United States Department of the Interior

FISH AND WILDLIFE SERVICE
Alaska Peninsula and Becharof National Wildlife Refuges
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Agency Report to:

Bristol Bay Federal Subsistence Regional Advisory Council

Public Meeting, Dillingham, Alaska
October 29-30, 2024

Staffing at Alaska Peninsula and Becharof NWR

Our new Deputy Refuge Manager, Brian Wehausen, moved to King Salmon this April. Brian comes to us from Camas National Wildlife Refuge in southeastern Idaho.

The Refuge recently advertised for a new Refuge Manager to replace Susan Alexander who retired in December. We are in the hiring process now and expect the new Manager to start sometime this winter.

For more information staffing contact: Brian Wehausen, USFWS, Alaska Peninsula/Becharof NWR, PO Box 277, King Salmon, AK 99613. Phone: 907-246-1201; e-mail: brian_wehuasen@fws.gov

Mammal Projects

Project**: Moose Trend Area Counts**

In collaboration and coordination with ADF&G and Katmai NP, we have conducted an aerial moose survey on 8 trend areas within, or proximate to, Alaska Peninsula-Becharof National Wildlife Refuges (Refuge) in Game Management Units (GMU) 9C and 9E from November 2nd - November 20th, 2023. Average moose density was 0.49 moose/mi^2. The estimated ratios of bulls, yearling bulls, and calves per 100 cows were 64:100, 9:100, and 27:100 respectively. Bulls made up 33.4 % of the population, cows 52.5%, and calves 14.1% on the Refuge portion of the survey. Our 2023 composition data for these 8 trend areas indicates the trend in density is stable over the last two years, and slightly down over the last three surveys. The estimated ratios of yearling bulls and calves to 100 cows are both trending up, while the ratio of bulls to 100 cows is trending down compared with data from 2022.

Table 1. Observed moose and moose composition estimates in 2023 for Alaska Peninsula-Becharof National Wildlife Refuges, GMU 9, Alaska.

2022

	Date	Area (mi^2)	Survey Hrs	Yearlings	Bulls	Cows	Calves	Adults	Total Moose
Moose Observed									
Mother Goose	Nov. 2	155	4.5	7	29	31	5	60	65
Flats B	Nov. 6	176	3.6	1	12	27	6	39	45
King Salmon River	Nov. 9	69	2.4	4	23	54	13	77	90
Big Creek Corridor	Nov. 9	68	1.9	2	13	39	8	52	60
Park Border	Nov. 13	153	4.9	3	27	35	11	62	73
Kejulik	Nov. 14	177	3.7	3	25	19	0	44	44
Black Lake	Nov. 17	114	3.5	3	26	35	20	61	81
Meshik	Nov. 20	109	2.6	2	14	25	8	39	47
Total		**1021**	**27**	**25**	**169**	**265**	**71**	**434**	**505**

Composition Estimates

	Calves: 100 Cows	Bulls: 100 Cows	Yearlings: 100 Cows	% Calves	Moose/hr	Moose/mi^2	Snow Cover
Mother Goose	16	94	23	7.7	14	0.42	None
Flats B	22	44	4	13.3	12	0.26	Bare Ground Showing
King Salmon River	24	43	7	14.4	38	1.30	Low Veg Showing
Big Creek Corridor	21	33	5	13.3	32	0.88	Low Veg Showing
Park Border	31	77	9	15.1	15	0.48	Bare Ground Showing
Kejulik	0	132	16	0.0	12	0.25	None
Black Lake	57	74	9	24.7	23	0.71	Low Veg Showing
Meshik	32	56	8	17.0	18	0.43	Low Veg Showing
Average	**27**	**64**	**9**	**14**	**19**	**0.49**	

For more information on mammal projects contact: Bryce Woodruff, USFWS, Alaska Peninsula/Becharof NWR, PO Box 277, King Salmon, AK 99613. Phone: 907-246-1204; e-mail: bryce_woodruff@fws.gov

Project**: Moose Population Estimate- Habitat Stratification**

In collaboration with ADFG, refuge staff is working to conduct a GeoSpatial Population Estimator (GSPE) moose survey for GMU 9. This type of survey is used in most other parts of the state and yields a population estimate for the area surveyed, which GMU 9 has been lacking. The first step in this process is to create a grid of survey units (each unit is approximately 7 $miles^2$) for the survey area and stratify each unit as high or low moose density. This requires flying over each of the 1,667 units to make a determination of density.

Stratification flights were conducted on January 30th and February 4th-5th, 2024. The map below shows the results of combined stratification flight data with desktop stratification using recent survey data. A small portion of GMU 9E remains to be stratified. These flights are scheduled for this fall, immediately prior to the GSPE survey.

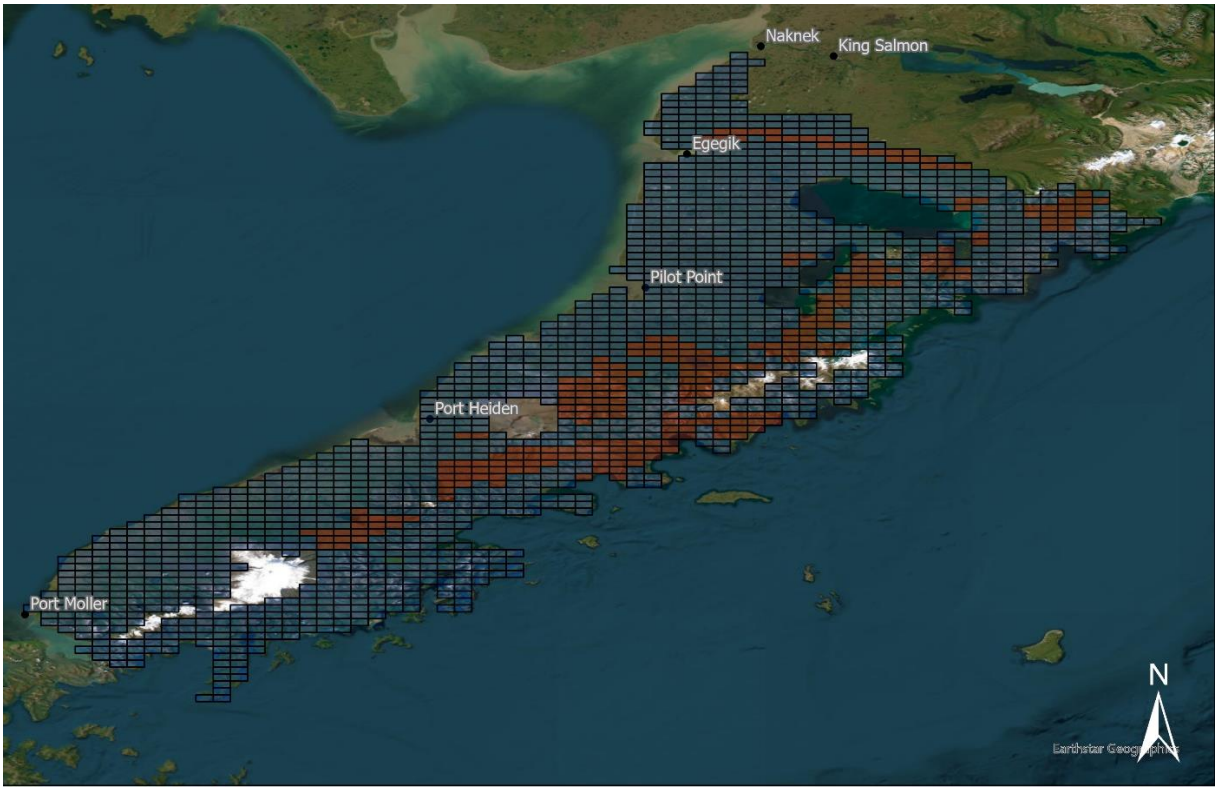

Figure 1. A post stratification survey map of GMU 9E, Alaska distinguishing moose survey units by low density (blue rectangles) and high density (red rectangles).

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Project**: Alaska Hare Surveys**

Refuge staff continued efforts last winter to identify areas of Alaska hare (*Lepus othus*) presence. Forty samples of fecal pellets were collected and sent to a genetics lab for analysis. Refuge biologists are awaiting the results of this analysis, which will determine species, sex, and individual genetic signature for each sample.

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Project**: Moose Twinning Surveys (GMUs 9C & 9E)**

In collaboration and coordination with ADF&G and Katmai NP, Alaska Peninsula-Becharof NWRs

conducted 35.5 hours of aerial moose twinning surveys over 5 days from May 23rd to May 28th during peak calving season. Refuge staff and partnering agencies identified 32 cow moose with offspring. Six cows were observed with one calf, twenty-five cows were observed with two calves, and one cow was observed with three calves (Table 1). This yielded a 2024 twinning rate of 81%. The Alaska Peninsula twinning rate appears to be steadily increasing compared to 73% in 2023, 68% in 2018, and 65% in 2014-2015. Twinning rates are used as an index for the nutritional condition of cows and therefore also habitat quality. For perspective, in low density moose populations in other parts of the state twinning rates are between 20-35%, still above rates observed in nutritionally stressed populations.

Table 2. Observed moose by survey date during the spring 2024 moose twinning survey for GMU 9C and 9E, Alaska.

	Survey Dates					
	5/23/24	5/25/24	5/26/24	5/27/24	5/28/24	**Total**
Moose Observed						
Bulls	21	23	21	27	19	**111**
Yearling cows	2	4	3	16	7	**32**
Cows with no calves	11	8	13	17	15	**64**
Cows with one calf	0	0	2	3	1	**6**
Cows with two calves	1	9	3	5	7	**25**
Cows with three calves	0	1	0	0	0	**1**

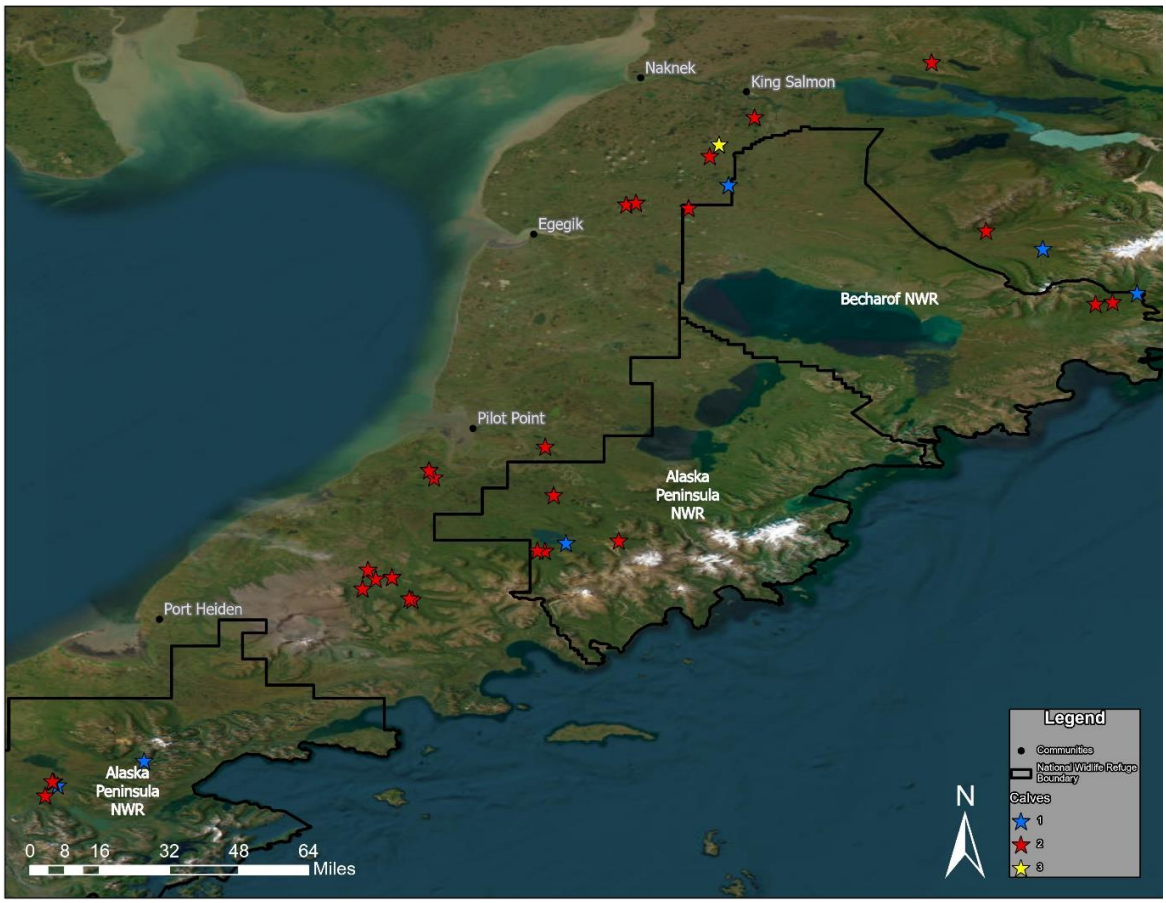

Figure 2. Map showing the locations of cow moose identified with offspring during the 2024 twinning survey on the Alaska Peninsula. Blue stars indicate a cow with one calf, red stars indicate a cow with two calves, and the lone gold star indicates a cow with 3 calves.

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Project**: Federal Subsistence Caribou Hunts Open on Alaska Peninsula-Becharof NWRs**

Following a public meeting held on April 25th, two federal subsistence caribou hunts opened on Alaska Peninsula-Becharof NWRs. FC0914 is open on federal public lands in GMU 9C remainder for residents of GMU 9C and Egegik. It is open from August 10th to October 10th, and then again from November 1st to February 28th, 2025. FC0915 is open on federal public lands in GMU 9E for residents of GMU 9C, 9E, Nelson Lagoon, and Sand Point. It is open from August 10th to October 10th, and then again from November 1st to April 30th, 2025. Both hunts allow the harvest of one bull caribou.

Interest in these hunts on federal lands has been low, since they were established in 2016, with slightly more interest and success in GMU 9E (see charts below). For the FC0914 hunt in 9C, 19 tags have been issued in the entire history of the hunt, with zero reported successful hunts. For FC0915 in 9E, 27 tags have been issued since its introduction, with 4 successfully harvested caribou. With the less restrictive tier II hunt (TC505) offered during the same season, most locals opt for this state hunt, which allows

hunting on both state and federal land.

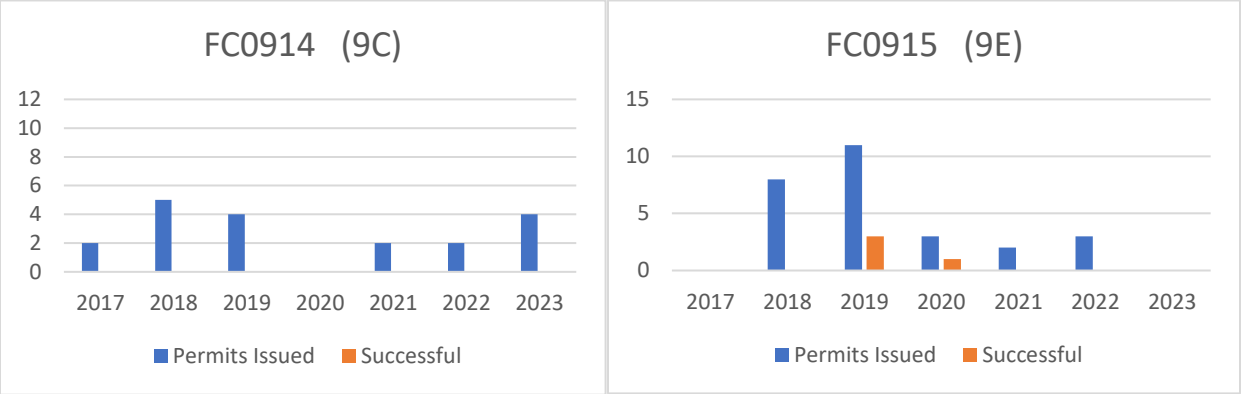

Figure 3 and 4. History of subsistence caribou permits issued and recorded harvest for federal lands in GMU 9C and 9E.

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Project**: Brown Bear Stream Survey**

Alaska Peninsula-Becharof NWR staff completed 3 replicate surveys for brown bears on salmon streams between August 13th and August 16th. The 2024 data indicates that the composition of the brown bear population is stable in comparison to the last survey in 2022. All metrics are nearly the same with the exception of bears/hour observed. This year we counted 97 bears/hour, compared to 68.2 bears/hour in 2022.

Table 3. Brown bear stream composition survey results in Unit 9E; 1980–1993, 2020, 2022, and 2024.

Year	1980-87	1988-93	2020	2022	2024
Single Bears (%)	49	51	47	63	63
Maternal Females (%)	19.4	16.5	19	13.04	13.1
COY (%)	18	9.9	13	6.9	6.4
Yearling Cubs (%)	19.6	23	21	17.2	17.4
Ave COY Litter Size	1.9	1.8	1.96	1.96	2.04
Yearling Litter Size	2	2	1.7	1.75	1.79
No. Bears Observed	2862	3288	745	525	834
Average Bear Count	358	548	248	175	278
Bears/hr.	40	29	85.3	68.2	97.0
No. of Replicates	236	35	3-5	2 - 3	3

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Avian Projects

Project**: Aleutian Tern Surveys**

Alaska Peninsula and Becharof NWR's provided local support for the state-wide Aleutian Tern Survey efforts in 2024. These surveys are a carried out this summer in year two of a three-year statewide effort to look for Aleutian tern colonies in likely breeding habitat areas along the coast. Aleutian terns may be a common sight in Naknek in summer, but they are a rare bird overall. Globally, the population is estimated at less than 20,000. They breed only in Alaska and eastern Siberia. Little is known about where they might winter. Unlike Arctic terns, who aggressively defend their nest sites by dive-bombing trespassers, Aleutian terns will hover above the colony when disturbed.

Aerial surveys located two tern colonies in the King Salmon/Naknek area. The local colonies have been highly variable in location and numbers. Road accessible ground counts revealed the colony closer to Naknek was Arctic Terns only, approximately 50 birds. The colony between Naknek and King Salmon had 25 Aleutian Terns. The 2022 and 2023 Aleutian Tern colony counts estimated around 100 terns, we saw a 75% decrease in the local Aleutian Tern numbers in 2024.

Using a random selection of colonies identified in the aerial surveys, we conducted 12 remote ground counts between Port Heiden and Kvichak Bay using helicopter access. We detected zero Aleutian Terns (Arctic Terns only) on the remote-access ground counts.

For more information on avian projects contact: Jamie Welfelt, USFWS, Alaska Peninsula/Becharof NWR, PO Box 277, King Salmon, AK 99613. Phone: 907-246-1205; e-mail: jamie_welfelt@fws.gov

Visitor Services Programs

Project**: Naturalist Programs with Bristol Bay Borough Parks and Recreation**

The Refuge partnered with Bristol Bay Borough Parks and Recreation to provide weekly programs for their youth summer camp. Subjects included: salmon ecology, lifecycle, and migration; and wild plants, identification d preservation. There was a total of 87 participants across 6 programs.

Project**: Aleutian Tern Survey Outreach and Education**

The Refuge provided education programs and outreach materials to communities along the Alaska Peninsula highlighting our 2nd year of Aleutian tern surveys. Community members at our in-person presentation during Carnival in Port Heiden provided us their observations of a decreasing gull population.

Project**: Fishtival**

The Refuge provided a fish print making program during the annual Bristol Bay Fishtival celebration. 216 participants joined us at the King Salmon Visitor Center to make gyotaku prints of salmon. Some of our youngest participants were noticeably excited to be working with real salmon.

Project**: Naknek Native Village Council Culture Camp**

The Refuge provided both monetary and in person programming support for the Naknek Native Village Council Culture Camp. The Refuge arranged travel and housing for a native seamstress to make kuspuk's for each participant that matched the headdresses they made and wore while performing the native dances they learned. There were roughly 50 youth and 30 adults in attendance.

For more information on the visitor services program contact: Sarah Lang, USFWS, Alaska Peninsula/Becharof NWR, PO Box 277, King Salmon, AK 99613. Phone: 907-246-1211; e-mail: sarah_lang@fws.gov