FEDERAL AID
FINAL PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
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CARIBOU
SURVEY AND INVENTORY

STATE: Alaska **GRANT AND SEGMENT NR.:** W-33-5

PROJECT NR.: 3.0

PERIOD: 1 July 2006 – 30 June 2007

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

Project Location: Statewide

REPORT DESCRIPTION: This performance report describes caribou survey and inventory activities. Region-wide 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.

Biennial management report prepared for the Mulchatna, Nushagak herds. Biennial report to be completed in 2007 for the Mentasta and Nelchina herds.

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

Nushagak Herd: Results of fall 2006 composition counts:

Cows (%)	**Calves** (%)	**Bulls** (%)	**Total**
233 (59.9%)	83 (21.3%)	73 (18.8%)	389

Calves/100 Cows	**Bulls/100 Cows**
35.6/100	31.3/100

Mulchatna Herd: Results of fall 2006 composition counts:

Cows (%)	**Calves** (%)	**Bulls** (%)	**Total**
2,117 (71.3%)	539 (18.1%)	315 (10.6%)	2,971

Calves/100 Cows	**Bulls/100 Cows**
25.5/100	14.9/100

Southern Alaska Peninsula Herd: Results of fall 2006 composition counts:

Cows (%)	**Calves** (%)	**Bulls** (%)	**Total**
612 (86%)	6 (1%)	95 (13%)	713

Calves/100 Cows	**Bulls/100 Cows**
1.0/100	15.5/100

Northern Alaska Peninsula Herd: Results of fall 2006 composition counts:

Cows (%)	**Calves** (%)	**Bulls** (%)	**Total**
1,236 (72%)	171 (10%)	318 (18%)	1,725

Calves/100 Cows	**Bulls/100 Cows**
13.8/100	25.7/100

Nelchina Herd: Fall composition surveys were flown during October 2006. Among the 3,380 caribou classified, the calf:cow ratio was 40:100 and the bull:cow ratio was 23:100. Of the bulls, 58% were classified as small, 30% medium and 11% large.

Mentasta Herd: Surveyed with non Federal Aid funds and results reported elsewhere.

Kenai Herds: Not surveyed due to poor weather.

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

Kenai Lowlands, Fox River, Northern Alaska Peninsula and Mentasta herds were not open to hunting during this period.

Kenai Mountain Herd: In fall 2006, 250 permits were issued (each for one caribou of either gender) and 17 caribou were harvested (10 males and 7 females).

Killey River Herd: There was one drawing hunt during fall 2006. Hunt DC608 issued 25 bull-only permits, and 6 males were harvested.

Nushagak Herd: Preliminary reported 2006–2007 harvest was zero.

Mulchatna Herd: Preliminary reported 2006–2007 harvest was 796.

Nelchina Herd: Preliminary harvest for TC566, 2006-07: 4,267 hunters took 1,814 bulls, 685 cows and four of unknown gender.

Southern Alaska Peninsula Herd: Preliminary 2006/07 harvest was 31, 29 of them males.

Project Activities by Herd

Northern Alaska Peninsula Herd

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

No population surveys were conducted in 2006-07. Photocensus of this herd was low on the Department's priority list and poor weather precluded higher priority herds from being counted and therefore time ran out before a count was conducted.

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

Radio-tracking flights were conducted during October and December 2006 and during April 2007.

ACTIVITY 3: Collect a sample of up to 20 calves to monitor trends in body condition.

No calves were collected. Priorities changed and it wasn't necessary to collect any animals. This activity will be reviewed next year.

Southern Alaska Peninsula Herd

Activity 1: Conduct an aerial post-calving photocensus of the herd to estimate population size.

Survey attempted in June 2007, but aborted due to weather.

Kenai Lowland (Unit 7) and Mountain (Unit 15A) Herd

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

Kenai Lowlands Herd: No post-calving aerial sex and age composition survey was conducted during the reporting period.

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

Kenai herds were not surveyed due to poor weather. Captures to evaluate body condition were could not be completed.

Killey River and Fox River Herds

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

Killey River Herd: A survey conducted on Oct. 28, 2006, counted 216 caribou.

Fox River Herd: No survey was conducted during the reporting period due to poor weather.

Nelchina Herd

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

No post-calving census or composition survey could be completed in June/July 2006. A

post-calving census and composition survey was completed in June 2007. Preliminary herd estimate was 34,000 with 48 calves:100 cows and 24 bulls:100 cows.

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

Caribou locations were monitored via fixed-wing flights July 2006, August 006, October 2006, December 2006, May 2007, and June 2007.

Activity 3: Capture up to 12 caribou and replace expiring radio collars.

No caribou were captured. Funding not provided to recollar animals in 2006.

ACTIVITY 4: Collect a sample of up to 20 calves to monitor trends in body condition.

No calves were collected. Priorities changed and it wasn't necessary to collect any animals.

Mulchatna Herd

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

Periodically, radio-collared caribou were flown in conjunction with preparation for photocensus or composition surveys.

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

A post-calving photocensus was conducted on July 11, 2006, and population size estimated at 45,000 caribou.

ACTIVITY 3: Collect a sample of up to 20 calves to monitor trends in body condition.

No animals were collected during this reporting period.

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.

No census was conducted this reporting period. Assisted USFWS with radio-tracking surveys to determine distribution, movements, and areas of preferred use.

Submitted by: Gino DelFrate, Region II Management Coordinator

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

Region-wide Activities

ACTIVITY 1: Prepare management reports

Prepared management reports for all herds.

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

Provided information to 15 State fish and game advisory committees and 3 Federal regional councils.

ACTIVITY 3: Monitor harvest and analyze harvest data.

Monitored harvest of 1021 caribou and analyzed harvest data.

ACTIVITY 4: Deploy and maintain radio-collars as needed on herds throughout the region to maintain an adequate sample size to conduct surveys.

Deployed 30 radio collars in various herds to maintain adequate sample of radioed animals to conduct surveys, with 2 mortalities due to collaring.

Activities by Unit [and/or herd]

Unit 12 (and adjacent Yukon, Canada) Chisana Herd

ACTIVITY 1: Determine pregnancy and parturition rates, and calf survival.

Due to budget constraints and other priorities, no surveys were conducted.

ACTIVITY 2: Conduct a fall sex and age composition count.

Due to budget constraints and other priorities, no surveys were conducted.

ACTIVITY 3: In cooperation with the Yukon Department of Renewable Resources and the National Park Service, continue developing a draft Chisana Caribou Management Plan.

Completed a draft Chisana Caribou Management Plan in RY03. This represents a 5-year (2003-2008) plan that will be updated following the completion of the 2004-2008 captive rearing project conducted by the Yukon government.

Units 12 and 20D (portions) Macomb Caribou Herd

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

Estimated population status, trends, and productivity resulting in an estimate of a stable or increasing population.

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

Conducted an aerial census resulting in a population size estimate of 569-857.

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

Conducted an aerial distribution survey and found most caribou east of the Johnson River.

Unit 20A Delta Herd

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

Conducted fall composition surveys (50 bulls:100 cows, 11large bulls:100 cows, 33 calves:100 cows, *n* = 1182).

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

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

Conducted fall composition surveys (40 bulls:100 cows, 8 large bulls:100 cows, 27 calves:100 cows, *n* = 1022).

ACTIVITY 2: Conduct a photocensus to determine herd size.

Conducted photocensus 22 June 2007; minimum count = 2985 caribou.

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.

Ray Mountain Herd: In cooperation with the Bureau of Land Management (BLM), conducted aerial surveys; counted 1022 caribou on 4/3/06, 537 on 5/3/06, 815 on 10/19/06, and 747 on 4/2/07.

Galena Mountain Herd: In cooperation with USFWS, conducted aerial surveys; counted 95 caribou on 1/6/06, 77 on 9/13/06, 74 on 3/12/07, and 96 on 6/11/07.

Wolf Mountain Herd: Conducted aerial surveys: counted 88 caribou on 5/30/06, 200 on 4/9/07, and 268 on 6/20/07.

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

ACTIVITY 1: Conduct radiotelemetry flights to monitor herd demographics.

Conducted radiotelemetry flights in May, June, July, and October to monitor herd demographics.

Activity 2: Conduct fall sex and age composition survey.

Conducted a sex and age composition survey in October (20 calves:100 cows, 36 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.

Conducted a photocensus on July 1, 2007. Photos will be counted in winter 2007-2008.

ACTIVITY 2: Conduct calving ground surveys.

Conducted calving ground surveys and estimated parturition rate for cows ≥4 years old was 88% (n = 67) and late June calf:cow ratio was 73% (n = 56).

Units 26B and 26C Central Arctic Caribou Herd

ACTIVITY 1: Conduct a photocensus to determine herd size.

A photocensus was not conducted due to weather and lack of aggregation.

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

Did not conduct fall sex and age composition surveys due to lack of funding, and distribution was determined by GPS collars monitored by an ongoing research project.

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

Estimated parturition rate for >=3 year old females at 93% (N=61) and late June calf:cow ratio at 81% (N=57).

Submitted by: Roy A. Nowlin, Management Coordinator

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

Region-wide Activities

ACTIVITY 1: Prepare a regional biennial caribou management report.

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 Game Management 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 to prepare for a photocensus in July 2006 and again during October 2006 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 conducted a fall sex and age composition count in October 2006 using a R-44 helicopter and classified 996 caribou including 691cows, 180 calves, 87 small bulls, 32 medium bulls, and 6 large bulls.

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

We conducted a caribou calving flight on May 25, 2006. We did not document any caribou with calves during this flight.

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

The Mulchatna Caribou herd was photographed in July 2006. We assisted in the photocensus by radiotracking caribou twice in the first week of July 2006.

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.)

We did not participate in caribou capture activities during this 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.

Teshekpuk Herd (Unit 26A)

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

We attempted a photocensus in July 2006 but weather conditions prevented successful completion.

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 collar data revealed that most of the herd wintered in eastern Unit 26A and Unit 26B as they did in 2005-2006. This is a change from years before 2004 when most Teshekpuk Herd (TCH) animals wintered in the Atqasuk area. Most of the TCH calved in the Teshekpuk Lake region. We used bi-weekly radiotracking data throughout June, July and August to monitor summer movements and habitat use. Satellite collar locations and very high frequency (VHF) radiotracking flights were conducted to determine wintering locations for most of the collared caribou.

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 approximately 9%, which was lower than the previous year when it was approximately 16 %.

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

The Subsistence Division and the North Slope Borough (NSB) continued to collect harvest data from North Slope villages. Results of harvest estimates and radiocollar distribution data were used to estimate that approximately 4129 caribou were harvested from the TCH during 2005-2006.

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

We discussed population objectives for the TCH with the NSB Fish and Game Management Committee, as well as at public meetings.

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 at least 6 meetings related to the TCH and spent time on the Environmental Impact Statement process related to oil development, including meetings with BLM to address the Northeast and the Northwest Planning Units of the National Petroleum Reserve-Alaska and the Alpine Satellite Development Project.

ACTIVITY 7: Capture bulls and cows to attach satellite, GPS, and conventional radiocollars. Up to 28 caribou will be captured.

Using a R-44 helicopter and hand-held net gun, we captured 25 TCH cows and 4 bulls. We attached 16 platform transmitter terminal (PTT) collars and 12 global positioning system (GPS) collars. We replaced 1 PTT collar that was nearing the end of its battery life. The PTT collars are scheduled to transmit for 2 or 3 years. We used blindfolds and hobbling equipment to restrain caribou. No drugs were used. There were 2 capture mortalities. The current number of radiocollared caribou is 68, including 25 PTT, 12 GPS, and 31 VHF transmitters. There are 7 collared males in the herd.

ACTIVITY 8: Weigh, measure and collect blood, fecal and hair samples from all captured 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 29 caribou that were captured. The blood, fecal and hair samples are being analyzed as part of a cooperative project with the NSB.

ACTIVITY 9: Conduct fall composition surveys during October.

Fall composition surveys were flown on 31 October, and 2 and 4 November 2006. We located 23 radiocollared cows and 9 of them had short yearlings (39 surviving calves: 100 cows). An additional 3281 caribou were classified in the vicinity of radiocollared caribou and we found 825 short yearlings (25 % or 34 short yearlings: 100 adults).

ACTIVITY 10: Conduct aerial surveys during April and May to assess short yearling recruitment.

Short yearling surveys were flown on 8-10 April 2007. We located 26 radiocollared cows of which 10 had short yearlings (38 surviving calves:100 cows). An additional 2357 caribou were classified in the vicinity of radiocollared caribou and we found 443 short yearlings (19 % or 23 short yearlings:100 adults). This is higher than the 10-year average of 17 short yearlings: 100 adults.

ACTIVITY 11: 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 north of Teshekpuk Lake from mid-June until late June, then they gradually moved south during July.

ACTIVITY 12: Conduct calving location and productivity aerial surveys in June.

Calving surveys were conducted on 5-14 June 2007. We located 47 adult cows. The parturition rate was 70%, 29 cows were seen with calves (62 %), and 28 of these calves survived to the end of the calving period (60 %). Of the cows that did not have calves, 13 had no antlers and no udder and 4 had soft antlers. Calves were born on all sides of Teshekpuk Lake, with most calving concentrated southeast of the lake.

ACTIVITY 13: 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.

VHF radiotracking surveys were flown and satellite collar information will be 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.

ACTIVITY 14: Involve students in the capture operations, work with students to track satellite collared caribou movements and lecture to school classes about caribou biology.

We worked with a student intern during the summer of 2007. He increased his ability to conduct radiotracking surveys, he participated in a caribou capture operation, in photocensuses, and he learned to analyze data. He also participated in subsistence harvest data collection. 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: Prepare for a photocensus of the herd to be completed in late June/early July 2007.

During June 2007 we purchased food and equipment in support of the WAH photocensus. Some of these items were transported to Eagle Creek field camp where we staged the census.

ACTIVITY 2: 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 3: Deploy approximately 35 radiocollars to maintain a year-end sample size of at least 100 operational radiocollars on living caribou.

33 radio collars (17 conventional and 16 satellite) were deployed in the WAH during September 2006. A total of 45 caribou (14 males and 31 females) were captured during the collaring effort. There were no capture mortalities during collaring.

ACTIVITY 4: Conduct aerial surveys during April and May to assess short yearling recruitment.

We classified 12952 caribou (10398 adults and 2554 calves) during spring 2007 and observed 25 calves:100 adults.

ACTIVITY 5: Conduct aerial surveys during June to monitor initial calf production and the distribution of calving areas.

We visually located 84 radiocollared female caribou and observed a ratio of 73 neonates:100 cows in June 2007.

ACTIVITY 6: Conduct aerial surveys during October to assess herd composition and retrieve radiocollars.

We classified 8212 caribou (1900 bulls, 4501 cows and 1811 calves) during October and November 2006 and observed 40 calves:100 cows and 42 bulls:100 cows.

ACTIVITY 7: Collect blood samples from approximately 90 captured caribou to monitor the incidence of selected diseases and pathogens.

We collected a blood sample from 45 caribou during September 2006. Haptoglobin levels were assessed for all caribou sampled and 4 samples (9 %) were elevated. No results for exposure to *Brucella suis* are yet available for samples collected during this reporting period.

ACTIVITY 8: 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 and statewide harvest reports were comparable to previous years.

ACTIVITY 9: 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 10: 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 2007.

ACTIVITY 11: Involve students in the Onion Portage collaring project to improve public relations and support wildlife education.

Students from Shungnak High School participated in the Onion Portage collaring project during September 2006.

ACTIVITY 12: Analyze harvest data collected from selected communities within the range of the Western Arctic Caribou Herd.

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 since the late 1990s and we do not think it changed substantially during this reporting period.

Submitted by: Peter Bente, Region V Management Coordinator