

**FEDERAL AID
ANNUAL PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**CARIBOU
ANNUAL SURVEY AND INVENTORY**

STATE: Alaska

GRANT AND SEGMENT NO. W-33-7

PROJECT NO. 3.0

PERIOD: 1 July 2008 – 30 June 2009

PROJECT LOCATION: Statewide

PROJECT TITLE: The Status of Caribou and Factors Influencing Their Populations

REPORT DESCRIPTION: This performance report describes caribou survey and inventory activities. Regionwide activities are listed before specific activities by herd.

**The Status of Caribou
and Factors Influencing Their Populations in Region II**

Region-wide Activities

ACTIVITY 1: Prepare biennial caribou management reports.

The next biennial caribou management report is due to DWC HQ on 1 May 2011.

ACTIVITY 2: Conduct fall sex and age population composition surveys to determine status, trend, productivity and mortality of caribou.

	Bulls (%)	Cows (%)	Calves (%)	Calves/ 100 Cows	Bulls/ 100 Cows
<i>Northern Alaska Peninsula</i>	270 (15)	1,424 (77)	147 (8)	10.3/100	19.0/100
<i>Southern AK Peninsula</i>	37 (7)	338 (67)	150 (26)	39.2/100	9.7/100
<i>Nushagak Peninsula</i>	96 (21.1)	240 (52.9)	118 (26.0)	40.0/100	49.2/100
<i>Unimak</i>	21 (8.1)	225 (86.5)	14 (5.4)	6.2/100	9.3/100
<i>Nushagak Peninsula</i>	(21.5)	(49.2)	(29.3)	59.6/100	43.8/100
<i>Mulchatna</i>	(3.5)	(70.1)	(6.4)	23.4/100	19.3/100

Kenai Lowland and Mountain Herds: No surveys were conducted for the Kenai Lowlands or Kenai Mountains Herd during the reporting period due to budgetary constraints.

Killey River and Fox River Herds: A survey conducted on Oct. 8, 2008, on the Killey River Herd counted 200 caribou. No surveys were scheduled for the Fox River Herd.

Nelchina Herd: No caribou count or post-calving sex and age composition surveys were conducted in 2008 due to poor weather.

Mentasta Herd: No monitoring of the Mentasta Herd occurred. The National Park Service monitors the distribution of this herd.

Mulchatna Herd: A post-calving photo-census of the Mulchatna Herd was conducted on July 7, 2008. A minimum of 30,000 caribou were estimated in the herd summer 2008.

ACTIVITY 3: Monitor the caribou harvest through field observations, hunter harvest reports and contact with hunters.

Kenai Lowland and Mountain Herds: There was not an open hunting season for Kenai Lowlands caribou herd during the reporting period. Nineteen caribou (15 males and four females) were taken in the Kenai Mountain Herd during the reporting period.

Killey River and Fox River Herds: Three bulls were taken in the Killey River Herd during the reporting period. There was not an open hunting season for Fox River Herd during the reporting period.

Nelchina Herd: A total of 2,035 hunters harvested 693 bulls, 272 cows and one animal of unknown gender.

Unimak, Northern & Southern Alaska Peninsula and Nushagak Peninsula Herds: No hunting was authorized during the 2008-09 season.

Mulchatna Herd: A total of 445 caribou were harvested.

Project Activities by Herd:

Northern Alaska Peninsula Herd

ACTIVITY 1: Conduct an aerial post-calving photocensus to estimate population size in cooperation with USFWS.

No population surveys were conducted in 2008-09 because other herds were a higher priority for this reporting period in Southwestern Alaska.

ACTIVITY 2: Conduct periodic radio-tracking surveys to determine distribution, movement and areas of preferred use.

No radio-tracking surveys were conducted in 2007-08 because other herds were a higher priority for this reporting period in Southwestern Alaska.

Southern Alaska Peninsula Herd

ACTIVITY 1: Conduct an aerial post-calving photo-census of the herd to estimate population size.

Post-calving population estimate was conducted in July 2008 resulted in an estimate of 700 caribou.

Unimak Herd

ACTIVITY 1: Conduct an aerial post-calving census of the herd to estimate population size and a sex and age composition survey.

No population surveys were conducted in 2008-09 because other herds were a higher priority for this reporting period in Southwestern Alaska.

Kenai Lowland and Mountain Herds

ACTIVITY 1: Conduct a post-calving aerial sex and age composition survey.

No surveys were conducted for the Kenai Lowlands or Kenai Mountains Herd during the reporting period due to budgetary constraints.

ACTIVITY 2: Monitor trends in calf weights to evaluate herd body condition.

No captures to assess calf weights were conducted due to budgetary constraints.

Killey River and Fox River Herds

ACTIVITY 1: In cooperation with the USFWS, conduct a post-calving aerial sex and age composition survey.

A survey conducted on Oct. 8, 2008, on the Killey River Herd counted 200 caribou. No surveys were scheduled for the Fox River Herd.

Nelchina Herd

ACTIVITY 1: Conduct a post-calving census and sex and age composition survey.

No caribou count or post-calving sex and age composition surveys were conducted in 2008 due to poor weather. A total of 33,146 caribou were observed during the summer 2009 count. During the post-calving sex and age composition survey 44 calves:100 cows, and 23 bulls:100 cows were observed.

ACTIVITY 2: Monitor caribou seasonal distribution through relocation of radio-collared caribou.

Caribou locations were monitored via fixed-wing flights in November 2008, March 2009, and May 2009.

ACTIVITY 3: Capture up to 15 caribou and replace expiring radio collars.

In October 2008, 11 caribou calves (4-month old) were captured and fitted with radio collars.

Mentasta Herd

ACTIVITY 1: Monitor caribou seasonal distribution through relocation of radio-collared caribou.

No monitoring of the Mentasta Herd occurred. The National Park Service monitors the distribution of this herd.

ACTIVITY 2: Capture up to 15 caribou and replace expiring radio collars.

No captures were conducted on the Mentasta Caribou Herd. The National Park Service captures and replaces radio collars on this herd.

Mulchatna Herd

ACTIVITY 1: Monitor caribou distribution through relocation of radio-collared caribou.

Radio-tracking flights conducted throughout the year. Seasonal distribution determined.

ACTIVITY 2: Conduct an aerial post-calving photo-census to estimate population size.

A post-calving photo-census of the Mulchatna Herd was conducted on July 7, 2008. A minimum of 30,000 caribou were estimated in the herd summer 2008.

ACTIVITY 3: Capture up to 20 caribou and replace expiring radio collars.

Thirteen radio-collars were deployed on Mulchatna caribou.

Nushagak Peninsula Herd

ACTIVITY 1: In cooperation with the USFWS, conduct a census and radio-tracking surveys to determine distribution, movements, and areas of preferred use.

On January 30, 2008 (FY08), a cooperative census of the Nushagak Peninsula Caribou Herd was conducted, resulting in a minimum population estimate of 556 caribou. Radio-tracking flights conducted by state and federal staff throughout this fiscal year to note distribution and movements.

The Status of Caribou and Factors Influencing Their Populations in Region III

Regionwide Activities:

ACTIVITY 1: Prepare caribou management reports.

Prepared caribou management reports for 14 herds.

ACTIVITY 2: Monitor harvest and analyze harvest data.

Monitored preliminary harvest of 2,245 caribou and analyzed harvest data.

ACTIVITY 3: Deploy and maintain radio-collars as needed on herds throughout the region to maintain an adequate sample size to conduct surveys.

Deployed 48 radio collars in various herds to maintain adequate sample of radioed animals to conduct surveys, with 1 mortality due to collaring.

ACTIVITY 4: Provide caribou management information to State and Federal regulatory processes.

Provided information to 15 State fish and game advisory committees, State Board of Game and 3 Federal regional councils.

Activities by Unit [and/or herd]:

Units 12 and 20D (portions) Macomb Caribou Herd

ACTIVITY 1: Estimate status, trends, and productivity from aerial surveys.

Conducted aerial surveys to determine herd distribution and productivity.

ACTIVITY 2: Conduct a photocensus of the herd to determine population size.

Conducted an incomplete aerial census due to poor survey conditions, with 754 caribou counted west of the Johnson River.

ACTIVITY 3: Conduct a prehunt aerial distribution survey to assist with managing the hunt by EO.

Conducted a prehunt aerial distribution survey which indicated that an Emergency Order not needed to administer the Macomb caribou hunt.

Units 19A, 19B, 19C, 19D, 21A and 21E Beaver Mountains, Big River-Farewell, Rainy Pass, Sunshine Mountain and Tonzona Caribou Herds

ACTIVITY 1: Estimate status, trends and distribution of the herds from aerial surveys.

Conducted minimum population surveys in June 2009 within the range of the Beaver and Sunshine caribou herds and found 158 caribou within these areas.

Unit 20A Delta Herd

ACTIVITY 1: Estimate productivity and bull:cow ratios from fall sex and age composition counts.

Did not Conduct fall composition surveys due to poor weather.

ACTIVITY 2: Conduct a photocensus of the herd to determine population size.

Conducted photocensus summer 2009 (results pending).

Units 20B, 20C, 20D, 20E, 25C (and adjacent Yukon, Canada) Fortymile Caribou Herd

ACTIVITY 1: Estimate status, trends and recruitment from aerial surveys.

Conducted a fall sex and age composition survey (calf and bull/100 cow ratios were 33 and 37/100; 9% of the herd sampled).

ACTIVITY 2: Conduct a photocensus to determine herd size.

Pre-census flights were conducted to monitor herd distribution through June and early July and a photocensus was successfully completed on July 5th (results pending).

ACTIVITY 3: Conduct aerial distribution surveys before and during the hunting seasons and conduct hunter check stations to assist with managing harvest.

Conducted aerial distribution surveys before and during the fall and winter hunts; and conducted a hunter checkstation on the Taylor Highway during the first few days of the fall hunt.

ACTIVITY 4: Work with land agencies, landowners, and developers to mitigate developments detrimental to Fortymile caribou.

Worked with the BLM, through the habitat division, on proposed BLM/Doyon land conveyance and development of the BLM's new Eastern Interior Land Management Plan; and provided comments related to impacts on game populations and habitat in the area.

Units 20F, 21C, 21D, 24, and 25A Galena Mountain, Ray Mountains, and Wolf Mountain Caribou Herds

ACTIVITY 1: Estimate status, trend and productivity of the herds from photocensus and aerial surveys.

In cooperation with BLM, conducted aerial surveys of Ray Mtn. Herd, counting 780 caribou on 09/08 and 483 on 4/30/09; conducted aerial surveys of Hodzana Hills Herd, counting 395 caribou on 09/08 and 115 on 01/21/09; conducted aerial surveys of Galena Mtn. Herd, counting 61 caribou on 06/08 and 93 on 03/09; and also conducted aerial surveys of Wolf Mtn. Herd, counting 243 on 6/10/08.

Units 20B, 20F and 25C White Mountains Caribou Herd

Activity 1: Conduct fall sex and age composition survey.

Conducted a sex and age composition survey in October (42 calves:100 cows, 46 bulls:100 cows).

Units 25A, 24B, 25D, and 26C (and adjacent Yukon, Canada) Porcupine Caribou Herd

ACTIVITY 1: Estimate status, trend, and productivity from aerial surveys.

Estimated status, trend, and productivity from aerial surveys (parturition rate=77% for radiocollared cows ≥ 4 years old ($n = 65$); late June calf:cow ratio for radiocollared cows ≥ 4 years old=44 calves:100 cows).

ACTIVITY 2: Conduct a photocensus to determine herd size.

Did not conduct a photocensus to determine herd size due to inadequate herd aggregation.

Units 26B and 26C Central Arctic Caribou Herd

ACTIVITY 1: Conduct a photocensus to determine herd size.

Conducted a photocensus in July 2008, with 66,772 caribou (including 11,037 calves) counted from photographs.

ACTIVITY 2: Conduct fall sex and age composition survey and determine distribution.

No fall composition count conducted because the herd was mixed with the Porcupine Caribou Herd animals; fall distribution determined; with most animals found on the south side of the Brooks Range, east of the Dalton Highway.

ACTIVITY 3: Estimate parturition rates and calf:cow ratios in June by radio-tracking collared females.

Estimated parturition rates in June 2009 for cows ≥ 4 years old (75%; $n=44$) and estimated late June calf:cow ratio (52% ; $n=42$).

ACTIVITY 4: Work with the oil industry and other agencies to minimize disturbance to caribou from resource development.

Worked with oil industry via phone and email to minimize disturbance to caribou.

Submitted by: Roy A. Nowlin, Management Coordinator

The Status of Caribou and Factors Influencing Their Populations in Region V

Regionwide Activities:

ACTIVITY 1: Prepare biennial regional caribou management reports.

A caribou management report was prepared during this reporting period.

ACTIVITY 2: Provide information to State and Federal regulatory processes on caribou management.

Area management staff reviewed State and Federal regulatory proposals, attended regulatory process meetings, and presented brown bear information to the State Board of Game, State Fish and Game Advisory Committees, Federal Subsistence Board, and Federal Subsistence Regional Advisory Councils.

Activities by Herd or Unit

Unit 18:

ACTIVITY 1: Monitor herd dynamics using radiocollars deployed on caribou in Unit 18 and other units as seasonal ranges of the Mulchatna and Western Arctic herds expand into Unit 18.

We conducted radiotelemetry flights in July 2008 to assist with the photocensus of the Mulchatna Herd. We also flew radio tracking flights in October 2008 to support caribou composition surveys.

ACTIVITY 2: Monitor caribou movements north of the Yukon River.

Caribou from the Western Arctic herd occasionally use the portion of Unit 18 north of the Yukon River; however, none were observed or reported in this area during this reporting period.

ACTIVITY 3: Conduct fall aerial sex and age composition counts.

We assisted with fall sex and age composition count in October 2008 by radiotracking caribou for a R-44 helicopter from Dillingham to classify Mulchatna herd caribou. The results from those flights are listed in the GMU 17 section.

ACTIVITY 4: Conduct spring aerial or ground based surveys of caribou in Unit 18 to assess recruitment and distribution.

We did not document any caribou with calves during flights in May of 2009 looking for calving moose.

ACTIVITY 5: Participate in photocensuses of caribou herds that use Unit 18.

The Mulchatna Caribou herd was photographed in July 2008. We assisted in the photocensus by radiotracking caribou once in the last week of June 2008.

ACTIVITY 6: Participate in radiocollar deployments and sample collections from caribou from herds that use Unit 18. (These captures are associated with Mulchatna Herd and totals are reported in Region II AWP.)

Caribou were poorly distributed; therefore, department staff did not complete radiocollar deployments during the reporting period.

ACTIVITY 7: Monitor hunting and other mortality factors through harvest reporting, public contacts and field observations.

We supported the use of harvest reports/tickets through the license vendors and interviewed hunters when the opportunity presented itself.

ACTIVITY 8: Continue to improve communication with the public.

We discussed caribou issues with advisory committees, other agencies, and the public.

ACTIVITY 9: Develop updated population objectives in cooperation with the public and other agencies.

We participated in a technical meeting in Dillingham with other area and regional offices and agency biologists to address common needs related to the Mulchatna caribou herd, including population objectives.

Teshkepuk Herd (Unit 26A):

ACTIVITY 1: Conduct a photocensus to estimate population size of the herd.

We conducted a photocensus in July 2008. The minimum population estimate was 64,100.

ACTIVITY 2: Monitor distribution and movements using satellite collar data, radiotelemetry data and aerial survey observations.

We looked at distribution maps generated by the Nome office throughout the year to monitor movements of satellite collared bulls and cows. Satellite collars and VHF radiotracking data revealed that most of the herd wintered in northwestern Unit 26A and the northwestern portion of Unit 23. This is a change from recent years, where caribou used northeastern Unit 26A and the central foothills of the Brooks Range in Units 26A and 26B during winter. Most of the TCH calved in the Teshkepuk Lake region.

ACTIVITY 3: Monitor hunting and other mortality factors through harvest reporting, public contacts and field observations.

Field observations and public reports indicated that the mortality rate in the herd during the past year was normal, with no significant die-offs reported. The mortality rate of collared females was 13.5%, slightly lower than the long term average of 14%.

ACTIVITY 4: Collect harvest information through the North Slope Borough and the ADF&G Subsistence Division.

A 5-year harvest estimate project conducted in cooperation with ADF&G Subsistence Division, Bureau of Land Management, and Inupiat Community of the Arctic Slope ended in 2007. Results of this study, previous harvest studies, and radiocollar distribution data were used to estimate that approximately 4,212 caribou were harvested from the TCH during 2008-2009.

ACTIVITY 5: Develop updated population objectives in cooperation with the public and other agencies.

We discussed population objectives for the TCH with the North Slope Borough Fish and Game Management Committee.

ACTIVITY 6: Attend meetings with management agencies, oil companies, and caribou users with the intent of minimizing conflicts between the herd and major development projects.

We attended 3 meetings related to the TCH and development concerns. We continue to work cooperatively with BLM, oil companies, and consultants to address management and mitigation concerns.

ACTIVITY 7: Capture up to 35 adult caribou to attach satellite, GPS, and conventional radiocollars. Pathfinder continuous track and photographic technology may be added to some of the GPS collars.

Using an R-44 helicopter and hand-held net gun, we captured 34 TCH cows and 13 bulls. We attached 12 VHF collars, 14 PTT collars and 21 GPS collars. We replaced 22 collars (PTT, VHF and GPS) that were nearing their end of their battery life. We used blindfolds and hobbling equipment to restrain caribou. No drugs were used. There were no capture mortalities. The current number of radiocollared caribou is 80, including 14 PTT, 28 GPS, and 38 VHF transmitters.

ACTIVITY 8: Weigh, measure and collect blood, fecal and hair samples from all captured adult caribou to gain information about the prevalence of diseases, parasites, contaminants and condition of the animals.

We collected blood, fecal, hair, and morphometric samples from the 47 caribou that were captured (Activity 7). The blood, fecal and hair samples are being analyzed as part of cooperative projects with the North Slope Borough and University of Alaska, Fairbanks. In addition to captured caribou (Activity 7), 20 caribou were collected and necropsied as part of a health assessment in the herd.

ACTIVITY 9: Capture up to 30 calf caribou that will be weighed and measured and possibly instrumented with calf-sized vhf collars.

We captured 50 calves and recorded weight, age and morphometric data. None of the calves were collared. Mean calf weight was 5.9 kg, with no significant difference between males and females. There were no capture mortalities.

ACTIVITY 10: Determine fall composition (bulls, cows, calves) using helicopter surveys during October.

Fall composition surveys were flown on 29 and 30 October 2008. A total of 1895 caribou were classified in the vicinity of radiocollared caribou and we found 296 calves (15 % or 18 calves:100 adults).

ACTIVITY 11: Conduct aerial surveys during April and May to assess short yearling recruitment.

Short yearling surveys were flown on 6-15 April 2009. We located 35 radiocollared cows. A total of 3935 caribou were classified in the vicinity of radiocollared caribou and we found 490 short yearlings (12.5 % or 14 short

yearlings:100 adults). This is lower than the 10-year average of 17 short yearlings:100 adults.

ACTIVITY 12: Use telemetry and ground observations to carefully monitor summer movements of Teshekpuk Herd caribou.

We monitored the distribution of TCH caribou on and near their insect relief areas using a combination of satellite telemetry and radio tracking flights. Most TCH animals were south and west of Teshekpuk Lake from mid-June until late June, then used the coast between Barrow and Harrison Bay extensively during July, and were widely distributed between Wainwright and the Colville River by mid-August.

ACTIVITY 13: Conduct calving location and productivity aerial surveys in June.

Calving surveys were conducted on 2-9 June 2009. We located 48 adult cows. The parturition rate was 50%, 19 cows were seen with calves (40 %). Of the cows that did not have calves, 24 had no antlers and no udder and 7 had soft antlers. While most calving was concentrated in the vicinity of Teshekpuk Lake, we also observed 2 cows that calved on the periphery of Central Arctic caribou calving areas, and 1 caribou that calved on the periphery of Western Arctic caribou calving areas.

ACTIVITY 14: Use satellite collar information and conduct VHF radiocollar telemetry surveys to determine the relative abundance of North Slope caribou herds in hunting areas during the time of the year when people do most of their hunting.

Satellite collar information was examined to determine the relative numbers of caribou from the TCH, Central Arctic herd (CAH) and the Western Arctic herd (WAH) in hunting areas when people are hunting. Analyses comparing relative caribou density to spatially explicit harvest locations will be used to estimate the proportional harvest from different caribou herds.

ACTIVITY 15: Involve students in the capture operations, work with students to track satellite collared caribou movements and lecture to school classes about caribou biology.

Several lectures were delivered to students from North Slope schools on population dynamics, genetics, and general information on the TCH.

Western Arctic Herd (Units 22, 23 and 26A)

ACTIVITY 1: Conduct periodic radiotracking flights to monitor herd distribution.

The WAH was radiotracked throughout the reporting period by staff located in Barrow, Nome, Kotzebue and Fairbanks.

ACTIVITY 2: Deploy approximately 30 radiocollars to maintain a year-end sample size of at least 100 operational radiocollars on living caribou.

26 radio collars (6 conventional and 20 satellite) were deployed in the WAH during September 2008; 8 collars were deployed on bulls and 18 on cows. There were no capture mortalities during collaring.

ACTIVITY 3: Conduct aerial surveys during April and May to assess short yearling recruitment.

We classified 15836 caribou (13873 adults and 1963 calves) during spring 2009 and observed 14 calves:100 adults. The lowest ratio previously recorded was 12 calves:100 adults in 2002.

ACTIVITY 4: Conduct aerial surveys during June to monitor initial calf production and the distribution of calving areas.

We visually located 70 radiocollared female caribou and observed a ratio of 79 neonates:100 cows in June 2009.

ACTIVITY 5: Conduct aerial surveys during October to assess herd composition and retrieve radiocollars.

We classified 12755 caribou (2981 bulls, 6618 cows and 3156 calves) during fall 2008. The bull:cow ratio was 45:100, and the calf:cow ratio was 48:100.

ACTIVITY 6: Collect blood samples from approximately 100 captured caribou to monitor the incidence of selected diseases and pathogens.

We collected a blood sample from 74 caribou during September 2008. Haptoglobin levels were assessed for 73 caribou and 11 caribou (18 %) were elevated. This was the highest proportion of individuals with elevated haptoglobin levels ever recorded. One of 72 caribou tested for exposure to *Brucella suis* was positive (1%).

ACTIVITY 7: Monitor hunting and other mortality factors through harvest reporting, collection of biological specimens and public contacts.

No biological specimens were collected from hunters during the reporting period. Harvest levels based on community-based assessments were comparable to previous years. As in the past, most visiting hunters (76%) hunted in Unit 23 during the 2008-2009 regulatory year.

ACTIVITY 8: Use public education programs and/or increased communication with the public to improve understanding of hunting regulations and the value of conserving caribou populations, and to obtain better harvest data through increased harvest reporting.

We spoke to hunters about hunting regulations and harvest reporting requirements.

ACTIVITY 9: Make a presentation at the annual Reindeer Herders Association meeting and work with the reindeer herders to minimize caribou/reindeer conflicts that may be detrimental to caribou.

We presented maps showing movements and distribution of caribou to the Reindeer Herders Association during their annual meeting in March 2009.

ACTIVITY 10: Involve students in the Onion Portage collaring project to improve public relations and support wildlife education.

Students from Elim and Koyuk High Schools participated in the Onion Portage collaring project during September 2008.

ACTIVITY 11: Analyze harvest data collected from selected communities within the range of the Western Arctic Caribou Herd.

Project 3.0 – Caribou S & I
FY09 Annual Performance Report

Community harvest data indicates the harvest of WAH caribou by people residing within the range of this herd has been ~14,000-15,000 caribou annually. It appears that overall 'local' harvest levels have been relatively stable from the late 1990s through this reporting period.

ADDITIONAL ACTIVITIES CONDUCTED BUT NOT INCLUDED IN FY09 ANNUAL WORK PLAN

ACTIVITY 12: Collect fall total body weight for calves.

We weighed 22 calves (8 males and 14 females) during the Onion Portage collaring project. Mean weight for all calves was 86 lbs (85 lbs for females and 87 lbs for males). Mean weight for calves with cows in below average, average and above average body condition was 86 lbs, 85 lbs and 90 lbs, respectively.

ACTIVITY 13: Conduct a comprehensive health assessment on 10-20 WAH caribou every 1-2 years.

A health assessment for the WAH was not conducted during 2008 because we had done so during September 2007.

Submitted by: Peter Bente, Survey and Inventory Coordinator, Region V