

Caribou Management Report and Plan, Game Management Unit 8:

Report Period 1 July 2012–30 June 2017, and

Plan Period 1 July 2017–30 June 2022

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Species management reports and plans provide information about species that are hunted or trapped and management actions, goals, recommendations for those species, and plans for data collection. Detailed information is prepared for each species every 5 years by the area management biologist for game management units in their areas, who also develops a plan for data collection and species management for the next 5 years. This type of report is not produced for species that are not managed for hunting or trapping or for areas where there is no current or anticipated activity. Unit reports are reviewed and approved for publication by regional management coordinators and are available to the public via the Alaska Department of Fish and Game's public website.

This species management report and plan was reviewed and approved for publication by Cyndi Wardlow, Regional Supervisor for the Division of Wildlife Conservation.

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Purpose of this Report

This report provides a record of survey and inventory management activities for caribou in Unit 8 for the previous 5 regulatory years and plans for survey and inventory management activities in the 5 years following the end of that period. A regulatory year (RY) begins 1 July and ends 30 June (e.g., RY14 = 1 July 2014–30 June 2015). This report is produced primarily to provide agency staff with data and analysis to help guide and record its own efforts but is also provided to the public to inform them of wildlife management activities. In 2016 the Alaska Department of Fish and Game's (ADF&G, the department) Division of Wildlife Conservation (DWC) launched this 5-year report to more efficiently report on trends and describe potential changes in data collection activities over the next 5 years. It replaces the caribou management reports of survey and inventory activities that were previously produced every 2 years.

I. RY12–RY16 Management Report

Management Area

Game Management Unit 8 (5,097 mi²; Fig. 1) is located in the Kodiak Archipelago in the Gulf of Alaska. It comprises all islands southeast of the centerline of Shelikof Strait, including Kodiak, Afognak, Whale, Raspberry, Shuyak, Spruce, Marmot, Sitkalidak, Amook, Uganik and Chirikof islands, the Trinity Islands, the Semidi Islands, the Barren Islands, and other adjacent islands and all seaward waters and lands within 3 miles of these coastlines. The archipelago is approximately 177 miles long and 50 miles wide consisting of a rugged, fjord-carved landscape with elevations ranging from sea level to approximately 4,500 feet. The archipelago has a wet maritime climate with little seasonal temperature variation and abundant precipitation. Vegetation composition varies throughout the archipelago and is highly influenced by past glaciation.

There are 3 primary ecological regions comprising the archipelago: the Sitka spruce region, the central ecological region, and the southern ecological region (Fleming and Spencer 2006). The Sitka spruce region encompasses northeastern Kodiak Island and includes Afognak and Shuyak islands. The lower elevations in this region are comprised primarily of Sitka spruce (*Picea stichensis*) with a dominant understory consisting of salmonberry (*Rubus spectabilis*), devils club (*Echinopanax horridum*), cow parsnip (*Heracleum lanatum*), ferns (*Athrium* spp.) and high-bush blueberry (*Vaccinium ovalifolium*) with dispersed pockets of elderberry (*Sambucus racemosa*). Other plant communities in this region include forb-grass meadows containing willow (*Salix* spp.), birch (*Betula kenaica*), and alder (*Alnus crispa sinuata*). Much of Kodiak Island is classified as the central ecological region and is dominated by rugged, mountainous topography with steep ravines, deep valleys, and fast-moving glacial streams and rivers. Bands of deciduous forests comprised of willow, birch, cottonwood, and alder can be found in lowland areas along rivers and streams. Similar to the Sitka spruce region, salmonberry, ferns, cow parsnip, blueberry, and fireweed (*Epilobium angustifolium*) along with various grass and forb assemblages cover much of the landscape. At the higher elevations, plant communities include alpine forb meadows and alpine tundra. Alpine forb meadows consist of sedges (*Carex* spp.), lupine (*Lupinus nootkatensis*), and Indian paintbrush (*Caltilleja unalalaschensis*), while the alpine tundra is comprised of crowberry (*Empetrum nigrum*), partridgefoot (*Luetkea pectinata*),

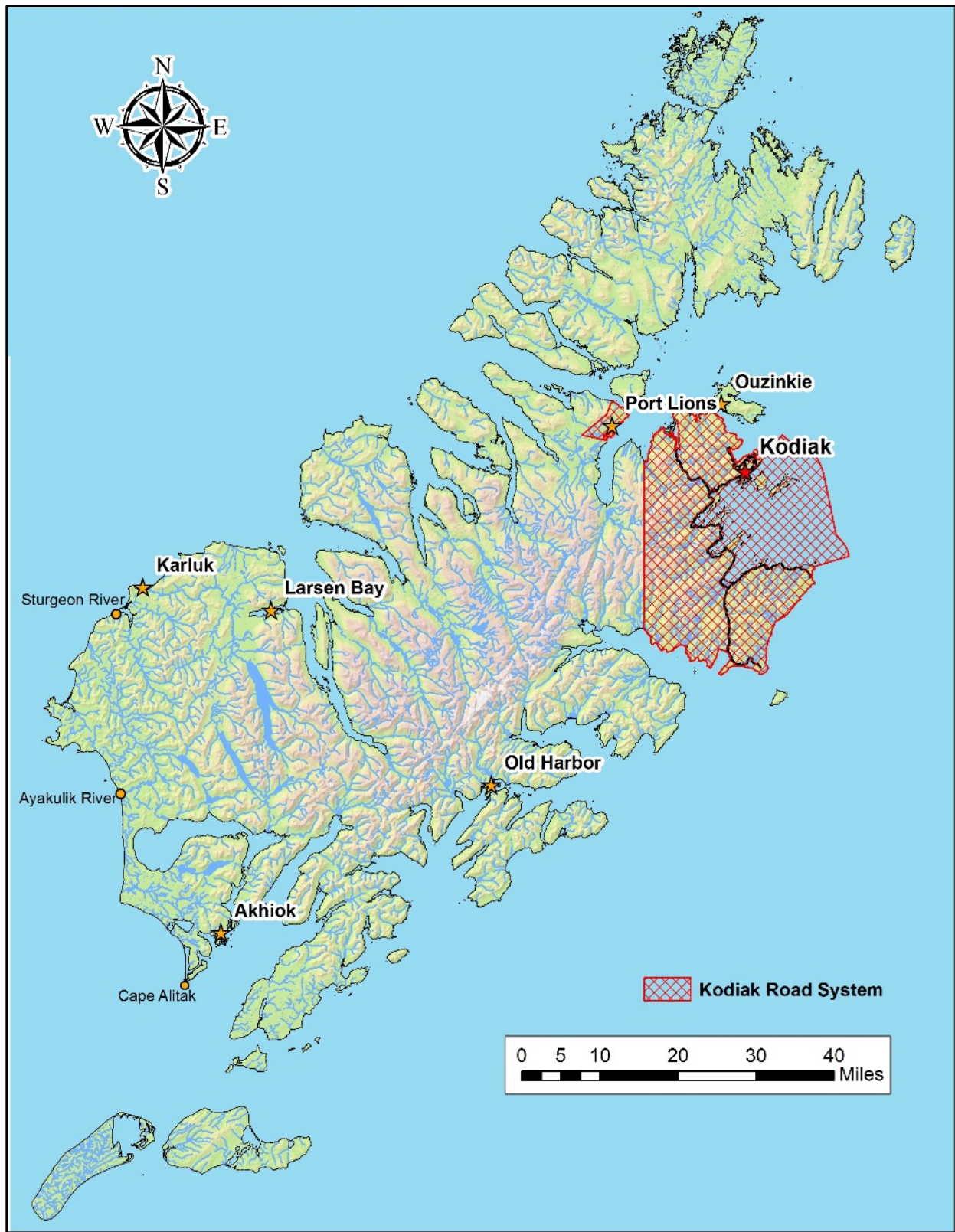


Figure 1. Map showing most of Game Management Unit 8, Kodiak Archipelago, Alaska.

alpine blueberry (*Vaccinium uliginosum*), various lichens (*Cladina* spp., *Cetraria* spp.) and dwarf shrubs. The southern ecological region encompasses the glacial refugium and sub-arctic heath lands (Fleming and Spencer 2006) and consists of crowberry, dwarf willow (*Salix* spp.), fireweed, blueberry, cranberry (*Vaccinium vitis-idaea*), goldenrod (*Solidago lepida*), Labrador tea (*Ledum palustre*), kinnikinnik (*Arctostaphylos uva-ursi*) and various forbs and mosses (Fleming and Spencer 2006).

The Kodiak Road System Management Area is contained within GMU 8 and only includes portions of the main island comprising that portion of Kodiak Island north of a line from the head of Settlers Cove (including Peregrebni Point) to Crescent Lake (57°52'N, 152°08'W) and east of a line from the outlet of Crescent Lake to Mount Ellison Peak and from Mount Ellison Peak to Pokati Point at Whale Passage, and that portion of Kodiak Island east of a line from the mouth of Saltery Creek to the mouth of Elbow Creek and adjacent small islands in Chiniak Bay.

Summary of Status, Trend, Management Activities, and History of Caribou in Unit 8

All caribou on Kodiak originate from the introduction of 32 domestic reindeer in 1924. The reindeer were brought to Lazy Bay on the south end of Kodiak Island near the Village of Akhiok as part of a U.S. Department of the Interior program that began in 1892 to bring reindeer into western Alaska from Siberia to provide Native Alaskans additional commercial and subsistence opportunities. Prior to the introduction, a local village resident spent 3 years in Cantwell, Alaska as an apprentice in the Alaska Reindeer Service, learning herding practices from other Alaska Natives who had originally been taught by nomadic Scandinavian reindeer herders (Saami) who were hired to teach husbandry (Alutiiq Museum archives, Kodiak, Alaska).

The reindeer herd was managed by residents of Akhiok, under a contract with the U.S. Reindeer Service (Van Daele 2013). The herd ranged in the Cape Alitak and Olga Lakes area, in tundra vegetation that provided the best reindeer habitat on Kodiak. As the herd grew, provisions were made to teach new apprentices to provide more opportunities for local villagers (Lantis 1950), and by 1931, eight Native stockholders took ownership of the herd by forming the Alitak Native Reindeer Corporation and obtained a federal grazing lease. By 1938, there were 11 stockholders in the reindeer corporation and 24 Akhiok households. Most of the community participated in the business. Herding also became a family tradition, as sons accompanied their fathers to learn the trade (Alutiiq Museum archives, Kodiak, Alaska).

The Reindeer Act, which restricted ownership of domestic reindeer in Alaska, passed on 1 September 1937. This limited ownership of domestic reindeer in Alaska to Natives only and provided the administrative machinery for the eventual declaration and federal purchase of all non-Native owned deer. Statewide, the industry was beleaguered by political and bureaucratic bungling and overgrazing of many of the prime ranges. By the early 1940s many of the herds had crashed, and reindeer raising in Alaska was “a very sick industry” (Hanson 1952). In spite of various political and biological issues that arose with reindeer in other areas of the state (Hanson 1952), reindeer on Kodiak were thriving and reached a peak of about 3,000 animals by 1950 (Van Daele 2013).

The herd declined in size following a catastrophic cabin fire in the early 1950s, which spread and destroyed hundreds of acres of prime reindeer forage. The herd escaped during the fire, releasing an estimated 1,200 animals into the wild. After the fire, most herders did not attempt to reclaim the reindeer and took better paying jobs in the fishing industry. Active management of the herd ended in 1961, although reindeer meat continued to be sold to the canneries and individual hunters were allowed to kill reindeer for \$25 a head. In 1964 the federal grazing lease expired. The lease was never renewed and a certified letter from the U.S. Bureau of Sport Fisheries and Wildlife (10 June 1963) stated, “Any property that has not been removed from the leased area or disposed of on or before July 1, 1964 will become the property of the United States Government.” The reindeer were not removed and were declared feral by the State of Alaska the next year.

Shareholders of the Alitak Native Reindeer Corporation continued to claim ownership of the herd and sought to sell the remaining animals to the government throughout the 1960s. Letters were exchanged between shareholders, Native leaders, and state and federal bureaucrats all the way to President Dwight Eisenhower. By 1968, it appeared that an agreement had been reached for the Corporation to sell all of the reindeer to the State of Alaska for \$10 per head. Remaining shareholders or their heirs were identified, and a joint aerial survey of the herd was conducted to estimate the population size. Unfortunately, the deal was never sealed, perhaps due to legal complications with the sale of live reindeer to non-Native Alaskans, or because of negotiations associated with the pending Alaska Native Claims Settlement Act.

In the 1970s and the 1980s there were again attempts to negotiate compensation for the herd, but the issue was never settled. Interest in the fate of the herd and the legal aspects of ownership were resurrected in 2010 when decedents of the Alitak Native Reindeer Corporation began inquiries on how to obtain reindeer to restart commercial reindeer herding operations on Native lands near Akhiok and other villages.

During 1960–2000, state and federal management of the herd was passive, neither attempting to sustain or eliminate them. By having no closed season or bag limit, all hunters, including former owners of the herd, could take as many animals as they wanted as long as they obtained a caribou harvest ticket before hunting, salvaged all the meat for human consumption, and did not hunt on the same day they had been flying. During that time, the herd settled into favored range along the Ayakulik and Sturgeon rivers and stabilized at about 250–350 animals (Van Daele 2013).

In 2002 the Alaska Board of Game authorized same-day-airborne hunting and the reported harvest of feral reindeer increased as lodges and transporters began marketing hunts. The increased pressure on the herd prompted concern of overharvest and in 2009 the board passed a proposal that not only reinstated the prohibition on same-day-airborne hunting, but also established a management objective to sustain the herd at 200–500 animals. At this time, the feral reindeer were also officially reclassified as “caribou” by the board for game management purposes.

Management Direction

EXISTING WILDLIFE MANAGEMENT PLANS

Unit 8 caribou were not addressed in the 1976 Southcentral Alaska wildlife management plans developed by the department and adopted by the Alaska Board of Game (ADF&G 1976), and no other specific and separate formal plan has previously been developed. However, management direction and objectives for the Unit 8 caribou population have been informed and revised based on public input and Alaska Board of Game action; these have been reported in previous management reports.

GOALS

Maintain a stable to slightly growing population that is healthy and viable and provides sustainable harvest opportunities.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

Not applicable.

Intensive Management

There are currently no intensive management programs for caribou in Unit 8.

MANAGEMENT OBJECTIVES

The management objective is to maintain a fall population of 350–500 caribou, with a minimum of 20 bulls:100 cows and 20 calves:100 cows.

MANAGEMENT ACTIVITIES

Methods for data collection and results for all activities during RY12–RY13 are included in Svoboda and Crye (2015).

1. Population Status and Trend

ACTIVITY 1.1. Aerial surveys.

We conducted annual aerial observation surveys opportunistically and collected anecdotal information from hunters, air-taxi operators, and commercial and private pilots.

Data Needs

Reliable methods to determine population status and assess fluctuations in population trends and demographics are needed.

Methods

Aerial observation surveys were conducted opportunistically by ADF&G staff or by Alaska Wildlife Trooper Alan Jones. No standardized survey techniques or flight paths are established. Due to resource constraints, the remote location of the herd, and the amount of time needed to conduct a complete survey, aerial surveys are often incomplete and do not entirely cover the known caribou range.

Results and Discussion

Aerial observation surveys indicate a stable to slightly increasing population of 325–400 caribou in Unit 8 during this reporting period (Table 1). Survey results have been relatively consistent over the past 5 years ranging from 300–375 caribou further suggesting the population is stable or slightly increasing. Although most population demographics (e.g., age, gender) are not regularly collected, Kodiak National Wildlife Refuge (NWR) conducted a comprehensive aerial survey throughout the caribou range in 2011 and identified 319 animals (292 adults, 27 calves). In addition, Alaska Wildlife Trooper and survey pilot Alan Jones, conducted aerial surveys in 2015 and 2016 and counted 375 (291 adults, 84 calves) and 341 (289 adults, 52 calves), respectively. Compared to historical estimates over the last 10 years, recent surveys suggest the caribou herd size on Kodiak Island is stable to slightly increasing. Anecdotal information collected from hunters and pilots supports this assertion.

Recommendations for Activity 1.1

Modify to include population estimation and monitoring methods by initiating comprehensive biannual surveys (post-calving in late June–early July, calf survival in late summer–early fall). It would also be beneficial to obtain herd demographic data (e.g., age, gender) during biannual surveys to monitor shifts in population parameters.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Quantify and analyze harvest data.

Data Needs

Caribou hunting on Kodiak Island seems to be increasing in popularity as annual harvest numbers steadily increased over the last 5 years. Obtaining reliable information on hunter effort would be valuable to assess the apparent increase in popularity. Acquiring information on the age of harvested animals would be valuable to assess the age distribution of the harvest and to provide information on population demographics.

Methods

Harvest data are summarized by regulatory year (RY). A regulatory year begins 1 July and ends 30 June (e.g., RY16 = 1 July 2016–30 June 2017). ADF&G collected data on annual harvest and hunting effort from mandatory harvest report cards. Harvest information was summarized by regulatory year and includes total harvest, hunter residency and success, transportation method and harvest chronology. In addition, guides and transporters occasionally submitted voluntary summaries of hunting activities which served as anecdotal information when investigating hunting and caribou population trends.

Table 1. Unit 8 aerial caribou composition counts and estimated population, 1924–2016, on Kodiak Island, Alaska.

Regulatory year(s)	Bulls	Cows	Calves	Total caribou observed ^a	Estimated population
1924	–	–	–	32	32 ^b
1930–1939	–	–	–	–	500 ^c
1940–1949	–	–	–	–	1400 ^c
1950–1959	–	–	–	740	3000 ^{c,d}
1960–1969	–	–	–	768	800 ^{c,e}
1970–1979	–	–	–	250	500 ^{c,f}
1980–1989	–	–	–	225	300 ^{c,g}
1990–1999	–	–	–	–	250–300 ^h
2000	–	–	–	–	250–300 ^h
2001	–	–	–	–	250–300 ^h
2002	–	–	–	–	250–300 ^h
2003	–	–	–	–	250–300 ^h
2004	–	–	–	–	250–300 ^h
2005	–	–	–	–	250–300 ^h
2006	–	–	–	–	250–300 ^h
2007	–	–	–	–	250–300 ^h
2008	–	–	–	260	250–350 ^h
2009	–	–	–	325	250–350 ^h
2010	–	–	–	336	250–350 ^h
2011	–	–	–	353	300–375 ^h
2012	–	–	–	300	300–375 ^h
2013	–	–	–	319	300–375 ^h
2014	–	–	–	235	300–375 ^h
2015	–	291	84	375	400 ^h
2016	–	289	52	341	400 ^h

^a Maximum number of caribou observed.

^b Original transplant of domestic reindeer.

^c Estimates recorded in ADF&G, Alutiiq Museum, and Kodiak NWR files.

^d Actual number observed in 1957 was 740 caribou.

^e Actual number observed in 1963 was 768 caribou; and in 1965, 553 caribou.

^f Actual number observed in 1977 was 250 caribou; 1978, 129 caribou; and in 1979, 140 caribou.

^g Actual number observed in 1980 was 225 caribou; 1981, 41 caribou; 1982, 202 caribou; and in 1983, 176 caribou.

^h Based on ADF&G staff estimates.

Season and Bag Limit

The open season for resident and nonresident hunters was 1 August–31 January with a bag limit of one caribou of either sex. Caribou are not listed as a federal subsistence species in Unit 8.

Results and Discussion

Harvest by Hunters

The annual caribou harvest during this reporting period ranged from 15 (14 males, 1 females) in RY13, to 49 (30 males, 19 females) in RY16, resulting in a mean harvest of 31.6 caribou/year (21.2 males, 10.4 females), up from the mean of 17.4 caribou/year (13.6 males, 3.8 females) during the previous 5 years (RY07–RY11; Table 2).

Harvest during this reporting period has increased markedly compared to the preceding 5 years as caribou hunting is becoming more prevalent on Kodiak. Caribou harvest has increased annually the last 4 years with the 2016 harvest ($n = 49$) the highest on record. The high harvest during this reporting period can likely be attributed to increased promotion and publicizing of caribou hunts on Kodiak Island. A few local lodges located near the caribou population actively promote caribou hunts in combination with other hunts. The increased promotion has led to increased interest in caribou hunting resulting in greater participation and increased harvest. Active promotion of these hunts will likely continue and may result in continued harvest pressure.

Table 2. Unit 8 caribou harvest data from RY02–RY16 on Kodiak Archipelago, Alaska.

Regulatory year	Bulls	(%)	Cows	(%)	Unknown	Total harvest ^a
2002	16	89	2	11	0	18
2003	14	74	5	26	0	19
2004	12	55	9	41	1	22
2005	12	71	5	29	0	17
2006	10	56	8	44	0	18
2007	24	77	7	23	0	31
2008	13	72	5	28	0	18
2009	8	89	1	11	0	9
2010	11	79	3	21	0	14
2011	12	80	3	20	0	15
2012	14	58	10	42	0	24
2013	14	93	1	7	0	15
2014	24	77	7	23	0	31
2015	24	62	15	38	0	39
2016	30	61	19	39	0	49

^a Total Harvest does not include illegal and unreported harvest.

Hunter Residency and Success

Hunter success during this reporting period (RY12–RY16) averaged 47.2%, slightly higher than the previous 5-year (RY07–RY11) average of 45.9%. Interestingly, hunter success rate in RY16 was the highest on record with 77 hunters harvesting 49 caribou (Table 3). This increase in hunter success may be attributed to increased hunter effort and increased interest in harvesting caribou. Historically, hunters often obtained harvest tags with the intent of hunting caribou opportunistically (i.e., during deer hunts) resulting in an apparent lower success rate. However, recent reports from lodge owners and air taxis suggest more hunters are obtaining permits with the intent to primarily pursue caribou. This notion is supported by the increase in caribou permits issued and the increased success rates observed. The number of nonresidents obtaining caribou permits has greatly increased from a 5-year average (RY07–RY11) of 8.6 nonresident caribou hunters per year, to the current 5-year average of 25.2 nonresident hunters per year, further supporting the contention that hunters may be traveling to Unit 8 to specifically hunt caribou. On average, 65 caribou permits were issued annually from RY12–RY16, nearly doubling the mean number of permits issued annually ($n = 34$) the previous reporting period (RY07–RY11).

This reporting period, Alaska residents accounted for 54.2% of the reported harvest (30.5% local residents, 23.8% nonlocal residents), while nonresidents accounted for 43.9% of the harvest during the same period. The remaining 1.9% were from hunters of unknown residency.

Harvest Chronology

During this reporting period, most of the reported caribou harvested occurred in September (5-year average = 36.8%) and October (5-year average = 32.4%; Table 4). This trend in harvest chronology has been consistent for the past decade with exceptions in RY09, RY10 and RY14 when most of the harvest occurred in September and December, October and December, and October and November, respectively. Historically, September, October, and November see the greatest number of hunters across the island rationalizing these findings.

Transport Methods

Aircraft were the predominant method of transportation for caribou hunters in Unit 8 followed by boats (Table 5).

Other Mortality

Documenting mortality from sources other than hunting is seldom possible because of the remote setting of the caribou range. Predation by brown bears undoubtedly occurs, but it is probably not common (Reynolds and Garner 1987). We rarely receive reports of caribou that died during winter from sources other than hunting. Based on discussions with transporters, air taxis, local hunters, and residents, we estimate wounding loss and illegal harvest contribute additional mortality equivalent to 15% of the reported harvest.

Table 3. Unit 8 caribou hunter residency and success, RY02–RY16 on Kodiak Archipelago, Alaska.

Regulatory year	Successful				Unsuccessful				Total		
	Local resident ^a	Nonlocal resident	Nonresident	Unknown ^b	Local resident ^a	Nonlocal resident	Nonresident	Unknown ^b	Successful hunters	Unsuccessful hunters	Harvest ^c
RY02	7	2	6	0	1	6	2	0	15	9	18
RY03	7	3	1	1	3	8	0	0	12	11	19
RY04	7	5	1	1	5	10	0	1	14	16	22
RY05	4	6	4	0	2	10	0	0	14	12	17
RY06	5	5	4	0	5	16	2	1	14	24	18
RY07	13	7	3	0	7	6	2	0	23	15	31
RY08	4	4	8	0	4	10	5	0	16	19	18
RY09	3	1	5	0	1	7	1	0	9	9	9
RY10	9	2	3	0	7	11	6	0	14	24	14
RY11	8	2	5	0	9	10	5	2	15	26	15
RY12	9	9	6	0	8	6	10	0	24	24	24
RY13	2	2	10	1	9	13	10	0	15	32	15
RY14	12	6	13	0	8	16	12	0	31	36	31
RY15	7	11	20	1	12	23	14	0	39	49	39
RY16	22	10	17	0	2	11	14	1	49	28	49

^a Local resident includes hunters who reside in GMU 8.

^b Hunter residency is unknown.

^c Totals do not include illegal and unreported harvest data.

Table 4. Unit 8 caribou harvest chronology by month, RY02–RY16 on Kodiak Archipelago, Alaska.

Regulatory year	Harvest periods (percent)														<i>n</i>
	August		September		October		November		December		January		Other ^a		
	Harvest	%	Harvest	%	Harvest	%	Harvest	%	Harvest	%	Harvest	%	Harvest	%	
RY02	0	0.0	1	5.6	10	55.6	4	22.2	0	0.0	0	0.0	3	16.7	18
RY03	0	0.0	8	42.1	6	31.6	1	5.3	0	0.0	0	0.0	4	21.1	19
RY04	1	4.5	2	9.1	17	77.3	1	4.5	0	0.0	0	0.0	1	4.5	22
RY05	1	5.9	1	5.9	11	64.7	2	11.8	0	0.0	0	0.0	2	11.8	17
RY06	1	5.6	7	38.9	9	50.0	0	0.0	0	0.0	0	0.0	1	5.6	18
RY07	3	9.7	15	48.4	7	22.6	5	16.1	0	0.0	0	0.0	1	3.2	31
RY08	2	11.1	9	50.0	5	27.8	1	5.6	0	0.0	0	0.0	1	5.6	18
RY09	1	11.1	4	44.4	1	11.1	1	11.1	2	22.2	0	0.0	0	0.0	9
RY10	0	0.0	1	7.1	7	50.0	2	14.3	4	28.6	0	0.0	0	0.0	14
RY11	1	6.7	6	40.0	7	46.7	1	6.7	0	0.0	0	0.0	0	0.0	15
RY12	3	12.5	10	41.7	7	29.2	4	16.7	0	0.0	0	0.0	0	0.0	24
RY13	0	0.0	6	40.0	8	53.3	0	0.0	0	0.0	0	0.0	1	6.7	15
RY14	1	3.2	5	16.1	11	35.5	7	22.6	1	3.2	0	0.0	6	19.4	31
RY15	6	15.4	20	51.3	6	15.4	5	12.8	0	0.0	0	0.0	2	5.1	39
RY16	6	12.2	17	34.7	14	28.6	12	24.5	0	0.0	0	0.0	0	0.0	49

Table 5. Unit 8 caribou harvest by transport method during RY02–RY16, Kodiak Island, Alaska.

Regulatory year	Airplane		Boat		Unknown		Total harvest
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
RY02	15	83.3	3	16.7	0	0.0	18
RY03	16	84.2	3	15.8	0	0.0	19
RY04	18	81.8	4	18.2	0	0.0	22
RY05	13	76.5	4	23.5	0	0.0	17
RY06	14	77.8	3	16.7	1	5.6	18
RY07	28	90.3	2	6.5	1	3.2	31
RY08	18	100.0	0	0.0	0	0.0	18
RY09	7	77.8	2	22.2	0	0.0	9
RY10	11	78.6	2	14.3	1	7.1	14
RY11	12	80.0	3	20.0	0	0.0	15
RY12	20	83.3	3	12.5	1	4.2	24
RY13	12	80.0	3	20.0	0	0.0	15
RY14	19	61.3	12	38.7	0	0.0	31
RY15	36	92.3	3	7.7	0	0.0	39
RY16	42	85.7	7	14.3	0	0.0	49

Alaska Board of Game Actions and Emergency Orders

No Board of Game Actions or Emergency Orders occurred during this reporting period.

Recommendations for Activity 2.1

Implement a registration hunt for caribou and require submission of lower jaw or teeth for aging. Implementation of a registration hunt would allow biologists to obtain information on hunter effort and hunting trends to assess the apparent increase in caribou hunting. Acquiring information on the age of harvested animals is necessary to assess the age distribution of the harvest and to provide information on population demographics.

Improve harvest monitoring techniques to ensure hunters obtain and submit accurate harvest and hunter effort information and work with Alaska Wildlife Troopers to improve harvest reporting compliance.

3. Habitat Assessment-Enhancement

The Kodiak caribou herd ranges within an area having little or no anthropogenic influence. No permanent human settlements, infrastructure, or resource extraction activities currently exist. People frequent river corridors and coastal areas to hunt and fish seasonally but have only had localized impacts on the habitat.

Modify and determine an appropriate research and monitoring project to assess caribou habitat use and resource needs. Determine seasonal and annual distribution and resource use to provide information on resource needs or limiting factors impacting caribou at various times of year.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

None.

Agreements

None.

Permitting

In 2010, descendants of the Alitak Native Reindeer Corporation requested information from the department on the history of how reindeer on Kodiak were declared feral. They also solicited assistance from local legislators on how to obtain reindeer to restart commercial reindeer herding operations on Native lands near Akhiok and other villages. In 2017, the Kodiak office was again contacted by descendants of the corporation seeking information on how to obtain permits to resume reindeer herding. While it would be difficult to capture and domesticate reindeer from the current herd on Kodiak, it may be feasible to obtain animals from other sources. Reestablishment of domestic herds would require careful planning to avoid potential problems with disease transmission, bear predation, and escapement onto adjacent state and federal lands.

Conclusions and Management Recommendations

Introduction and establishment of feral reindeer/caribou on Kodiak Island followed a different course than other introduced species on the archipelago in that it began as a domestic animal (as part of an economic enterprise), transitioned into an unmanaged feral animal, and ultimately ended up as a big game species managed for sustained yield. While we have not actively managed the herd for most of the past 50 years, the population seems to have stabilized or may be slightly increasing. The Kodiak Island caribou herd established its range in what appears to be the most suitable caribou habitat on the archipelago and rarely ventures from the area. However, there is a notable lack of objective information on population dynamics, habitat use, and movements. In addition, because harvest regulations have historically been liberal with little active management, obtaining accurate harvest and demographic information has been problematic.

Staff from Kodiak NWR occasionally raises concerns about the potential impacts on native vegetation and wildlife caused by caribou and has expressed concern about the decision to allow a nonnative ungulate population to remain and proliferate within the confines of the refuge.

To address these concerns and better manage the caribou herd, we recommend the following:

- Monitor population status by initiating comprehensive biannual surveys (post-calving in late June–early July, calf survival in late summer–early fall).
- Obtain herd demographic data (e.g., age, gender) during biannual surveys to monitor shifts in population parameters.
- Modify the caribou hunt from a harvest ticket hunt to a registration hunt.
- Improve harvest monitoring techniques to ensure hunters obtain and submit accurate harvest and hunter effort information and work with Alaska Wildlife Troopers to improve harvest reporting compliance.
- Design and implement a research and monitoring program that incorporates GPS radio telemetry and habitat assessment techniques to acquire population dynamics, movements, and habitat use information.

II. Project Review and RY17–RY21 Plan

Review of Management Direction

MANAGEMENT DIRECTION

- Continue providing harvest opportunities that allow population growth or stability.
- Implement structured population monitoring surveys to assess annual population fluctuations and provide information on population demographics.

GOALS

The caribou management goal for Unit 8 is to maintain a healthy, viable population providing sufficient harvest opportunities for residents and nonresidents of Alaska.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses (ANS)

None.

Intensive Management

None.

MANAGEMENT OBJECTIVES

The management objective is to maintain a fall population of 350–500 caribou, with a minimum of 20 bulls:100 cows and 20 calves:100 cows.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Aerial surveys.

Data Needs

Identify and implement reliable methods to determine population status and assess fluctuations in population trends and demographics.

Monitor population status by initiating comprehensive biannual surveys (post-calving in late June–early July, calf survival in late summer–early fall).

Obtain herd demographic data (e.g., age, gender) during biannual surveys to monitor shifts in population parameters.

Methods

Design and implement standardized aerial survey techniques to assess population status and demographics.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Harvest monitoring.

Data Needs

Obtain reliable information on hunter effort and acquire information on the age of harvested animals. There is also a need to assess age distribution of the population and collect additional information on population demographics.

Modify the caribou hunt from a harvest ticket hunt to a registration hunt.

Improve harvest monitoring techniques to ensure hunters obtain and submit accurate harvest and hunter effort information and work with Alaska Wildlife Troopers to improve harvest reporting compliance.

Methods

Require hunters to submit jaws of harvested animals to obtain age information.

ACTIVITY 2.2. Quantify and analyze harvest data.

Data Needs

Information on hunter effort would allow staff to assess growing public interest in caribou hunting on Kodiak. Acquiring data on the age of harvested animals would be valuable to assess the age distribution of the population and provide information on population demographics.

Methods

Obtain information on hunter effort and acquire information on the age of harvested animals by modifying this hunt from a harvest hunt to a registration hunt and requiring the submission of a bottom jaw to obtain age information.

3. Habitat Assessment-Enhancement

ACTIVITY 3.1. Investigate seasonal and annual habitat use.

Data Needs

Identify seasonal and annual shifts in habitat use and determine seasonal fluctuations in resource use and availability.

Methods

Deployment of 10–15 GPS radio collars collecting hourly locations would provide information on seasonal shifts in resource use. Collection and analysis/modeling of habitat data and resource use would provide information on resource use/availability throughout the year.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

None.

Agreements

None.

Permitting

None.

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Alaska Wildlife Trooper Alan Jones has opportunistically provided information on the caribou herd on a regular basis. The efforts by Mr. Jones are vital to obtaining information on Kodiak Island's caribou population.

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