015). This decline prompted a reassessment of hunting regulations; Board of Game proposals included a prohibition on the take of calves and a shortened bull season as tools to minimize harvest impact while maintaining hunter needs. The proposal was adopted by the Board of Game and beginning in RY15, the major units within the WAH range (Units 23, 26A & 22) prohibited the take of calves.

Without age-specific harvest data prior to, during, or after the prohibition on calf take, it is difficult to discern what impact the regulation has had. Public reports and agency observations have identified several instances of orphaned or wounded calves following the passage of caribou near populated areas. Kotzebue AC members have proposed that, if the calf restriction were removed, these animals could be harvested for human consumption rather than left to fend for themselves. The Kotzebue AC's proposal was presented at the Western Arctic Caribou Herd Working Group meeting in December of 2018 and was received with unanimous support from participants. Subsequently, the WACHWG submitted an identical proposal (Proposal 25).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. In general, discussion at the community level seems to imply that calves would not intentionally be targeted but opportunistically harvested if abandoned, orphaned or injured. With herd animals it can often be difficult to determine which cows have attending calves; as a result, maternal cows are occasionally harvested unintentionally, leaving a calf orphaned. In general, the removal of these calves through human harvest would be largely compensatory in nature, and not consume a significant portion of the harvestable surplus.

Currently, the hunt reporting portion of the RC907 permit only asks for the sex of the harvested animals, leaving no way for the department to track or monitor calf harvest. Given the lack of age class reporting, it would be difficult for the department to determine whether allowing calf harvest had any appreciable effect on calf recruitment. If the proposal is adopted, the department would likely require reporting of calf harvest, defined as a caribou less than 12 months old, in the reporting portion of the RC907 registration permit. Additionally, for the ease of interpretation and compliance, the Board may wish to amend the proposal so that its scope addresses the entirety of the RC907 permit, which includes Units 26A and 22, as opposed to just Unit 23.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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PROPOSAL 25 – 5 AAC 85.025. Hunting seasons and bag limits for caribou. Remove the restriction for Alaska residents on caribou calf harvest in Unit 23.

PROPOSED BY: Western Arctic Caribou Herd Working Group (WACHWG)

WHAT WOULD THE PROPOSAL DO? This proposal would allow Alaska residents to take caribou calves in Unit 23.

WHAT ARE THE CURRENT REGULATIONS?

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Unit 23, that portion north of and including the Singoalik River drainage		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken	July 1-Oct. 14 Feb. 1-June 30	
up to 5 cows per day; however, calves may not be taken	July 15-Apr. 30	
NONRESIDENT HUNTERS: 1 bull; however, calves may not be taken		Aug. 1-Sept. 30
Remainder of Unit 23		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, as follows:		
up to 5 bulls per day; however, calves may not be taken	July 1-Oct. 14 Feb. 1-June 30	
up to 5 cows per day; however, calves may not be taken	Sept. 1-Mar. 31	

NONRESIDENT HUNTERS:
1 bull; however, calves may not be taken — Aug. 1-Sept. 30

There is a positive customary and traditional use finding for the Western Arctic herd and Teshekpuk Lake herd in Units 21, 22, 23, 24, and 26 with an amount reasonably necessary for subsistence of 8,000-12,000 caribou.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the proposal were adopted, some increase in the harvest of caribou calves may occur. This harvest is expected to be largely incidental, since calves are typically not targeted for harvest. Additional take of calves is expected to be largely compensatory, and not have significant effects on WAH abundance.

BACKGROUND: From 2003 to 2016, the WAH population saw a steady decline from its peak of nearly 500,000 to 201,000 (Dau 2015). This decline prompted a reassessment of hunting regulations; Board of Game proposals included a prohibition on the take of calves and a shortened bull season as tools to minimize harvest impact while maintaining hunter needs. The proposal was adopted by the Board of Game and beginning in RY15, the major units within the WAH range (Units 23, 26A & 22) prohibited the take of calves.

Without age-specific harvest data prior to, during, or after the prohibition on calf take, it is difficult to discern what impact the regulation has had. Public reports and agency observations have identified several instances of orphaned or wounded calves following the passage of caribou near populated areas. Kotzebue AC members have proposed that, if the calf restriction were removed, these animals could be harvested for human consumption rather than left to fend for themselves. The Kotzebue AC's proposal was presented at the Western Arctic Caribou Herd Working Group meeting in December of 2018 and was received with unanimous support from participants; Subsequently, the Kotzebue AC submitted an identical proposal (Proposal 24).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. In general, discussion at the community level seems to imply that calves would not intentionally be targeted but opportunistically harvested if abandoned, orphaned or injured. With herd animals it can often be difficult to determine which cows have attending calves; as a result, maternal cows are occasionally harvested unintentionally, leaving a calf orphaned. In general, the removal of these calves through human harvest would be largely compensatory in nature, and not consume a significant portion of the harvestable surplus.

Currently, the hunt reporting portion of the RC907 permit only asks for the sex of the harvested animals, leaving no way for the department to track or monitor calf harvest. Given the lack of age class reporting, it would be difficult for the department to determine whether allowing calf harvest had any appreciable effect on calf recruitment. If the proposal is adopted, the department would require reporting of calf harvest, defined as a caribou less than 12 months old, in the reporting portion of the RC907 registration permit. Additionally, for the ease of interpretation and compliance, the Board may wish to amend the scope of the proposal to the entirety of the RC907 permit, to include Units 26 and 22, as opposed to just Unit 23.

COST ANALYSIS: Adoption of this proposal would not result in additional costs to the department.

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PROPOSAL 26 – 5 AAC 85.045(24). Hunting seasons and bag limits for moose. Reauthorize the antlerless moose seasons in Unit 26A.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal reauthorizes the antlerless moose season in the western portion of Unit 26A.

WHAT ARE THE CURRENT REGULATIONS? Antlerless moose hunts for residents are allowed in the portion of Unit 26A west of 156˚ 00' W. longitude, excluding the Colville River drainage, where antlerless hunting through a 1 moose bag limit is allowed July 1–September 14.

There is a positive C&T for moose in Unit 26, and an ANS of 21–48, including 15–30 in Unit 26A.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The antlerless moose hunt in the portion of Unit 26A west of 156° 00’ W longitude and north of the Colville drainage would be reauthorized. Because antlerless moose seasons were closed due to population declines in the remainder of the unit, only the western portion of Unit 26A has a hunt affected by this proposal.

BACKGROUND: The moose population is low in Unit 26A and has declined since 2008. The minimum population count declined from 1,180 moose in 2008 to 610 moose in 2011. The population grew slowly from 2011–2013 but declined again to 294 moose in 2014. The most recent minimum count was conducted in 2017 and estimated 339 moose. Reported moose harvest in recent years has remained low, ranging between 2 and 13 moose for the period 2010-2018. Moose in these regions can be a useful source of meat in times of low caribou abundance or sparse caribou distribution.

The portion of Unit 26A west of 156° 00’ W longitude and north of the Colville drainage does not have a year-round moose population. Moose occasionally disperse away from the major river drainages to the coastal plain during summer months, and these are the only moose available for harvest in this northwestern portion of Unit 26A. The small number of antlerless moose harvested under the hunt have very little impact on the size of the population. To date, after several years of hunting opportunity in this area, only 4 antlerless moose have been harvested: 1 cow in 2006, 1 in 2008, 1 in 2014, and 1 in 2018. Keeping an antlerless moose season in this portion of Unit 26A provides additional opportunity in a portion of the state that generally does not have moose.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. Antlerless harvests in the western section of Unit 26A are anticipated to be very low and have little impact on the population.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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Note: This proposal is also scheduled for the March 6-14, 2020, Interior and Eastern Arctic Region meeting in Fairbanks, Alaska, as Proposal 81. Information provided below is for Unit 26A only because this subunit is in Region V. Units 26B and 26C will be discussed under Proposal 81, at the March 2020 meeting.

PROPOSAL 27 – 5 AAC 85.025 Hunting seasons and bag limits for caribou. Increase the nonresident bag limit for caribou in Unit 26 from 1 bull to 2 bulls.

This proposal seeks to modify the nonresident caribou bag limit in all of Unit 26.

Proposed by: Howard Tieden

What would the proposal do? It would allow non-residents to harvest two bulls per year as opposed to one.

What are the current regulations?

Unit 26A,

...

Nonresident hunters:	1 bull; however, calves may not be taken	July 15– Sept. 30

There is a positive customary and traditional use finding for the Western Arctic herd and Teshekpuk Lake herd in Units 21, 22, 23, 24, and 26 with an amount reasonably necessary for subsistence of 8,000-12,000 caribou. There is also a positive customary and traditional use finding for the Central Arctic herd in Unit 26B, and an amount reasonably necessary for subsistence of 250-450 caribou.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Caribou hunting opportunity in Unit 26A would increase for nonresident hunters. There could be a modest increase in harvest on the Western Arctic and Teshekpuk Caribou Herds, and non-resident bag limits for WAH would be inconsistent with other game management units in the range of this herd.

BACKGROUND: Three different caribou herds utilize Unit 26A. The Western Arctic Herd (WAH) spends a significant amount of time in the southern half on 26A and the unit is an important calving and summering area for the WAH. The Teshekpuk Lake Herd (TCH) spends most of the year in Unit 26A but segments of the herd have wintered in adjacent units. The Central Arctic Herd (CAH) can also be found occasionally in the eastern portion of Unit 26A. There are time periods of the year when animals from all three herds are found in proximity to each other or are intermixed. As the Western Arctic Herd (WAH) population declined to its lowest point since the early 1980s, it neared the Intensive Management (IM) population level of 200,000 as established by the board in 5 AAC 92.108 (Figure 27-1). The 2016 estimate of 201,000 caribou heightened concerns of agency staff and other user groups related to overharvest of the WAH. Population and harvest information indicated the harvestable surplus for the WAH had likely been exceeded and measures would need to be put in place to reduce harvest if the population continued to decline. Similarly, the TCH had also declined to the point where harvest appeared to be exceeding

harvestable surplus. The BOG reduced the nonresident bag limit from two caribou to one in 2017 in response to the declines in these herds. The WAH population was last estimated at 259,000 in 2017, and has likely decreased since then, although results from a photocensus conducted in July 2019 will provided updated information. The TCH population was last estimated at 56,000 in 2017 and has likely grown since then.

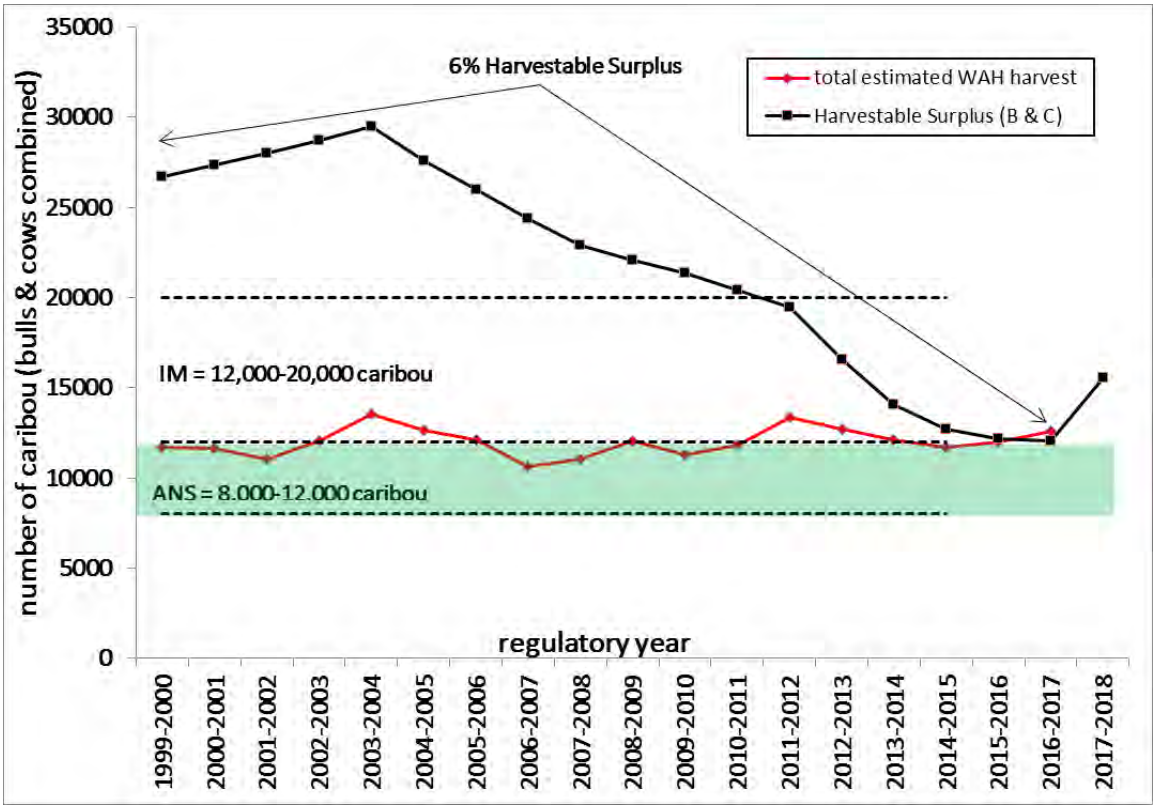

Figure 27-1. Western Arctic Caribou Herd abundance in relation to IM objectives and ANS (1999-2017).

Both resident and nonresident caribou harvest in Unit 26A occurs from the WAH, the TCH and the CAH. However, CAH caribou are seldom in Unit 26A when and where nonresidents are hunting caribou. This herd will be discussed in Proposal 81 at the Region III board meeting in March 2020. Although it is difficult to understand temporal and spatial components of resident harvest from each herd given harvest assessment tools available to managers, nonresident hunters report harvest with enough consistency and spatial clarity to evaluate which herd nonresident harvest came from. Average nonresident harvest in 26A for the last decade has averaged 62 caribou per year. Changes across the last decade include a spatial shift toward areas more likely to include TCH caribou, and steady increase in harvest. Most nonresidents, 90% in the past five years, use airplanes to access caribou. It is likely hunters are accessing animals primarily from the WAH and TCH in Unit 26A based on caribou distribution during the fall hunting season.

Department Comments: The department is **NEUTRAL** due to the allocative components of this proposal. The nonresident harvest is small, and this regulation is not likely to have a large biological impact on the TCH. Results of the 2019 photocensus will help determine if there is continuing conservation concern with the WAH.

COST ANALYSIS: Adoption of this proposal would not result in significant costs to the department.

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PROPOSAL 28– 5AAC 85.025. Hunting seasons and bag limits for caribou. Eliminate the registration caribou permit RC907 and general season caribou harvest ticket requirements for North Slope residents (Point Hope, Anaktuvuk Pass and all residents of Unit 26).

PROPOSED BY: North Slope Fish and Game Advisory Committee

WHAT ARE THE CURRENT REGULATIONS?

Units and Bag Limits

Unit 23, that portion north of and including the Singoalik River drainage

Resident Hunters: Five caribou per day, by registration permit only; however, calves may not be taken.

Unit 24B, remainder

Resident Hunters: Five caribou per day, however calves may not be taken.

Unit 26, The Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River Drainage

Resident Hunters: Five caribou per day, by registration permit only; however, calves may not be taken.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The proposal would eliminate the requirement to obtain a registration permit (RC907) or harvest ticket (GC000) for caribou hunting in Game Management Units 26 (A, B and C), portions of 24B, and portions of Unit 23 (north of the Singoalik River). Registration permits and Harvest Tickets are used by the department to inform management decisions which allow biologists to manage wildlife populations on sustained yield principles. Lack of harvest data represents a challenge to the management of caribou in Units 23, 24B, and 26.

BACKGROUND: As the Western Arctic Herd (WAH) population declined to its lowest point since the early 1980s, it neared the Intensive Management (IM) population level of 200,000 as established by the board in 5 AAC 92.108. The 2016 estimate of 201,000 caribou heightened the concerns of agency staff and users of the WAH about overharvest. The best information available at the time indicated that the harvestable surplus for the WAH had likely been exceeded and measures would need to be put in place to reduce harvest if the population continued to decline. Similarly, the Teshekpuk Caribou Herd (TCH) had also declined to the point where harvest

appeared to be exceeding harvestable surplus. Lack of temporal and spatial information also made it difficult to clearly distinguish between WAH and TCH harvests. It was apparent that current harvest information, which relied on limited data, did not provide a clear enough picture to manage the population when actual harvest, harvestable surplus estimates, ANS ranges and Intensive Management harvest thresholds were potentially converging. Discussions regarding potential reductions in cow seasons and bag limits were not informed by current, range wide data.

Prior to 2015 residents living and hunting caribou north of the Yukon River were required to register with Alaska Department of Fish and Game (ADF&G) or an authorized representative. Beginning in 2015, only those residents in Unit 18 north of the Yukon and residents of Units 23 and 26A were required to register. These registration requirements were removed in 2017 with the implementation of RC907. Previous requirements did not include mandatory reporting and provided minimal harvest information. The adoption of a permit with mandatory reporting requirements was considered a potentially important tool for managing harvest across the wide range of the WAH and TCH. It is important to acknowledge that the department has seen variable success to date on the current efforts associated with RC907, and previous analyses have indicated that the prior method of registering with the department did not produce enough useful data. Whether harvest information is collected through a registration permit or by some other means, it is valuable data when making management decisions.

Various efforts by the Division of Subsistence, as well as local entities such as the North Slope Borough, and even contracted data collection efforts funded by various agencies and industry have all contributed to an important body of historical data. Those data suggested that harvest levels had been relatively static since 1996 and only recently began to converge with harvestable surplus estimates for the WAH, which had been gradually declining since the early 2000s. These data also allowed insight into patterns of harvest that can be useful for understanding the potential effect of regulatory changes and provide data to inform decisions relating to the establishment of amount reasonably necessary for subsistence uses (ANS) and intensive management thresholds. What these data tend not to provide are a more complete and temporally responsive picture of annual harvest, necessary when attempting to allocate limited resources and prevent overharvest.

During times of resource abundance, the need for timely and accurate harvest data may be reduced. This may be the case with the TCH at this time; however, harvest levels on the WAH remain a significant concern. Recent changes in distribution and migration patterns add to uncertainty about the overall harvest, and questions about the proportion of cows in the harvest constitute a large data gap in understanding herd dynamics.

Regulations associated with the Central Arctic Herd and Porcupine Caribou Herd (GMU 26B and C) are also potentially affected by this proposal and will be addressed at the Region III Board of Game meeting during deliberations on Proposal 78.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. A productive and timely method for estimating harvest remains a desirable management tool. If one or more herds in this area required more conservative management in the future, a system that is familiar to users would be invaluable in reducing the stress associated with a new and potentially complex regulatory change. The department is interested in working with local users to develop a system that is beneficial to the users and the resource and facilitates responsive and responsible management.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 29 - 5 AAC 85.020. Hunting seasons and bag limits for brown bears. Increase the bag limit for brown bears in Unit 26A.

PROPOSED BY: Gates of the Arctic Subsistence Resource Commission

WHAT WOULD THE PROPOSAL DO? The proposal would increase the resident bag limit from 1 brown bear per regulatory year to 2 brown bears per regulatory year.

WHAT ARE THE CURRENT REGULATIONS? The current brown bear hunting regulations in 26A are 1 bear per regulatory year; no closed season; and residents are not required to possess a locking tag.

There is a positive customary and traditional use finding for brown bears in Units 23, 24, and 26, and a combined amount reasonably necessary for subsistence of 25-35 bears in those three units.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, the number of bears harvested would likely increase but it is difficult to estimate by how many. Hides with claws attached and skulls of bears harvested under the new regulation in Unit 26(A) would also be able to be sold.

It is unlikely that increasing this harvest limit will lead to a large increase in brown bear harvest. There may be a few individuals that target brown bears, but it is unlikely to significantly impact the legal take of bears in Unit 26A. It should be noted that if this regulation is passed that it will become legal to sell untanned hides, and brown bear parts in accordance with 5 AAC 92.200 and 5 AAC 92.031.

BACKGROUND: There are very little data on brown bears on the North Slope but most of the data indicates populations are at low densities. Local residents in Anaktuvuk Pass and Nuiqsut have expressed concerns over increasing brown bear populations and there appear to be very few local hunters interested in harvesting brown bears. In the past five years (2014-2018), sealing records indicate an average harvest by residents has been 8.2 bears, ranging from 4 to 12 bears harvested per year. In 2019, there have been 5 brown bears harvested to date by residents. Household surveys in Utqiagvik indicate that one brown bear was taken in 2003, two bears were taken in 2001, and three were taken in 2000. In Wainwright, one brown bear was taken in 2003. In 1994, four brown bears were harvested in Point Lay.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal because it has not identified a biological concern for the brown bear population in Unit 26(A). Adoption of this proposal is not expected to significantly increase brown bear harvest based on the amount of current effort in hunting brown bears in Unit 26A.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 30 –5 AAC 92.011(k). Taking of game by proxy. Include muskox on the list of species that can be taken under a proxy permit in Unit 22.

PROPOSED BY: Charlie Lean

WHAT WOULD THE PROPOSAL DO? This proposal would allow muskox in Tier II hunts to be proxy hunted.

WHAT ARE THE CURRENT REGULATIONS? The current 5 AAC 91.011(k) regulations read as follows:

(k) Proxy hunting under this section is only allowed for
- (1) caribou;
- (2) deer;
- (3) moose in Tier II hunts, any-bull hunts, and antlerless moose hunts; and
- (4) emperor geese.

There is a positive customary and traditional (C&T) use finding for muskox in Units 22, 23, and 26A within Region V, as well as Units 26B and 26C in Region III. Unit 22 and the portion of Unit 23 south and west of the Kobuk River drainage (23 Southwest, or 23 SW) have a collective amount reasonably necessary for subsistence (ANS) of 100-150 muskox, including 10-25 in Unit 22E. The portion of Unit 23 north and west of the Kobuk River drainage has an ANS of 18 – 22 muskox. In Unit 26A, there is a collective ANS with the portion of Unit 26B west of the Dalton Highway Corridor of 20 muskox. Unit 26B east of the Dalton Highway Corridor has an ANS of 4 muskox, and 26C has an ANS of 15 muskox.

There is a negative C&T determination for muskox populations within Unit 18.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, all Tier II muskox hunts would be eligible for proxy hunting. Proxy authorization for muskox Tier II hunts may potentially increase the harvest rates for these subsistence hunts, but despite that potential, it is unlikely an effect will be seen on the local muskox population.

BACKGROUND: The proxy hunt program was established in 1992 under the authority of the state proxy statute (AS 16.05.405) to allow a hunter (the beneficiary) no longer capable of hunting, to assign their (beneficiary) bag limit to another hunter (the proxy). Current statute states that a resident hunter who is blind, at least 70% physically disabled, 65 years of age or older, or developmentally disabled may qualify to have a beneficiary hunt for them by proxy. Proxy authorizations may be made for all deer hunts, most caribou hunts, and some moose hunts.

Much of the muskox harvest in Alaska is permitted through the subsistence Tier II system: for example, all 6 hunts in Unit 22 and both hunts within Unit 23 are issued via the Tier II hunt system. There are also muskox hunts in Unit 18, but the population within the unit has a negative C&T determination, thus the hunters in the 2 drawing permit hunts (DX001 and DX003) and 4 registration permit hunts (RX060, RX061, RX070, and RX071) would not qualify for a proxy

authorization. Unit 26A does not currently have an open state-managed muskox hunt. Annually, an average of 4 (range 1-8 annually) individuals, or 7.2%, of Tier II muskox permit holders are over the age of 65 when they receive their permit. Data to assess the number of Tier II hunters who may qualify under the remaining proxy options, are not available. Since 2012, 24 (range 1-9 annually) proxy hunt authorizations have been issued to Region V hunters for various caribou, moose, and deer hunts.

Muskox currently exist in high enough numbers that state hunts are maintained throughout Units 18, 22, and 23. Unit 18 has two drawing permit hunts (DX001 and DX003); collectively, a total of 110 permits may be issued annually for DX001 and DX003. Unit 18 also has four registration permit hunts (RX060, RX061, RX070, and RX071); RX060 and RX061 are Nunivak Island cow-only hunts with quotas that vary annually, while RX070 is a bull-only hunt and RX071 is a cow-only hunt occurring on Nelson Island with varying available permits per year. In Unit 22, 6 Tier II bull-only muskox hunts are administered annually (TX095, TX096, TX102, TX103, TX104, and TX105); TX095 is a weapons restricted hunt in 22C, TX096 is weapons restricted in certain portions of the hunt area in 22C, TX102 and TX103 occur in separate portions of 22D, TX104 occurs in 22E, and TX105 occurs in 22B. In Unit 23, 2 Tier II bull-only muskox hunts are administered annually (TX106 and TX107); TX106 occurs on the Seward Peninsula west of and including the Buckland River drainage, and TX107 occurs within the portion of Unit 23 north and west of the Kobuk River drainage.

Quotas for the Tier II hunts in Unit 22 and Unit 23 are based on population information obtained from abundance and composition surveys completed biennially. An average of 4 (range 3-5) permits are issued annually for the TX095 hunt in 22C, with a 5-year average hunter success rate of 92%. An average of 3 (range 2-4) permits are issued annually for the TX096 permit in 22C, with an average hunter success rate of 85%. TX102, the 22D muskox permit, issues an average of 12 (range 6-15) permits between the east and west portions of the hunt, and has a success rate of 50%. For the TX103 hunt in 22D, 2 permits are issued annually with a success rate of 40%. TX104, issued for muskoxen in 22E, was recently changed from a registration permit to a Tier II permit hunt in RY2018, in which 4 permits were issued and 3 muskox were harvested at a success rate of 75%. TX105, in 22B, for which an average of 11 (range 9-13) permits are issued annually, has an average success rate of 53%. For the southwest portion of Unit 23, an average of 5 (range 3-6) TX106 permits are issued annually, with an average hunter success rate of 49%. The TX107 hunt in Unit 23 issues an average of 5 (range 3-6) permits annually, with a 5-year average hunter success rate of 73.3%.

The Seward Peninsula muskox population in Unit 22 and Unit 23 Southwest was last estimated in 2017 at approximately 2,353 ± 11% [95% CI: 1,908 – 2,936] individuals, consistent with the 2015 estimate of 2,287 ±10% [95% CI: 1,895-2,832] muskox. The Cape Thompson core population in Unit 23 was last enumerated in 2019 and totaled 322 [95% CI: 251-463] individuals, up from the 2018 estimate of 207 muskox. Unit 18 has three populations of muskox, defined by their location on Nelson Island, Nunivak Island, and the Yukon-Kuskokwim Delta; minimum counts were obtained for each distinct population in 2019. The minimum count of muskox on Nunivak Island was estimated at 856 total individuals, down from the 2018 count of 944 muskox. On Nelson Island, the minimum count was 380 muskox in 2019, decreasing steadily from the 2017 estimate

of 755 individuals. The Yukon-Kuskokwim Delta muskox survey was conducted in 2017 and 2019, when the minimum count of muskox was 175 and 174 individuals, respectively.

In addition to the areas in which muskox hunts currently exist, populations occur in other parts of the state where hunting is currently not available. Unit 26B and 26C contained an estimated 297 individuals in 2019, up from 285 in 2018, with a management objective to open a hunt when the population reaches 300 individuals and exhibits continued growth. Muskox are currently expanding their range eastward from Unit 22 into Units 21D and 24D. An abundance survey completed in 2017 estimated 146 muskox (95% CI: 78-278) in Unit 21D. Muskox are also found in portions of Unit 21E and Unit 19A, with 77 total muskox detected within the two units in 2017, 89 in 2018, 71 in May 2019, and 34 in June 2019.

In the past, the public has requested that wildlife managers consider allowing Tier II muskox hunts to be eligible for proxy hunting. A similar proposal was brought before the Board in 2005 but failed to pass due to reservations that the proposal would result in a substantial increase in harvest. Proxy authorization for muskox Tier II hunts may potentially increase the harvest rates for these subsistence hunts, but despite that potential, it is unlikely an effect will be seen on the local muskox population.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal because it has not identified biological concerns associated with muskox harvests in Region V. However; the Department asks the Board to defer this proposal to the 2021 Statewide meeting when proxy hunting regulations will appear on the call for proposals. The Board may also want to consider if all muskox hunts should be eligible for proxy authorizations, or to limit proxy authorization to Tier II hunts only or to specific game management units.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 31 –5 AAC 85.050. Hunting seasons and bag limits for muskox. Establish a registration permit hunt for muskox in Units 21D, 22A, and 24D.

Establish a limited quota muskoxen season; Units 21D, 22A, 24D; up to 5 bulls; February 1 – April 30.

PROPOSED BY: Middle Yukon Fish and Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? Proposal 31 would establish a muskox hunt in Units 22A, 21D, and 24D (Nulato Hills).

WHAT ARE THE CURRENT REGULATIONS? There is no open hunting season for muskox in Units 22A, 21D, or 24D.

There is a positive C&T finding for muskox in Unit 22 and Unit 23, south and west of the Kobuk River drainage, with an ANS of 100-150 muskox, including 10-25 in Unit 22E. Customary and traditional use findings have not been made for muskox in Units 21D and 24D.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If adopted, this proposal would provide additional muskox harvest opportunity, depending on the available harvestable surplus.

BACKGROUND: This proposal is also scheduled for the Interior and Eastern Arctic Region meeting as Proposal 74.

The Seward Peninsula muskox population was reintroduced in 1970. Muskoxen were transplanted to the western Seward Peninsula in 1970, and then again in 1981. The Seward Peninsula population grew 12% annually between 1970 and 2007; from 2007 to 2010 growth slowed to a 3% annual increase. The population peaked in 2010 at an estimated 2,903 muskoxen (95% CI: 2,690 to 3,271) but then declined 12% annually from 2010 to 2012 following several years of high adult female mortality and low recruitment. An abundance survey completed in 2017 estimated 2,353 muskoxen (95% CI: 1,908 to 2,936) indicating the population likely stabilized from 2015 to 2017. Concurrent with the population changes described above, the population slowly expanded its range eastward. Muskoxen within Units 21D and Unit 24D occupy an area of contiguous habitat that spans shared administrative boundaries with Unit 22 and Unit 23 and are believed to have emigrated to this area from the Seward Peninsula muskox population. Population survey results also indicate a shift in the distribution of groups within their range. Changes in the distribution of groups occurred gradually beginning in 2005, while the establishment of mixed-sex groups in the easternmost portions of their current range resulted from eastward range expansion across the Seward Peninsula that has occurred continuously since the reintroduction of muskoxen to the Seward Peninsula. Population survey areas were adapted through time to best document and monitor these changes.

Muskox hunting on the Seward Peninsula began in 1995 and was guided by the Seward Peninsula Cooperative Muskox Management Plan and the Muskox Cooperators Group. This group was instrumental in developing recommendations for consideration by the Board of Game as well as guidelines the department still uses to administer muskoxen hunts on the Seward Peninsula cooperatively with federal hunt administrators. Although 57% of Unit 22 is state land, there is a patchwork of federal land, and federal hunts are cooperatively administered along with state hunts. Objectives of the Seward Peninsula Cooperative Muskox Management Plan include providing for multiple uses of muskoxen and for harvest opportunity in a manner that allows for continued range expansion and growth of the population. Following range expansion of mixed-sex groups into the Nulato Hills, and documented long term use of the area, local Unit 22A residents and representatives of the Southern Norton Sound Fish and Game Advisory Committee discussed plans to initiate a muskox hunt in Unit 22A. Through these discussions, an abundance of 200-250 muskoxen was determined to be a biologically acceptable objective that should be achieved prior to the initiation of hunting in this expanded portion of the population's range.

A population survey completed in 2017 estimated 473 muskox (95% CI: 314 to 688) in the Nulato Hills. Composition surveys completed in the same area estimated mature bull: cow ratios between 48-69 mature bulls:100 cows in 4 surveys completed 2012-2019. Estimates of recruitment 2012-2019 averaged 14.5%.

The department estimates the harvestable surplus in the proposed hunt area is 9 bull muskoxen.

DEPARTMENT COMMENTS: The department is **neutral** with regards to this proposal, because it does not create or address a conservation concern.

Muskoxen in Units 21D and 24 emigrated to this area from the Seward Peninsula muskox population. Currently there is no C&T finding in Units 21 and 24. The board may wish to consider expanding the existing C&T finding for Seward Peninsula muskox to Units 21D and 24D. Addressing the C&T finding will also help guide what type of hunt to hold in the area (registration, drawing, Tier II, etc.) This action would be allocative; therefore, the department is neutral.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 32 – 5 AAC 85.025 Hunting seasons and bag limits for caribou. Expand the hunt area for caribou in Unit 22E.

PROPOSED BY: Justin Horton

WHAT WOULD THE PROPOSAL DO? This proposal would modify the open hunt area for caribou in Unit 22E, with no change to bag limit or season. The new regulations under 5 AAC 85.025 (17) would read as follows:

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
22(E), that portion east of and including the [SANAGUICH] **Nuluk** River drainage		
…		

WHAT ARE THE CURRENT REGULATIONS? The current regulations as defined in 5 AAC 85.025 (17) are:

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Unit 22(E), that portion east of and including the Sanaguich River drainage		
RESIDENT HUNTERS: 5 caribou per day, by registration permit only, up to 20 caribou total, as follows:		

up to 5 bulls per day; however, calves may not be taken	July 1 - June 30	
up to 5 cows per day; however, calves may not be taken	July 1 - Mar. 31	
NONRESIDENT HUNTERS: 1 bull; however, calves may not be taken		Aug 1 - Sept 30
Remainder of Unit 22		
RESIDENT HUNTERS:		
5 caribou per day; by registration permit only, however, calves may not be taken; cow caribou may not be taken Apr. 1 – Aug. 31; bull caribou may not be taken Oct. 15 - Jan. 31	(Season to be announced by emergency order)	
NONRESIDENT HUNTERS:		
1 bull; however, calves may not be taken; during the period Aug. 1 - Sept. 30		(Season to be announced by emergency order)

There is a positive C&T finding for Western Arctic Herd and Teshekpuk Lake Herd caribou, combined, in Units 21, 22, 23, 24, and 26, with an ANS of 8,000–12,000 animals, combined. Further, the Board of Game has identified the WAH as a population qualifying for intensive management due to their importance to human harvest for consumptive uses (5 AAC 92.108). The population objective for the entire herd is at least 200,000 individuals and the harvest objective is 12,000-20,000 caribou.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would expand the portion of Unit 22E open for caribou hunting under both the RC800 caribou permit for residents and the general season hunt for nonresidents by moving the boundary 50 miles to the west of its current location. The area west of the Sanaguich River drainage is closed but may be opened by emergency order. Depending on the winter distribution of caribou in the Western Arctic Herd (WAH), it is possible that this regulatory change could increase harvest. Moreover, there is a potential for an increase in reindeer harvests by hunters mistaking reindeer for caribou, adversely impacting local reindeer herders and their livestock. The proposal would have no effect on seasons or bag limits.

BACKGROUND: The WAH reached a peak population size of 490,000 animals in 2003, subsequently declining at a rate of 3-6% annually from 2003-2011. The rate of decline steepened to 15% from 2011-2013, and in 2013 the herd size was estimated at 235,000 caribou. In response to this decline, the BOG adopted regulations to restrict WAH caribou harvest. Further, in RY2016, a resident registration hunt was implemented to help gather more information on caribou harvests in Unit 22, and in GMUs 23, and 26A in RY2017. A photo census was completed in July of 2017 and resulted in an estimate of 259,069 caribou. A photo census for the WAH was also successfully completed in July 2019; results should be available in the winter of 2020.

In accordance with the WAH Cooperative Management Plan developed by the WAH Working Group, the WAH population trend status currently exists at "Conservative-Stable". This status was decided when the herd declined to a low of 201,000 caribou in 2015 and informs biologists on management decisions relating to the herd. The Conservative-Stable status recommends that biologists closely monitor the WAH through measures such as scheduling a photo census of the herd biannually, monitoring changes in the annual age and sex composition, and increasing harvest monitoring and education.

The RC800 resident-only registration permit was first implemented in GMU 22 in RY2016. Since 2016, hunters have reported harvesting 907 total caribou within Unit 22. The number of caribou harvested varies according to the winter distribution of caribou in the WAH and has ranged from 88 to 460 harvested caribou annually (average 302 caribou) by resident hunters. The harvest composition is 74% (n=672) bulls and 24% (n=222) females. Harvest distribution also varies annually: in RY2016, caribou were primarily harvested in 22B (40%, 184 of 460 caribou); in RY2017, caribou harvest was nearly evenly distributed between 22E, 22B, and 22D, with harvests of 20.6% (n=74), 18.7% (n=67), and 17.0% (n=61), respectively; and in RY2018, caribou were primarily reported harvested in 22E (36.4%, 32 of 88 caribou).

There is also a nonresident hunt for caribou in GMU 22 by harvest ticket. Since RY2016, nonresident hunters report harvesting an average of 8 bulls per year at a success rate of 37% (25 successful hunters of 68 total hunters). Most (85%, 22 of 26) nonresident hunters harvest caribou in 22D.

Since 2009, the department has conducted household harvest surveys that include the collection of spatial data portraying density of harvest by study communities in Units 22 and 23. Household harvests are apportioned by Uniform Coding Units (UCU); households were asked where caribou were harvested; thus, these data represent harvest areas only, rather than the totality of areas used for hunting. Hunters in the study communities of Shishmaref, Deering, and Brevig Mission have all reported harvest of caribou in Unit 22E; however, very little harvest east of the Sanaguich River drainage has occurred.

Local reindeer herders express concerns about caribou wintering on the Seward Peninsula because reindeer will join groups of caribou and migrate north with them in the spring. There are 3 permitted reindeer herds in Unit 22E: Ongtowasruk, Weyiouanna, and the Goodhope herds. However, the Ongtowasruk herd is the only active herd in the area and was last reported to have approximately 1,000-1,200 reindeer. The Ongtowasruk grazing area spans from the western edge of 22E to the Nuluk River drainage in the east. Adjacent to the Ongtowasruk herd range, the Olanna herd is an active herding operation in the northwest corner of 22D and is estimated to have about 400-600 reindeer.

An open caribou hunting season has existed in eastern Unit 22E since regulatory year 2002. In 1999, a proposal was brought before the Board of Game to open a hunt area in 22E but failed to pass due to a lack of information on the distribution and abundance of caribou on the Seward Peninsula. After a multi-year pattern of use of the Seward Peninsula by several thousand caribou was established and four emergency orders were issued to allow hunting within 22E, the Board passed a proposal to establish an open hunt area in 22E in 2001. The current area in 22E closed to caribou hunting, west of the Sanaguich River drainage was determined as a compromise between local hunters and reindeer herders; caribou were mostly found east of and throughout the Serpentine River drainage, and the Sanaguich River was chosen as an identifiable river to the west of the Serpentine to assign as a permanent boundary. This open area allowed hunters to legally pursue caribou, and was mostly devoid of active reindeer herds, reducing conflicts between hunters and herders. Moreover, reindeer grazing areas to the west of the Sanaguich were still protected by a closed area that may be opened by emergency order only.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal because it has not identified biological concerns associated with caribou in Unit 22. The adoption of this proposal may increase opportunity for hunters when overwintering caribou are concentrated in the currently closed central and western portions of 22E; it would also increase access for Wales hunters seeking to hunt caribou. Conversely, it may adversely affect the local reindeer herds if hunters mistakenly harvest reindeer instead of caribou.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 33 –5 AAC 85.045. Hunting seasons and bag limits for moose. Modify hunting seasons and require a registration permit for moose hunting in Unit 22D Remainder.

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Remainder of Unit 22(D)		
RESIDENT HUNTERS: 1 bull moose **by registration permit only**; only antlered bull moose may be taken from Dec. 1-Jan. 31;	Aug. 10-Sept. 14 Dec. 1-Jan. 31 **(may be announced)**	

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would modify hunting seasons and require a registration permit for moose hunting in Unit 22D Remainder.

WHAT ARE THE CURRENT REGULATIONS? Moose hunting in Unit 22D Remainder is currently administered as a general season moose hunt requiring a general season moose harvest ticket.

The current regulations as defined in 5 AAC 85.045 (20) are:

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Remainder of Unit 22(D)		
RESIDENT HUNTERS: 1 bull moose; only antlered bull moose may be taken from Dec. 1-Jan. 31;	Aug. 10-Sept. 14 Oct. 1-Jan. 31	
NONRESIDENT HUNTERS:		No open season

There is a positive C&T finding for moose in Unit 22 with an ANS of 250–300 moose. Further, the Board of Game has identified moose in Unit 22 as qualifying for intensive management due to their importance for providing high levels of harvest for human consumptive use (5 AAC 92.108). The population objective for the Unit-wide population is 5,100-6,800 individuals with a harvest objective of 300-680 moose.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The proposal would establish a registration permit hunt in the 22D Remainder hunt area. This would improve harvest reporting in the area as well as provide the department the tools necessary to maintain harvest in the area at sustainable levels. The proposed season dates would eliminate the Oct. 1-Nov. 31 season, resulting in a reduction in the overall season length by 62 days. This would provide protection for breeding bulls as well as reduce hunter disturbance during the rut to ensure future productivity. Reasonable opportunity for subsistence may be affected.

BACKGROUND: Moose abundance in Unit 22D has persisted at low density since declines in abundance occurred throughout Unit 22 in the late 80s and early 90s. Moose abundance in Unit 22D Remainder was last surveyed in the spring of 2014 at which time the population was estimated at 491 moose (95% CI: 410-571) with 18% recruitment. This represents a 14% annual rate of decline 2011-2014. A spring recruitment survey completed in 2018 observed 977 moose and found 11% recruitment throughout Unit 22D suggesting that the population of moose has not continued to decline; however, recruitment in the area is low.

Fall composition surveys completed in the area (2001-2018) indicate that the bull:cow ratio has declined to below our management objective of 30 bull:100 cows. Surveys completed in 2018 found 18 Bulls:100 cows (Figure 1).

The Unit 22D Remainder hunt area is remote and not immediately accessible along the Nome road system. Access is challenging. Such challenges have historically limited hunter participation and harvest in the area; therefore, liberal seasons and bag limits have persisted in the area. Elsewhere in hunt areas immediately accessible along the Nome road system, registration permit hunts with harvest quotas (RM840) have been implemented in order to maintain harvest at sustainable levels.

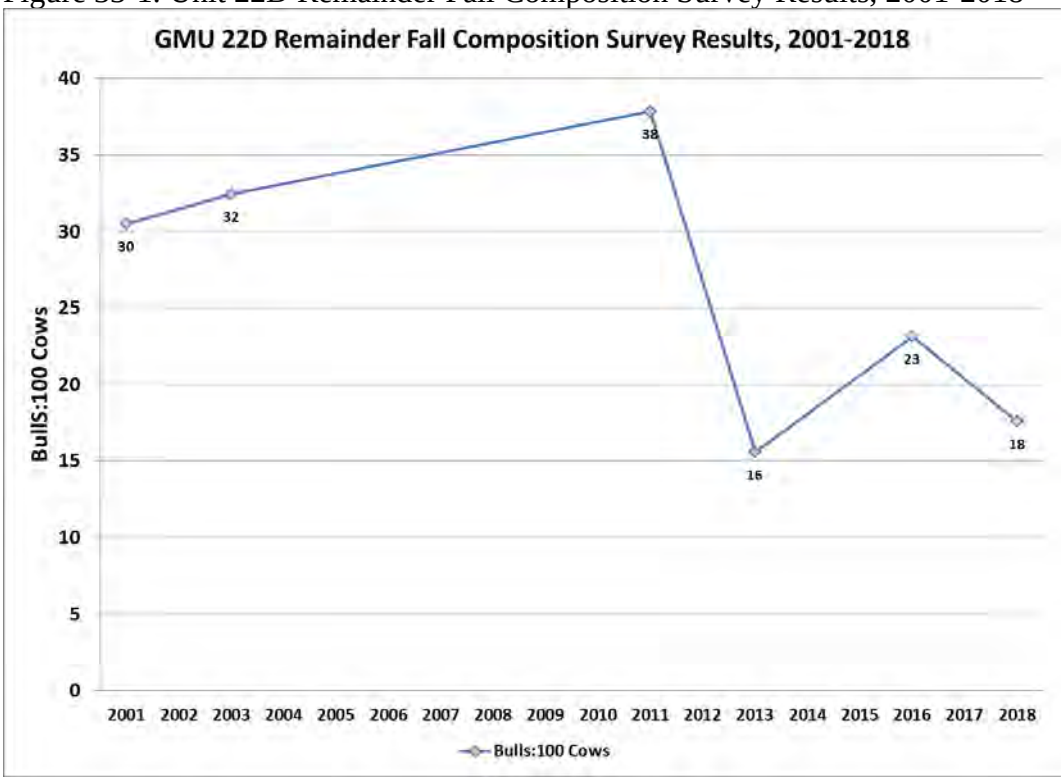
Hunter participation in 22D Remainder has steadily grown during the period 2000 to 2018. Hunters seeking to take advantage of more liberal moose seasons coupled with advances in the capabilities of off-road vehicles have likely reduced some of the challenges associated with hunting in the area and facilitated the apparent increase in hunter participation.

Reported harvest during RY2017 and RY2018 was 34 and 33 bulls, respectively; an increase from the previous average annual reported harvest of 21 bulls per year. Reported harvest should be considered a minimum estimate of harvest because a portion of the moose harvested from 22D Remainder are not reported to the Department. For example, the average annual reported harvest from residents of Teller and Brevig Mission 2006-2017 is <1 moose and 1-2 moose, respectively. However, household harvest surveys completed from 2000-2016 estimated that residents of Brevig Mission harvested an average of 18 moose and Teller residents harvested an average of 8 moose during the four study years for which data are available. Combined estimates of reported and unreported harvest indicate that the average annual harvest of moose from Unit 22D Remainder (2014-2018) is 53 moose. Based on harvest and population data, moose are taken at a rate of 8%-10% annually.

A series of small incremental changes have been enacted by the Board of Game in response to declines in moose abundance and poor productivity in this area. In 2014, antlerless moose hunts in the area were eliminated; and in 2017, nonresident hunting was closed.

In response to declines in the bull:cow ratio in Unit 22D Remainder, estimates of the harvestable surplus were calculated using a more conservative harvest rate of 3%-5% and then applied to the most recent abundance estimate. The current harvestable surplus estimate for 22D Remainder is 18-30 moose.

Figure 33-1. Unit 22D Remainder Fall Composition Survey Results, 2001-2018



DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal for the creation of a registration permit hunt in the Unit 22D Remainder hunt area. Declines in the bull:cow ratio suggest that the current level of harvest is not sustainable, and that management action should be taken to reduce harvest in the area. If adopted the department intends to administer the hunt in Unit 22D with a harvest quota and issue emergency order closures if necessary, to limit harvest. Shortening the season and moving from a harvest ticket to a registration permit may affect reasonable opportunity for a normally diligent participant to harvest moose for subsistence uses.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 34 –5 AAC 85.045. Hunting seasons and bag limits for moose. Open a nonresident drawing hunt for moose in Unit 22D Remainder.

PROPOSED BY: Justin Horton

WHAT WOULD THE PROPOSAL DO? This proposal would create a nonresident drawing hunt for moose with a bag limit of one bull with 50-inch antlers or antlers with 4 or more brow tines on one side and season dates of Sept. 1-Sept. 14. The proponent of the proposal has

recommended a harvest allocation of 5-8 bulls. The new regulations under 5 AAC 85.045 (20) would read as follows:

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Remainder of Unit 22(D)		
RESIDENT HUNTERS: 1 bull moose; only antlered bull moose may be taken from Dec. 1-Jan. 31;	Aug. 10-Sept. 14 Oct. 1-Jan. 31	
NONRESIDENT HUNTERS: 1 bull with 50-inch antlers or antlers with 4 or more brow tines on one side, by drawing permit only; up to 8 permits may be issued.		**Sept. 1-Sept. 14**

WHAT ARE THE CURRENT REGULATIONS? There no open nonresident season for moose in Unit 22D Remainder.

There is a positive C&T finding for moose in Unit 22 with an ANS of 250–300 moose. Further, the Board of Game has identified moose in Unit 22 as qualifying for intensive management due to their importance for providing high levels of harvest for human consumptive use (5 AAC 92.108). The population objective for the unit wide population is 5,100-6,800 individuals with a harvest objective of 300-680 moose.

The current regulations as defined in 5 AAC 85.045 (20) are:

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Remainder of Unit 22(D)		
RESIDENT HUNTERS: 1 bull moose; only antlered bull moose may be taken from Dec. 1-Jan. 31;	Aug. 10-Sept. 14 Oct. 1-Jan. 31	
NONRESIDENT HUNTERS:		No open season

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The proposal would provide an opportunity for nonresident hunters to harvest moose in Unit 22D Remainder.

Additional harvest in this area may negatively impact an already declining bull:cow ration in this area. This could result in additional lost opportunity for all user groups.

BACKGROUND: The current harvestable surplus for Unit 22 is 313 moose. The harvestable surplus of moose has ranged from 278–336 moose annually between RY2005 and RY2018, and averages 311 moose.

Moose abundance in Unit 22D has persisted at low density since declines in abundance occurred throughout Unit 22 in the late 80s and early 90s. Moose abundance in Unit 22D Remainder was last surveyed in the spring of 2014 at which time the population was estimated at 491 moose (95% CI: 410-571) with 18% recruitment. This represents a 14% annual rate of decline 2011-2014. A spring recruitment survey completed in 2018 observed 977 moose and found 11% recruitment throughout Unit 22D, suggesting that the population of moose has not continued to decline; however, recruitment in the area is low.

Fall composition surveys completed in the area (2001-2018) indicate that the bull:cow ratio has declined to below our management objective of 30 bulls:100 cows. Surveys completed in 2018 found 18 bulls:100 cows.

Resident hunter participation in Unit 22D Remainder has steadily grown during the period 2000 to 2018. Hunters seeking to take advantage of more liberal moose seasons coupled with advances in the capabilities of off-road vehicles have likely reduced some of the challenges associated with hunting in the area and facilitated the apparent increase in hunter participation.

Reported harvest during RY2017 and RY2018 was 34 and 33 bulls, respectively. Compared to the long-term average annual reported harvest 2007-2016 of 21 bulls per year, this information suggests that harvest in the area has increased. Reported harvest should be considered a minimum estimate of harvest because a portion of the moose harvested from 22D Remainder are not reported to the department. Household harvest surveys from 2000 to 2016 have documented estimated moose harvests in the communities of Brevig Mission and Teller. Brevig Mission residents harvested an average of 18 moose and Teller residents harvested an average of 8 moose during the four study years for which data are available. Average annual reported harvest from residents of Teller and Brevig Mission 2006-2017 is <1 moose and 1-2 moose, respectively. Combined estimates of reported and unreported harvest indicate that the average annual harvest of moose from Unit 22D Remainder (2014-2018) is 53 moose. Based on harvest and population data, moose are taken at a rate of 8%-10% annually.

A series of small incremental changes have been enacted by the Board of Game in response to declines in moose abundance and poor productivity in this area. In 2014, antlerless moose hunts in the area were eliminated. In 2017, nonresident hunting was closed. Prior to the elimination of the non-resident season in Unit 22D Remainder hunts were administered by registration permit with a harvest quota of 3-10 bulls. Between RY2004-RY2016 the average annual non-resident harvest was 6 bulls.

In response to declines in the bull:cow ratio in Unit 22D Remainder estimates of the harvestable surplus were calculated using a more conservative harvest rate of 3%-5% and were then applied to the most recent abundance estimate. The current harvestable surplus estimate for 22D Remainder is 18-30 bulls.

DEPARTMENT COMMENTS: The department is **NEUTRAL** due to the allocative nature of the proposal. Declines in the bull:cow ratio suggest that the current level of harvest is not sustainable, and that management action should be taken to reduce harvest in the area. The department submitted a proposal to create a resident registration permit in Unit 22D remainder and reduce the overall season length.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 35 –5 AAC 85.045. Hunting seasons and bag limits for moose. Change the availability of Unit 22 registration permits for moose hunting with an option to require a registration permit for the Unit 22D Remainder hunt/

Option 1: **By permit available in person in Nome or at licenses vendors in Unit 22 villages July 15 – July 31**

Option 2: Unit 22 moose harvest under a quota hunt and to include Unit 22D remainder. **By permit available in person in Nome or at license vendors in Teller, White Mountain, Golovin. Unit 22B Remainder, 22C, 22D Kuzitrin River Drainages and SW area & Unit 22D Remainder beginning July 15-July 31. By permit available in person at license vendors in Unalakleet beginning July 15-July 31.**

PROPOSED BY: Kawerak, Inc.

WHAT WOULD THE PROPOSAL DO? The proposal would limit the availability of Unit 22 moose registration permits. The permits would no longer be available online and would be available in a shorter time frame.

WHAT ARE THE CURRENT REGULATIONS? Moose registration permit hunts are administered in several Unit 22 hunt areas. Discretionary permit authority is applied in several different ways in order to effectively manage the hunts and maintain harvest at sustainable levels.

There is a positive C&T for moose in Unit 22, and an ANS of 250–300 moose.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Further discussions with the proponent indicate that the intent of the proposal is to limit the availability of registration permits for moose hunts open to Alaska residents in Unit 22; nonresident permits (RM 855) would not be impacted by either option 1 or option 2.

If the board adopts Proposal 33, to create a resident moose registration permit hunt in Unit 22D Remainder, the proponent seeks to limit the availability of moose registration permits in the Unit 22D Remainder hunt area in a similar manner.

Restricting the time frame for permit issuance to July 15-July 31 would be a dramatic shift in the availability of permits that may be unnecessarily restrictive based on the relatively low non-local hunter participation in Unit 22 moose hunts.

BACKGROUND: The current harvestable surplus for Unit 22 is 313 moose. The harvestable surplus of moose has ranged from 278–336 moose annually between RY2005 and RY2018 and has averaged 311 moose.

Table 35-1. Hunt information for Unit 22 Registration Moose Hunts, RY2014- RY2018

Hunt Area	Permit Availability	Average Harvest Quota	Average Season Length
RM840, Unit 22B West fall hunt	Online, Unit 22 vendors	22 bulls	7 days
RM843, Unit 22B West winter hunt	Unit 22B west community vendors	11 antlered bulls	9 days
RM840, Unit 22C fall hunt	Online, Unit 22 vendors	11 bulls	2 days
RM840, Unit 22D SW and Kuzitrin	Online, Unit 22 vendors	30 bulls	8 days
RM841, Unit 22A fall hunt	Online, Unalakleet	27 bulls	19 days
RM844, Unit 22A winter hunt	Online, Unalakleet	7 bulls	62 days
RM855, Unit 22E Fall nonresident hunt	Online, Nome	13 bulls	14 days
RM 849, Unit 22C, Unit 22D Southwest and Unit 22D in the Kuzitrin River drainage, residents only	Online, Nome, Teller, White Mountain and Golovin	To be determined based on fall (RM 840) harvest	31 days

An average of 376 hunters report having actively participated in the RM840 registration moose hunt (RY2014-RY2018). The average proportion of Unit 22 residents, non-local Alaska residents, and non-residents that participated in the hunt during that time period was 88%, 11%, and <1%, respectively. Average total harvest in the RM840 hunt (RY2014-RY2018) is 75 bulls, of which 83% were harvested by Unit 22 residents, 17% by non-local Alaska residents, and <1% by non-residents.

The department regularly receives comments from the public about the RM840 registration moose hunt. Reductions in harvest quotas and reporting requirements have led to a reduction in the length of the season in each of the three hunt areas in which the hunt is administered, and local residents regularly express a desire to make changes to the hunt administration to limit participation by Alaska residents who live outside of Unit 22.

The moose population in Unit 22A Central has experienced growth and is currently above the management objective for the area. The department has regularly issued season extensions to

provide additional opportunity for permit holders to harvest the remaining harvest quota during both the RM841 and RM844 hunts. As a result, the department, in consultation with representatives of the Southern Norton Sound Advisory Committee, has increased the availability of permits by making them available online.

The department uses discretionary permit authority to limit the availability of registration moose permit RM843 to vendors within the hunt area in a manner consistent with the intent of the proposal. The application of the department's authority in this instance is part of a long-standing agreement with the representatives of the Northern Norton Sound Advisory committee and the department.

Moose hunting in the Unit 22D Remainder hunt area is currently administered as a general season hunt. Average annual resident reported harvest (RY2014-RY2018) is 24 moose of which 75% were harvested by residents of Unit 22 and 25% were harvested by non-local Alaska residents. Reported resident participation in the hunt is similar with 81% of the effort by Unit 22 Resident and 19% of the effort by non-local Alaska residents.

DEPARTMENT COMMENTS: The department is **NEUTRAL** due to the allocative nature of the proposal.

The department recommends smaller incremental restrictions to permit availability and suggests limiting RM840 permit availability by making permits available in-person at vendors in Nome, White Mountain, Golovin, and Teller July 25-August 25. Information gathered from RM840 registration moose permits issued RY2014-RY2018 indicate this restriction would serve as an incremental first step to limit a portion of non-local Alaska residents.

The decision to apply discretionary permit authority to a registration moose permit in Unit 22D Remainder should be made with consideration to public comment on Proposal 33.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 36 –5 AAC 85.045. Hunting seasons and bag limits for moose. Change the availability of Unit 22 registration permits for moose hunting.

By permit available in person in Nome or at license vendors in Unit 22 villages July 15 – July 31 [BY PERMIT AVAILABLE ONLINE AT HITTP;//HUNT.ALASKA.GOV, BEGINNING JULY 24]

PROPOSED BY: John Bahnke III

WHAT WOULD THE PROPOSAL DO? The proposal would limit the availability of GMU 22 moose registration permits.

WHAT ARE THE CURRENT REGULATIONS? Moose registration permit hunts are administered in several Unit 22 hunt areas. Discretionary permit authority is applied in several different ways in order to effectively manage the hunts and maintain harvest at sustainable levels.

There is a positive C&T for moose in Unit 22, and an ANS of 250–300 moose.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED?

Registration moose permits in Unit 22 would only be available at license vendors within Unit 22 July 15-July 31 and no longer be available online. Restricting the time frame for permit issuance to July 15-July 31 would be a departure in how the department has made permits available in the past, and it may be unnecessarily restrictive based on current moose abundance and limited effort by non-local hunter. By limiting the availability of permits the department anticipates a decrease in hunter effort and harvest.

BACKGROUND: The current harvestable surplus for GMU 22 is 313 moose. The harvestable surplus of moose has ranged from 278–336 moose annually between RY2005 and RY2018 and has averaged 311 moose.

The department regularly receives comments from the public related to the RM840 registration moose hunt. Reductions in harvest quotas and reporting requirements have led to a reduction in the length of the season in each of the three hunt areas in which the hunt is administered and local residents regularly express a desire to change hunt administration and limit participation by Alaska residents who live outside of GMU 22.

An average of 376 hunters participated in the RM840 registration moose hunt during RY2014-RY2018. The average proportion of GMU 22 residents, non-local Alaskan residents, and non-residents that participated during that time period was 88%, 11%, and <1%, respectively. Average total harvest was 75 bulls (83% GMU 22 residents, 17% non-local Alaska residents, <1% by non-residents).

Table 36-1. Hunt information for Unit 22 Registration Moose Hunts, RY2014- RY2018

Hunt Area	Permit Availability	Average Harvest Quota	Average Season Length
RM840, Unit 22B West fall hunt	Online, Unit 22 vendors	22 bulls	7 days
RM843, Unit 22B West winter hunt	Unit 22B west community vendors	11 antlered bulls	9 days
RM840, Unit 22C fall hunt	Online, Unit 22 vendors	11 bulls	2 days
RM840, Unit 22D SW and Kuzitrin	Online, Unit 22 vendors	30 bulls	8 days
RM841, Unit 22A fall hunt	Online, Unalakleet	27 bulls	19 days

RM844, Unit 22A winter hunt	Online, Unalakleet	7 bulls	62 days
RM855, Unit 22E Fall nonresident hunt	Online, Nome	13 bulls	14 days
RM 849, Unit 22C, Unit 22D Southwest and Unit 22D in the Kuzitrin River drainage, residents only	Online, Nome, Teller, White Mountain and Golovin	To be determined based on fall (RM 840) harvest	31 days

DEPARTMENT COMMENTS: The department is **NEUTRAL** due to the allocative nature of the proposal.

If the Board adopts this proposal the department recommends smaller incremental restrictions to permit availability and suggests limiting RM840 permit availability by making permits available in-person at vendors in Nome, White Mountain, Golovin, and Teller July 25-August 25.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 37 –5 AAC 85.045. Hunting seasons and bag limits for moose. Close the nonresident moose hunt in Unit 22C.

Nonresidents: no open season.

PROPOSED BY: Kawerak, Inc.

WHAT WOULD THE PROPOSAL DO? This proposal would eliminate the nonresident season for moose in Unit 22C.

WHAT ARE THE CURRENT REGULATIONS? Resident and non-resident hunters are eligible to participate in moose registration permit hunt RM840 within the Unit 22C hunt area only. Hunting in this area is administered with a shared harvest quota for both resident and non-resident hunters. Following are the current regulations, as defined in 5 AAC 85.045(20):

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season

Unit 22(C)	
RESIDENT HUNTERS: 1 bull by registration permit only; or	Sept. 1-Sept. 14
1 antlered bull by registration permit only; during the period Jan. 1-Jan. 31 a season may be announced by emergency order	Jan. 1-Jan. 31 (To be announced)
NONRESIDENT HUNTERS: 1 bull with 50-inch antlers or antlers with 4 or more brow tines on one side, by registration permit only	Sept. 1-Sept. 14

There is a positive C&T finding for moose in Unit 22 with an ANS of 250–300 moose. The Board of Game has identified moose in Unit 22 as qualifying for intensive management due to their importance for providing high levels of harvest for human consumptive use (5 AAC 92.108). The population objective for the Unit-wide population is 5,100-6,800 animals with a harvest objective of 300-680 moose.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The proposal would eliminate the opportunity for nonresident hunters to harvest moose in Unit 22C. Adopting this proposal would likely have very little effect on the Unit 22 moose population. Nonresident hunter participation is low across the Unit.

BACKGROUND: The current harvestable surplus for Unit 22 is 313 moose. The harvestable surplus of moose has ranged from 278–336 moose annually between RY2005 and RY2018 and has averaged 311 moose.

While neighboring Unit 22 subunits accessible along the Nome Road system—Unit 22B and Unit 22D—experienced dramatic declines in abundance during the late 80s and early 90s, the abundance of moose in Unit 22C has historically persisted at or above the management objective of 450-525 moose. A GSPE moose survey completed in 2016 estimated moose abundance in Unit 22C at 354 moose (95% CI: 306-403) following several years of antlerless hunts intended to reduce the population to within the area's management objective in order to prevent nutritional stress and habitat degradation. Since that time, the department has not successfully completed an abundance survey in the area; however, the population is believed to be stable or increasing, based on the results of spring recruitment surveys completed in 2017 and 2019 which estimated recruitment at 19% (95% CI: 15%-22%) and 19% (95% CI: 15%-22%), respectively.

Prior to RY2012 liberal antlerless moose hunts, with an average annual realized harvest rate of 3%, were administered in Unit 22C to maintain the population within the management objectives. In addition to antlerless harvests, bull moose were harvested at an estimated rate of 6% during the period RY2002-RY2012. Bull:cow ratios were below the 20 bulls:100 cow management objective, averaging 16 bulls:100 cows for the same period.

After a GSPE abundance survey completed in 2013 indicated that the population had effectively been reduced to below the department's management objective for the area, the antlerless hunt was eliminated and the department implemented harvest guidelines intended to increase the bull:cow ratio within Unit 22C. Conservative harvest rates (2-4%) were used to set harvest quotas for the period RY2013-RY2018, resulting in annual harvest quotas ranging from 9-16 bulls. Fall composition surveys completed in 2017 and 2018 resulted in 32 bulls: 100 cows and 31 bulls: 100 cows, respectively.

The department has administered bull moose hunts in Unit 22C with annual harvest quotas since the implementation of registration permit RM840 in RY2004. Since that time, the department has issued emergency order closures in 10 of the last 15 seasons (RY2004-RY2018). Since the implementation of more conservative harvest guidelines in RY2013, the harvest quota has been met within the first 2 days of the fall season, with an average annual reported harvest of 15 moose.

Registration moose permit RM840 is administered with separate harvest quotas for each of the three hunt areas in which it is administered: 22B West of the Darby Mountains (also known as 22B Remainder in regulation), 22C, and 22D (which includes 22D Kuzitrin and 22D Southwest). Of the three area, hunt area 22C is the only area in which a nonresident opportunity is provided. Harvest reports submitted to the department for registration moose hunt RM840 indicate that, on average, 376 hunters actively participated in the hunt annually RY2014-RY2018. Nonresident participants make up <1% of the hunters, with a total of 6 permit holders reporting having participated in the last 5 years. Nonresident harvest also makes up <1% of the total harvest, with a total of 2 moose taken by nonresident hunters over the last 5 years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** due to the allocative nature of the proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 38 –5 AAC 85.045. Hunting seasons and bag limits for moose. Modify the hunting season for moose in Unit 22A.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would modify the hunt season for moose within that portion of 22A in the Unalakleet River drainage and all drainages flowing into Norton Sound north of the Golsovia River drainage and south of the Tagoomenik and Shaktoolik River drainages. This proposal extends the fall season (RM841) by 10 days and the winter season (RM844) by 31 days. It would also change the fall hunt bag limit to "one bull" from "one antlered bull". The new regulations under 5 AAC 85.045 (20) would read as follows:

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
Unit 22(A), that portion in the Unalakleet River drainage and all drainages flowing into Norton Sound north of the Golsovia River drainage and south of the Tagoomenik and Shaktoolik River drainages 1 **bull** by registration permit only; or 1 antlered bull by registration permit only; during the period Dec 1 – **Jan. 31**, a season may be announced by emergency order	Sept 1 – **Sept. 30** Dec 1 – **Jan. 31** (Season to be announced)	No open season

WHAT ARE THE CURRENT REGULATIONS? The resident moose hunting season in Unit 22A Unalakleet River Drainage (central portion of Unit 22A) is September 1–September 20 and a winter season that is "to be announced" from December 1–December 31. The bag limit for either season is one antlered bull. The hunts are administered with separate registration permits and utilize an annual harvest quota. There is no open nonresident season in the area.

There is a positive C&T finding for moose in Unit 22 with an ANS of 250–300 moose. Further, the Board of Game has identified moose in Unit 22 as qualifying for intensive management due to their importance to providing high levels of harvest for human consumptive use (5 AAC 92.108). The population objective for the Unit-wide population is 5,100-6,800 animals with a harvest objective of 300-680 moose.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The proposal would lengthen the fall season by 10 days and the winter season by 31 days, allowing the department the flexibility to administer registration permit hunts RM841 and RM844 during the full range of season dates historically provided through season extensions. With the change to an "any bull" bag limit, the proposal would also allow the department to issue proxy hunting authorizations to eligible hunters in the RM841 and RM844 hunts.

BACKGROUND: The moose hunting season was closed in the central portion of Unit 22A from 2005–2007 because of a long trend of declining moose numbers and low moose densities (0.05 moose mi^2) in the area. In November 2007, the board adopted a 14-day registration hunt, which was open only to residents. Moose season extensions were requested by members of the public or the Southern Norton Sound Fish and Game Advisory Committee annually from RY2011–RY2015. In each case, the state season was extended by emergency order to close September 20. In RY2012,

the extended fall season failed to allow the harvest quota to be met and a winter registration hunt, RM844, was opened by emergency order with a season of Dec. 1 - 31. The Board of Game subsequently adopted a proposal in 2014 to establish the RM844 registration hunt in the central portion of 22A, with a season that may be announced by emergency order.

In 2017, the Board of Game changed the season dates for RM841 from Sept. 1-Sept. 14 to Sept. 1-Sept. 20 in order to align the hunting regulations with the season dates historically provided through season extensions. These season dates have historically sufficed to meet the harvest quota; however, in RY2017 and RY2018, the harvest fell short of the quota. An average of 18 moose have been harvested annually through the RM841 permit (range 6 – 35) since the permit's inception in 2008, with a 5-year average of 24 moose (range 19-35).

Residents of Unalakleet and members of the Southern Norton Sound Advisory Committee (SNSAC) have expressed preference for the fall RM841 hunt over the winter RM844 hunt. The RM844 winter hunt season in 22A was opened by emergency order in RY2017 but had a reported hunter success rate of 0% (0 of 14 hunters). Despite department-issued emergency orders extending the RM844 season to Jan. 31, the harvest remained at 0 bulls. The RY2018 season extension to September 30 issued by emergency order for the fall RM841 hunt resulted in the harvest quota successfully achieved for RY2018.

The current harvestable surplus for Unit 22 is 313 moose. Throughout Unit 22, the harvestable surplus of moose has ranged from 278–336 moose annually between RY2005 and RY2018 with an average of 311 moose. Over a 5-year period, 1,048 moose have been harvested throughout Unit 22, with a 5-year average of 185 moose (range 165-202). Specific to Unit 22A, 191 moose have been harvested with a 5-year average moose harvest of 38 moose (range 31-54).

In the spring of 2017, the department completed a spring GSPE moose survey within the RM841 hunt area which resulted in a moose abundance estimate of 840 moose (90% CI: 747-933). These results indicated that the population had grown 9% annually over the period 2012-2017. As a result, the annual harvest quotas for RY2017, RY2018, and RY2019 were increased to 34 antlered bull moose.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal providing additional moose hunting opportunity in Unit 22A. The proposed season extension to September 30 for resident hunters is adequate to protect breeding bulls, which will allow for continued population growth. Since the registration permit uses an annual harvest quota and reporting compliance has been adequate, the department has no overharvest concerns with the season extension. The department would maintain the ability to close the season by emergency order if the quota is met earlier than the close of the season.

The department is **NEUTRAL** on changing the bag limit to "one bull" from "one antlered bull" because it is allocative in nature and also is not associated with any biological concerns as they pertain to moose in Unit 22A.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 39 –5 AAC 85.020. Hunting seasons and bag limits for brown bear. Extend the hunting season for brown bears in Unit 22D and 22E and increase the resident bag limit.

PROPOSED BY: Kevin Bahnke

WHAT WOULD THE PROPOSAL DO? This proposal would modify the brown bear season end date for both resident and nonresident hunters and increase the resident bag limit in Units 22D and 22E.

If this proposal were to be adopted, the new regulation would read as follows:

Unit 22D and Unit 22E	
RESIDENT HUNTERS: [One] **Two** bears every regulatory year	Aug 1 – [May 31] **June 15**
[One] **Two** bears every regulatory year by subsistence permit (RB699)	Aug 1 – [May 31] **June 15**
NONRESIDENT HUNTERS: One bear every regulatory year by drawing permit (DB690)	Aug 1 – [May 31] **June 15**

WHAT ARE THE CURRENT REGULATIONS?

Remainder of Unit 22	
RESIDENT HUNTERS: One bear every regulatory year	Aug 1 – May 31
One bear every regulatory year by subsistence permit (RB699)	Aug 1 – May 31
NONRESIDENT HUNTERS: One bear every regulatory year by drawing permit (DB690)	Aug 1 – May 31

The nonresident drawing hunt (DB690) area includes Unit 22D and Unit 22E with up to 21 permits issued annually. The season is Aug 1 – May 31 with a bag limit of one bear per regulatory year.

There is a positive C&T finding for brown bears in Unit 21 and Unit 22, with an ANS of 20–25 bears for both units combined.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Although effort and harvest would likely increase by an unknown amount, the department does not anticipate a significant increase in the brown bear harvest.

BACKGROUND: Residents, particularly from the Nome area, have considerable interest in hunting brown bears, as do nonresidents, with hunting allowed through general season, subsistence registration, and drawing permit hunts. In response to the increased numbers of brown bears in Unit 22 and to respond to requests of increased bear hunting opportunity from the public, the board has incrementally liberalized brown bear regulations in Unit 22 since 1997 by lengthening seasons for residents and nonresidents, increasing bag limits, and adopting tag fee exemptions for Alaska residents. The most recent liberalizations occurred in 2012, 2014, and 2017, affecting regulations in Units 22B and 22C. In 2012, the Unit 22C brown bear resident and nonresident bear hunt was extended by two weeks, with the start date beginning on May 1, from May 10. In 2014, the Unit 22C bear harvest was increased to one bear per regulatory year, up from one bear per four regulatory years. In 2017, the Unit 22B bag limit was increased to two bears per regulatory year, and the 22C hunt was changed to open a month earlier, with an opening date of April 1 rather than May 1.

Two brown bear abundance surveys have been completed on the Seward Peninsula: biologists used a capture-mark-resight technique to estimate abundance and density in 1991, and a photographic mark-resight approach was used to estimate the density and population size in 2015. Estimates are in terms of independent (adult) bears and all bears, including cubs accompanying adults. The 1991 survey estimated the Seward Peninsula population at 458 (95% CI: 420-495) total bears with a density of 14.6 (95% CI: 12.1 – 18.4) independent bears/1,000 km^2, and a density of 29.1 (95% CI: 12.1–18.4) total bears/1,000 km^2. In 2015, the survey resulted in an estimate of 420 (95% CI: 274–650) independent bears at a density of 21 (95% CI: 13.7 – 32.5) bears/1,000 km^2, and an estimate of 713 (95% CI: 474-1070) total bears and a density of 35.6 (95% CI: 23.7 – 32.5) total bears/1,000 km^2.

In Unit 22, hunters report harvesting an average of 98 brown bears per year. The annual harvest of 80-100 bears has held consistent since the regulatory changes of 1998. The management objective for brown bears within the unit is to maintain the total brown bear harvest at 50% male bears (boars) or greater; the percent of boars in the harvest has been maintained at 65% since 1998, remaining adherent to management goals. During the regulatory years 1998-2018, 22A led the harvest (32%), followed by 22B (28%), 22C (19%), 22D (17%), and 22E (5%). Residents and nonresidents have nearly equal harvests within Unit 22: from RY1998-RY2018, 55% of the harvest occurred by residents and 45% by nonresidents.

Since 1998, the average age of brown bears harvested in Unit 22 is 6.5 years old. The age of sows at harvest is slightly higher than boars: the average age of sows harvested from RY98-RY17 is 6.6 years, and the average age of boars during the same time period is 6.4 years. From RY98-RY18, the average skull size of harvested sows was 19.5 inches. Harvested boar skull size averaged 21.3 inches from RY98-RY18.

Unit 22D sealing records indicate that an average of 16 bears were harvested annually between RY1998 and RY2018. In Unit 22E, 5 bears were harvested annually between RY1998 and RY2018. The Unit 22 management goal of sustaining a harvest that includes at least 50% boars on

a 3-year average is being met: Unit 22D sealing records indicate 60% (207 of 344) of bears taken between RY1998 and RY2015 were boars; Unit 22E records indicate 75% (80 of 107) of bears taken between RY1998 and RY2018 were boars. Since RY1998, relatively equal amounts of harvest have occurred in the fall versus the spring (155 and 175) in 22D, and 78% of the harvest (79 of 101) in 22E has occurred in during the spring season.

Of the 21 DB690 permits available annually, an average of 10 DB690 nonresident drawing brown bear permits are issued to hunters per year. Of those issued permits, 77% of permit holders attempt to hunt and have a success rate of 52%. DB690 hunter effort appears to be nearly evenly distributed between 22D and 22E, with 54% of hunters attempting to harvest bears in 22D and 46% in 22E. DB690 permit holders report attempting to take their harvest primarily in the spring season (72%). Most (70%) of the DB690 hunters harvest boars. The average age of boars harvested by DB690 hunters is 6.3 years old, and the average age of harvested sows is 8.4 years old. The average total skull size of DB690 hunter-harvested bears was 19.9 inches for sows and 22.5 inches for boars.

Data indicate that an average of 4 RB699 resident brown bear subsistence permits are issued to hunters throughout Unit 22 annually. Two bears were reported harvested through the subsistence permit, with a hunter success rate of approximately 3%. One sow from Unit 22A and one boar from Unit 22C were reported harvested through the RB699 subsistence brown bear permit.

In 2017, the Board approved a proposal to increase the brown bear bag limit in Unit 22B to 2 bears per regulatory year. Since the regulatory change went into effect, 6 hunters report utilizing the two-bear bag limit in 22B: 4 hunters filled their two-bear bag limit in RY17, and 2 hunters filled the two-bear bag limit in RY18.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal because it has not identified biological concerns associated with brown bear harvests in Unit 22D or Unit 22E.

The department will continue to monitor brown bear harvest in this area to evaluate the effect of increased hunting opportunity and ensure sustainable harvest patterns. Additional harvest and hunter effort data will be collected by the department and analyzed to inform future proposals for increased hunting opportunity.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 40 –5 AAC 85.020. Hunting seasons and bag limits for brown bear. Require a resident registration permit for brown bear hunting in Unit 22C.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would create a brown bear registration permit hunt for Alaska residents in Unit 22C.

If this proposal were to be adopted, the new regulation would read as follows:

Unit 22(C)

RESIDENT HUNTERS: One bear every regulatory year **by registration permit**; or	Aug 1 – Oct 31 Apr 1 – May 31
One bear every regulatory year by subsistence permit (RB699)	Aug 1 – Oct 31 Apr 1 – May 31

WHAT ARE THE CURRENT REGULATIONS?

Unit 22(C)	
RESIDENT HUNTERS: One bear every regulatory year; or	Aug. 1 – Oct. 31 Apr. 1 – May. 31
One bear every regulatory year by subsistence permit (RB699)	Aug. 1 – Oct. 31 Apr. 1 – May 31

There is a positive C&T for brown bears in the Unit 21 and Unit 22 areas combined, with an ANS of 20–25 bears for both units combined.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow the department to better evaluate and monitor hunting activity, provide the department the means to collect annual data to maintain harvest levels at the levels previously observed during 2012–2017, and, if necessary, take more immediate and precise management action to limit brown bear harvest in Unit 22C.

BACKGROUND: It is believed brown bear numbers in Unit 22 declined during the early 1900s after the introduction of gold mining and reindeer herding industries. The population did not begin to recover until these activities diminished substantially during the 1940s, and federal predator control efforts ended at statehood in 1959. Many residents of the region have shared observations that bear numbers have increased on the Seward Peninsula, particularly during the mid-90s, and presently maintain concerns that increased numbers are detrimental to local moose and muskox populations.

Throughout the entirety of Unit 22, average annual reported harvest RY1998-RY2018 was 98 brown bears per year. Sealing records do not indicate any notable trends in the age, sex composition, or size of bears harvested from Unit 22. The Unit 22 management objective to maintain a harvest comprised of 50% boars has been met annually RY1990-RY2018.

Two brown bear abundance surveys have been completed on the Seward Peninsula: biologists used a capture-mark-resight technique to estimate abundance and density in 1991, and a photographic mark-resight approach was used to estimate the density and population size in 2015. Estimates are in terms of independent (adult) bears and all bears, including cubs accompanying adults. The 1991 survey estimated the Seward Peninsula population at approximately 458 (95% CI: 420-495) total bears, with a density of 14.6 (95% CI: 12.1 – 18.4) independent bears/1000 km^2,

and a density of 29.1 (95% CI: 12.1–18.4) total bears/1000 km^2. In 2015, the survey resulted in an estimate of 420 (95% CI: 274–650) independent bears at a density of 21 (95% CI: 13.7 – 32.5) bears/1000 km^2, and an estimate of 713 (95% CI: 474-1070) total bears and a density of 35.6 (95% CI: 23.7 – 32.5) total bears/1000 km^2.

Beginning in 1997, the board incrementally liberalized brown bear regulations in Unit 22 by lengthening seasons, increasing bag limits, and adopting tag fee exemptions for Alaska residents in an attempt to increase brown bear hunting opportunity. These changes were not universally applied. In Unit 22C, brown bear hunting opportunity consisted of a bag limit of 1 brown bear every 4 regulatory years, Aug. 1 – Oct. 31 fall season dates, and May 10-May 31 spring season dates. Several recent changes to brown bear hunting regulations have further liberalized the Unit 22C regulations. In 2012, the Board modified the spring brown bear hunting season to start the hunt 10 days earlier on May 1 for both residents and nonresidents; in 2014 the bag limit was changed from 1 bear every 4 regulatory years to 1 bear every regulatory year; and in 2017, the resident and nonresident brown bear spring season in Unit 22C was increased by a month, beginning on Apr. 1 rather than May 1.

Average annual Unit 22C brown bear harvest RY1990-RY1997 was 8 bears, while RY1998-RY2011 average annual reported harvest increased to 16 bears. The brown bear harvest in Unit 22C is believed to have increased as a result of the most recent regulatory changes, with an average annual harvest RY2012-RY2018 of 25 bears. The highest level of reported harvest for brown bears in Unit 22C occurred in RY2017 with a total reported harvest of 38 bears. A total of 157 resident hunters reported having successfully harvested a bear in Unit 22 (RY2014- RY2018); 61 of which harvested bears in Unit 22C. There is no tag, permit or harvest ticket required for residents hunting brown bears in Unit 22.

Unit 22C includes all drainages flowing into the Bering Sea from, but excluding, the Topkok Creek drainage, to and including the Tisuk River drainage. Access to the unit by residents of Nome is excellent. The Nome-Teller Highway, the Nome-Taylor Highway and the Nome-Council Highway each pass through a portion of the unit and provide access to the unit and several river drainages within it during the snow free portions of the year. Access to the unit during the winter months is primarily by snow machine. The Nome road system and the surrounding area provides unique wildlife viewing opportunities for residents and visitors alike who travel the roads in search of birds, moose, muskox and bears.

Nome resident hunters readily take advantage of brown bear hunting opportunities in Unit 22C. Their ability to do so is facilitated by the ease of access that exists throughout most parts of the year. As a result brown bear regulations in Unit 22C have historically been considered independently of other, more remote, portions of the unit. The department has recently received reports of depressed bear numbers in Unit 22C from the public who have expressed a desire to manage harvest in a manner that is conducive to a multitude of different uses.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. Adoption of this proposal would allow the department the opportunity to evaluate the effects of recent liberalizations, better understand the level of participation in the hunt, and provide meaningful recommendations for future regulatory changes, all while providing hunters with the current level of opportunity. Permits would be available online and at license vendors in Nome, Teller, White Mountain, and Golovin.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 41 –5 AAC 85.020. Hunting seasons and bag limits for brown bear. Lengthen the hunting season for the nonresident DB685 brown bear hunt in Units 22B and 22C.

PROPOSED BY: James Smith

WHAT WOULD THE PROPOSAL DO? This proposal would add 15 days to the spring brown bear season for the nonresident DB685 hunt in Unit 22B and Unit 22C by extending the season's closing date from May 31 to June 15. It would also extend both the subsistence and general resident spring brown bear season by a month, changing the closing date to June 30 from its current closing date of May 31.

If this proposal were to be adopted, the new regulation would read as follows:

Unit 22B	
RESIDENT HUNTERS:	
Two bears every regulatory year; or	Aug 1 – **Jun 30**
One bear every regulatory year by subsistence permit (RB699)	Aug 1 – **Jun 30**
NONRESIDENT HUNTERS:	
One bear every regulatory year by drawing permit (DB685)	Aug 1 – **Jun 15**
Unit 22C	
RESIDENT HUNTERS:	Aug 1 – Oct 31
One bear every regulatory year; or	Apr 1 – **Jun 30**
One bear every regulatory year by subsistence permit (RB699)	Aug 1 - Oct 31 Apr 1 – **Jun 30**
NONRESIDENT HUNTERS:	
One bear every regulatory year by drawing permit (DB685)	Aug 1 - Oct 31 Apr 1 – **Jun 15**

WHAT ARE THE CURRENT REGULATIONS? Brown bear hunting regulations differ by subunit. The current resident brown bear hunting season in Unit 22B is August 1–May 31. The bag limit is two bears per regulatory year. In 22C, the resident brown bear hunt has two separate seasons: Aug 1 – Oct 31 and Apr 1 – May 31, with a bag limit of one bear per regulatory year.

There is also a resident subsistence bear hunt (RB699) for all subunits of Unit 22 with a season of Aug 1 – May 31 and a bag limit of one bear per year.

The current nonresident brown bear hunting season for both 22B and 22C is August 1–May 31 with a bag limit of one bear per year, by drawing permit (DB685) only. The nonresident drawing hunt area includes Unit 22B and Unit 22C with up to 27 permits issued annually.

There is a positive C&T finding for brown bears in Units 21 and 22, with an ANS of 20–25 bears for both units combined.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The recent brown bear regulatory changes of 2017 increased the Unit 22 annual bag limit for residents only and increased the season for residents and nonresidents. This proposal would further increase harvest opportunity for both resident and nonresident hunters with the lengthened open season. It may also result in increased harvest of brown bears due to the accessibility of Units 22B and 22C via the road system.

BACKGROUND: Brown bear numbers in Unit 22 declined during the early 1900s after the introduction of gold mining and reindeer herding industries. The population did not begin to recover until these activities diminished substantially during the 1940s, and federal predator control efforts ended at statehood in 1959. A brown bear population survey was not conducted until 1991 to obtain an estimate of abundance on the Seward Peninsula. A second brown bear population survey was completed in 2015. Many residents of the region have shared observations that bear numbers have increased on the peninsula, particularly during the mid-90s, and presently maintain concerns that those increased numbers are detrimental to local moose and muskox populations.

Two brown bear abundance surveys have been completed on the Seward Peninsula: biologists used a capture-mark-resight technique to estimate abundance and density in 1991, and a photographic mark-resight approach was used to estimate the density and population size in 2015. Estimates are in terms of independent (adult) bears and all bears, including cubs accompanying adults. The 1991 survey estimated the Seward Peninsula population to equal approximately 458 (95% CI: 420-495) total bears with a density of 14.6 (95% CI: 12.1 – 18.4) independent bears/1,000 km^2, and a density of 29.1 (95% CI: 12.1–18.4) total bears/1,000 km^2. In 2015, the survey resulted in an estimate of 420 (95% CI: 274–650) independent bears at a density of 21 (95% CI: 13.7 – 32.5) bears/1,000 km^2, and an estimate of 713 (95% CI: 474-1070) total bears and a density of 35.6 (95% CI: 23.7 – 32.5) total bears/1,000 km^2.

In response to the increased numbers of brown bears in Unit 22, the board has incrementally liberalized brown bear regulations in Unit 22 since 1997 by lengthening seasons, increasing bag limits, and adopting tag fee exemptions for Alaska residents in an attempt to increase brown bear hunting opportunity. The most recent liberalizations occurred in 2017 and affected subunits 22B and 22C.

In Unit 22, hunters report harvesting an average of 98 brown bears per year. The annual harvest of 80-100 bears has held consistent since the regulatory changes of 1998; before those changes, harvest occurred at an average of 55 bears per year from RY1990-RY1997. The management

objective for brown bears within the unit is to maintain the total brown bear harvest at 50% male bears (boars) or greater; the percent of boars in the harvest has been maintained at 65% since 1998, which is within management goals. During 1990-1997, most of the brown bear harvest occurred in 22B (41%), followed by 22A (23%), 22D (17%), 22C (15%), and 22E (5%). Harvest distribution changed from 1998-2018, with 22A leading the harvest (32%), followed by 22B (28%), 22C (19%), 22D (17%), and 22E (5%). Residents and nonresidents have nearly equal harvests within Unit 22: from RY1990-RY1997, 53% of the brown bear harvest was by residents and 47% by nonresidents, while from RY1998-RY2018, 55% of the harvest occurred by residents and 45% by nonresidents.

The average age of brown bears harvested in Unit 22 throughout these changes is 6 years old. Sow age increased slightly from RY1990-RY1997 to RY1998-RY2017, increasing from an average of 6 years to 7 years old at harvest. Boars, however, remained constant at 6 years old at the time of harvest. From RY1990-RY1997, the average skull size of harvested sows was 17 inches, and increased to 20 inches in RY1998-RY2018. Harvested boar skull size averaged 19 inches from RY1990-RY1997, and 21 inches from RY1998-RY2018.

Unit 22B sealing records indicate that an average of 22 brown bears were harvested annually from the unit between RY1990 and RY1997, and 27 bears were harvested annually between RY1998 and RY2018. In Unit 22C, 8 bears were harvested annually between RY1990 and RY1997, and 19 bears were harvested annually between RY1998 and RY2018. The Unit 22 management goal of sustaining a harvest that includes at least 50% boars on a 3-year average is being met: Unit 22B sealing records indicate 67% (116 of 173) of bears taken between RY1990 and RY1997 were boars, and 63% (356 of 568) of bears taken between RY1998 and RY2018 were boars; Unit 22C records indicate 50% (32 of 64) of bears taken between RY1990 and RY1997 were boars, and 58% (229 of 395) of bears taken between RY1998 and RY2018 were boars. Since RY1998, relatively equal amounts of harvest have occurred in the fall (47%) versus the spring (53%) in 22B; this is like 22C since RY1998, in which 52% of the harvest occurred in the fall and 48% during the spring season.

Of the 27 DB685 permits available annually, an average of 18 DB685 nonresident drawing brown bear permits have been issued to hunters per year since the permit's creation in 1998. Of those issued permits, 62% of permit holders have attempted to hunt and have had a success rate of 64%. The majority (86%) of DB685 hunters report hunting brown bears in Unit 22B rather than 22C.

Data indicate that an average of four RB699 resident brown bear subsistence permits have been issued to hunters throughout Unit 22 annually since the issuance of the permit in 2005; the hunter success rate is approximately 3%.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative nature of this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 42 –5 AAC 92.080. Unlawful methods of taking game; exceptions. Allow hunters to use a snow machine to position brown bears for harvest in Unit 22.

PROPOSED BY: Justin Horton

WHAT WOULD THE PROPOSAL DO? This proposal would allow hunters to use a snow machine to position brown bears for harvest in Unit 22.

WHAT ARE THE CURRENT REGULATIONS? Restricting the use of a motorized vehicle for the taking of bears is a regulation that has statewide applicability, as outlined in 5 AAC 92.080 (4) *Unlawful methods of taking game; exceptions*. Presently, under 5 AAC 92.080 (4), in Unit 22, a snow machine may be used to position a caribou, wolf, or wolverine for harvest, and caribou, wolves, or wolverines may be shot from a stationary snow machine. Under 5 AAC 92.080 (4), in the bear control implementation areas specified in 5 AAC 92.111 – 5 AAC 92.113, 5 AAC 92.118, and 5 AAC 92.121 – 5 AAC 92.124, a snow machine may be used to position a hunter to select an individual bear for harvest, and bears may be shot from a stationary snow machine. Throughout the state, no regulation exists that permits hunters to use a snow machine to position a bear for harvest.

A positive C&T exists for brown bears in Unit 21 and Unit 22 combined, with an ANS of 20–25 bears for both units combined.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? By allowing hunters to use snow machines to position brown bears for harvest and for hunters to shoot brown bears from a stationary snow machine, the proposal has the potential to significantly increase bear harvests, particularly in the spring when deep and soft snow conditions exist and the motility of bears is diminished. This proposal would not affect Unit 22's brown bear bag limits and/or hunting seasons.

BACKGROUND: It is believed brown bear numbers in Unit 22 declined during the early 1900s after the introduction of gold mining and reindeer herding industries. The population was not believed to begin to recover until these activities diminished substantially during the 1940s, and federal predator control efforts ended at statehood in 1959. A brown bear population survey was not conducted until 1991 to obtain an estimate of abundance on the Seward Peninsula. A second brown bear population survey was completed in 2015. The public believes that bear numbers have increased on the peninsula, particularly during the mid-90s, and presently maintain concerns that those increased numbers are detrimental to local moose and muskox populations.

Two brown bear abundance surveys have been completed on the Seward Peninsula: biologists used a capture-mark-resight technique to estimate abundance and density in 1991, and a photographic mark-resight approach was used to estimate the density and population size in 2015. Estimates are in terms of independent (adult) bears, and all bears, including cubs accompanying adults. The 1991 survey estimated the Seward Peninsula population to equal approximately 458 (95% CI: 420-495) total bears with a density of 14.6 (95% CI: 12.1 – 18.4) independent bears/1000 km^2, and a density of 29.1 (95% CI: 12.1–18.4) total bears/1000 km^2. In 2015, the survey resulted in an estimate of 420 (95% CI: 274–650) independent bears at a density of 21 (95% CI: 13.7 – 32.5) bears/1000 km^2, and an estimate of 713 (95% CI: 474-1070) total bears and a density of 35.6 (95% CI: 23.7 – 32.5) total bears/1000 km^2.

Unit 22 hunters report harvesting an average of 98 brown bears per year. The annual harvest of 80-100 bears has held consistent since the regulatory changes of 1998. The management objective for brown bears within the unit is to maintain the total brown bear harvest at 50% male bears (boars) or greater; the percent of boars in the harvest has been maintained at 65% since 1998, remaining adherent to management goals. Harvest distribution from 1998-2018 indicates 22A leads the brown bear harvest (32%), followed by 22B (28%), 22C (19%), 22D (17%), and 22E (5%). Residents and nonresidents have nearly equal harvests within Unit 22: from RY1998-RY2018: 55% of the harvest occurred by residents and 45% by nonresidents.

Unit 22 hunters rely heavily on snow machines to harvest game. Since RY98, an average of 32% (range 7%-53%) hunters report using a snow machine to harvest a brown bear, followed by 17% (range 9%-29%) using a 4-wheeler and 16% (range 8%-23%) using a boat for their harvest. Throughout the unit, snow machines are used most for brown bears in Unit 22E (75%; range 33%-100%), followed by Unit 22B (47%; range 3%-79%). Furbearers are also harvested primarily using snow machines in Unit 22: over a 5-year period from RY14-RY18, 96% (range 88%-100%) of hunters reported using a snow machine to harvest lynx, 83% (range 60%-100%) of hunters used a snow machine to harvest river otter, 94% (range 60%-98%) use a snow machine to harvest wolves, and 93% (range 80%-100%) used a snow machine to harvest wolverines. Since the commencement of the RC800 permit in RY16, data indicate 71% (range 67%-78%) of Unit 22 hunters report using a snow machine to hunt for caribou.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal since it is a proposed method and means change. Given the many regulatory changes made to Unit 22 brown bear hunting recently, taking regulatory action that may increase brown bear harvest before sufficient data are available to assess previous actions may mask impacts to the bear population.

COST ANALYSIS: Approval of this proposal is not expected to result in additional costs to the department.

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PROPOSAL 43 – 5 AAC 85.065. Hunting seasons and bag limits for small game. Address the customary and traditional use findings for Alaska hares in Unit 22 and modify the season and bag limit for Alaska hares in Unit 22.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? Establish a C&T finding for Alaska hares in Unit 22 and create a season (September 1 – April 15), harvest limit (2 per day, no season limit), and salvage requirement (hide or meat) for Alaska hares in Unit 22.

WHAT ARE THE CURRENT REGULATIONS? Currently there is no closed season, no harvest limit, and no salvage requirement for Alaska hares in Unit 22.

The board has not determined if Alaska hares are customarily and traditionally used for subsistence in Unit 22.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The hunting public would lose 4.5 months of hunting opportunity, be restricted to a 2 Alaska hare per day bag

for Alaska hare in Unit 22. The reduced season length and bag limit for Alaska hares would still provide some hunting opportunity in the area.

BACKGROUND: Alaska hares, believed to abundant in GMU 22 during the 1980s, are unevenly distributed throughout the Seward Peninsula and portions of GMU 22. The department has very little data about them, but the apparent decrease in abundance observed elsewhere in their range may have been caused by changes in habitat, predation or other natural, cyclical events. The department does not currently monitor Alaska hare populations (i.e., they are not listed separately as a prey species in the Trapper Questionnaire survey) and has no estimates of abundance. The department does have a summary of existing ethnographic literature and historical harvest data from household surveys. However, the observed low density in GMU 22 is of biological concern. Alaska hares are not highly productive: they have only one, relatively small-sized litter of leverets per year, like other more long-lived species who invest more in fewer offspring. The department believes that the limited management approach of the last 50 years no longer adequately addresses conservation of this species.

Nearly all local hunters consulted in Unit 22 are aware of the differences between the species while many non-hunters are surprised by the existence of another hare species. If climatic or habitat conditions are favorable for Alaska hare population abundance, lower harvest could protect localized populations for quicker recovery and recolonization. The department has reached out to advisory committees and communities with educational information on Alaska hares and has provided a means for people to report their observations. Efforts are underway by the department to evaluate both abundance monitoring methodologies as well as population vital rates. The department plans to employ an abundance monitoring effort throughout portions of the Alaska hares' range, including GMU 22 within the next three to four years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the finding of subsistence uses and **SUPPORTS** the other aspects of this proposal. The department recommends the board adopt salvage requirements consistent with salvage requirements in Unit 9, which requires either the meat or the hide be salvaged for human use.

COST ANALYSIS: Adoption of this proposal would not result in significant costs to the department.

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