

**CARIBOU  
ANNUAL SURVEY AND INVENTORY  
PERFORMANCE REPORT**

**STATE:** Alaska

**GRANT AND SEGMENT NR:** W-33-4

**PROJECT NR:** 3.0

**PERIOD:** 1 July 2005–30 June 2006

**PROJECT LOCATION:** Regions II, III, and V

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

**REPORT DESCRIPTION:** This performance report describes Regions II, III, and V caribou survey and inventory activities. Regionwide activities are listed before specific activities by herd and game management unit.

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

**Regionwide Activities**

Activity: Prepare biennial caribou management reports.

No work was accomplished on this activity because the management report was not due this year.

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

*Northern Alaska Peninsula herd (Unit 9)*

In October 2005, 1914 caribou were classified as to age and sex in Units 9C and 9E, with ratios of 23 bulls and 7 calves per 100 cows.

*Southern Alaska Peninsula herd (Unit 9)*

In October 2005, 1040 caribou in Unit 9D were classified, with ratios of 30 bulls and 6 calves per 100 cows.

*Kenai Mountain Herd (Unit 7)*

Survey conducted 25 October 2005, counted 295 caribou.

*Nelchina Herd (Unit 13)*

Herd composition on 4 October 2005 found ratios of 36 bulls:100 cows (20%) and 41 calves:100 cows (23%).

*Unimak Herd (Unit 10, Unimak Island)*

In October 2005, 730 caribou in Unit 9D were classified, with ratios of 45 bulls and 7 calves per 100 cows.

*Mulchatna Herd (Units 9A, 9B, 9C, 17, 18, 19A and 19B)*

Results of fall 2005 composition counts:

Cows (%)	Calves (%)	Bulls (%)	Total
3948 (75.8%)	713 (13.7%)	550 (10.6%)	5211

Calves:100 Cows

18

Bulls:100 Cows

14

*Nushagak Peninsula Herd (Units 17A, 17C)*

Results of fall 2005 composition counts:

Cows (%)	Calves (%)	Bulls (%)	Total
327 (58.6%)	106 (19.0%)	125 (22.4%)	558

Calves:100 Cows

32.4

Bulls:100 Cows

38.2

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

*Northern Alaska Peninsula herd (Unit 9)*

Hunting seasons for NAP caribou were closed during the 2005–06 regulatory year.

*Southern Alaska Peninsula Herd (Unit 9)*

Preliminary results from the 2005–06 general hunt were:

Males 32      Females 1      Unknown 0      Total 33

*Kenai Lowlands Herd (Unit 15A)*

The Kenai Lowlands caribou herd was not hunted during this period.

*Kenai Mountain Herd (Unit 7)*

Of 250 permits issued (each for one caribou of either gender), 21 caribou were harvested (16 males and 5 females).

*Killey River Herd (Unit 15B)*

There was one drawing hunt for Killey River caribou during fall 2005.

Of 25 permits issued in Hunt DC 608 (each for one bull), 3 caribou were harvested.

*Fox River Herd (Unit 15B)*

The Fox River caribou herd was not hunted during this period.

*Nelchina Herd (Unit 13)*

Preliminary subsistence harvest:

2176 successful Tier II permits (additional 613 under federal hunt)  
1613 bulls, 548 cows, 15 unk sex  
(Additional 367 bulls (60%), 238 cows (39%), 8 unk sex (1%) under federal hunt)

Preliminary hunter effort (State Tier II only):

107 did not report  
545 did not hunt  
1173 hunted unsuccessfully  
2176 hunted successfully

Preliminary drawing permit hunter effort:

3 did not report  
70 did not hunt  
21 hunted unsuccessfully  
6 hunted successfully (bulls)  
1 hunted successfully (cows)  
1 hunted successfully (unk sex)

*Unimak Herd (Unit 10, Unimak Island)*

Preliminary results from the 2005–06 general hunt were:

Males 12      Females 0      Unknown 0      Total 12

*Mulchatna Herd (Units 9A, 9B, 9C, 17, 18, 19A and 19B)*

Preliminary reported 2005–06 harvest: 987 caribou



**Activities by Herd and Unit**

**Northern Alaska Peninsula Herd (Unit 9)**

Activity: Conduct an aerial postcalving photocensus to estimate population size in cooperation with the FWS.

The final count of caribou seen on this cooperative survey totaled 1200, with 4% calves.

Activity: Conduct periodic radiotracking surveys to determine distribution, movement, and areas of preferred use.

Deployed satellite collars on 64 female caribou in Units 9C and 9E. Sixteen caribou died within one month of capture. Capture mortality was confirmed or suspected in 5 deaths. High rates of natural mortality were observed throughout the year and likely contributed to the high post-capture death rate. The status and location of satellite collars are monitored weekly.

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

No calves were collected due to low calf recruitment. Fifty-four calves were radiocollared to monitor survival and to collect data on body condition. Seventy-eight percent of the calves died during the first 2 months of life. Body condition data was collected from natural mortalities. No capture-related deaths were observed.

### **Southern Alaska Peninsula Herd (Unit 9)**

Activity: Conduct an aerial postcalving photocensus of the herd to estimate population size.

No attempt was made to photocensus this herd due to the lack of marked caribou.

### **Kenai Lowland Herd (Unit 15A)**

Activity: Conduct a postcalving aerial sex and age composition survey.

No surveys were completed in 2005–06 because we did not get adequate conditions to conduct a survey.

Activity: Monitor trends in calf weights to evaluate herd body conditions.

This activity was not accomplished. We were unable to secure a helicopter for captures, and we are in the process of reevaluating capture procedures for caribou on the Kenai Peninsula. (We will likely switch to fall captures only and reconsider if we will conduct captures not associated with collar deployment.)

### **Kenai Mountain Herd (Unit 7)**

Activity: Monitor trends in calf weights to evaluate herd body conditions.

This activity was not accomplished. We were unable to secure a helicopter for captures, and we are in the process of reevaluating capture procedures for caribou on the Kenai Peninsula. (We will likely switch to fall captures only and reconsider if we will conduct captures not associated with collar deployment.)

### **Killey River Herd (Unit 15B)**

Activity: In cooperation with U.S. Fish and Wildlife Service (FWS), conduct a postcalving aerial sex and age composition survey.

No surveys were completed in 2005–06 because we did not get adequate conditions to conduct a survey.

### **Fox River Herd (Unit 15B)**

Activity 1: In cooperation with FWS, conduct a postcalving aerial sex and age composition survey.

No surveys were completed in 2005–06 because the herd is so small (less than 30 during the last count), and we did not get adequate conditions to conduct a survey.

### **Nelchina Herd (Unit 13)**

Activity: Conduct a postcalving aerial survey to determine herd size.

No herd count was done in 2006 due to poor weather conditions.

Activity: Capture up to 10 caribou and replace expiring radio collars.

Seven 11-month old caribou were captured, weighed, and collared; there were no capture-related mortalities.

One 23-month old caribou was captured, weighed, and collared; there were no capture-related mortalities.

Two old collars were replaced on adult caribou; there were no capture-related mortalities.

Productivity of radiocollared caribou in 2006 was:

92% for caribou  $\geq 5$  years of age

100% for caribou 4 years of age

100% for caribou 3 years of age

0% for caribou  $\leq 2$  years of age

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

Neonatal calf weights were not collected in 2006.

### **Mulchatna Herd (Units 9A, 9B, 9C, 17, 18, 19A and 19B)**

Activity: Monitor caribou distribution through relocation of radiocollared caribou.

Radiotracking flights were conducted throughout the year. Seasonal distribution was determined.

Activity: Conduct an aerial post-calving photocensus to estimate population size.

The post-calving photocensus was not completed because of unfavorable weather conditions and scattered caribou.

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

No animals were collected during this reporting period due to a change in priorities. Future calf collections will be incorporated in other studies.

### **Nushagak Peninsula Herd (Units 17A, 17C)**

Activity: In cooperation with FWS, conduct a census and radiotracking surveys to determine distribution, movements, and areas of preferred use.

Assisted FWS with strip-transect survey conducted March 2006 (546 caribou counted) and monthly radiotracking flights.

**Total Regional Segment Period Project Costs (in thousands): \$219.1**

**Submitted by:** Gino Del Frate, Regional Management Coordinator

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

### **Regionwide Activities**

Activity: Provide caribou management information to state and federal regulatory processes.

Provided information to the Alaska Board of Game, state Fish and Game advisory committees, federal regional advisory committees, and the Federal Subsistence Board.

Activity: Monitor harvest and analyze harvest data.

Monitored harvest of 1051 caribou and analyzed harvest data.

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

Deployed 41 radio collars in various herds to maintain adequate sample of radiocollared animals to conduct surveys. There were no mortalities due to collaring.

### **Activities by Herd and Unit**

#### **Chisana herd: Unit 12 (and adjacent Yukon, Canada)**

Activity: Determine pregnancy and parturition rates and calf survival.

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

Activity: Conduct a fall sex and age composition count.

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

Activity: 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 during FY03. (This is a 5-year [2003–2008] plan that will be updated following the completion of a 2004–2008 captive rearing project conducted by Yukon.)

#### **Macomb herd: portions of Units 12 and 20D**

Activity: Estimate status, trends, and productivity from aerial surveys.

Conducted an aerial census of the Macomb herd on 4 October 2005, resulting in 628 caribou observed, with 17 calves:100 cows and 64 bulls:100 cows.

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

Conducted an aerial census of the Macomb herd on 4 October 2005, resulting in 628 caribou observed.

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

No prehunt distribution survey was conducted due to logistical conflicts.

**Delta herd: Unit 20A**

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

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

**Fortymile herd: Units 20B, 20C, 20D, 20E, 25C (and adjacent Yukon, Canada)**

Activity: Estimate status, trends and recruitment from aerial surveys.

Conducted a fall sex and age composition survey (calf and bull:100 cow ratios were 18 and 51:100; 6% of the herd sampled).

Activity: Conduct a photocensus to determine herd size.

Conducted precensus flights to monitor herd distribution in June; however, wet and cool conditions prevented the completion of the census.

Activity: Write and distribute 1–2 issues of the *Comeback Trail*, a newsletter about the Fortymile Caribou Herd.

Were unable to produce a 2006 issue of the *Comeback Trail* newsletter due to time constraints and the moderate priority level of this task. (The 2006 newsletter will be distributed in August 2006.)

**White Mountains herd: Units 20B, 20F and 25C**

Activity: Conduct radiotelemetry flights to monitor herd demographics.

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

Activity: Conduct fall sex and age composition survey.

Conducted a sex and age composition survey in October (21 calves:100 cows, 44 bulls:100 cows).

**Porcupine herd: Units 25A, 24B, 25D, and 26C (and adjacent Yukon, Canada)**

Activity: Estimate status, trend, and productivity from aerial surveys.

Canceled planned photocensus because the herd did not form the dense aggregations needed.

Activity: Conduct calving ground surveys.

Conducted calving ground surveys on June 2, 4, 5, 8, and 25, 2006 and distributed results to cooperating agencies in Alaska and Canada.

**Central Arctic herd: Units 26B and 26C**

Activity: Conduct a photocensus to determine herd size.

A photocensus was not conducted due to weather.

Activity: Conduct fall sex and age composition survey and determine distribution.

Did not conduct fall sex and age composition surveys due to budget constraints. Distribution was determined by GPS collars monitored by an ongoing research project.

Activity: Estimate parturition rates and calf:cow ratios in June by radiotracking collared females.

Estimated parturition rate for  $\geq 3$ -year-old females at 93% (N=61) and late June calf:cow ratio at 87% (N=62).

**Total Regional Segment Period Project Costs (in thousands): 187.7**

**Submitted by:** Roy A. Nowlin, Management Coordinator



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

### **Regionwide Activities**

Activity: Prepare a regional biennial caribou management report.

No work was accomplished on this activity because the management report was not due this year.

Activity: 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 caribou information to the Alaska Board of Game, state Fish and Game advisory committees, the Federal Subsistence Board, and federal subsistence regional advisory councils.

During the November 2005 Board of Game meeting, the department provided information regarding population status of caribou in Units 18, 23, 22, and 26A. During the January 2006 and March 2006 meetings, staff provided information for agenda change request proposals related to caribou in Region V.

### **Activities by Herd or Unit**

#### **Unit 18**

Activity: Monitor herd dynamics using radio collars 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 support the caribou composition surveys in October 2005, and in late June 2006 in preparation for a photocensus in July 2006.

Activity: 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, we neither saw nor heard of this occurring during this reporting period.

Activity: Conduct fall aerial sex and age composition counts.

We conducted a fall sex and age composition count in October 2005 using an R-44 helicopter and classified 2625 caribou, including 1988 cows, 268 calves, 229 small bulls, 93 medium bulls, and 47 large bulls.

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

Weather and aircraft availability prevented staff from performing this activity.

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

We conducted several radiotracking flights to assist in the photocensus of the Mulchatna caribou herd (MCH).

Activity: Participate in radiocollar deployments and sample collections from caribou from herds that use Unit 18. (These deployments are associated with the MCH, and totals are reported in Region II AWP.)

We did not participate in caribou capture activities during this reporting period because most of the Mulchatna herd was outside Unit 18 when the captures occurred.

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

We monitored the hunt through data from harvest reports/tickets and interviewed hunters when the opportunity presented itself.

Activity: Continue to improve communication with the public.

We wrote articles for a local newspaper and discussed caribou issues with advisory committees, other agencies, and the public.

Activity: 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 office and agency biologists to address common needs related to the Mulchatna caribou herd, including population objectives.

### **Teshkepuk Herd (Unit 26A)**

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

We attempted a photocensus in July 2005, but weather conditions prevented successful completion.

Activity: 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. This is a change from years before 2004, when most Teshkepuk caribou herd (TCH) animals wintered in the Atqasuk area. Most of the TCH calved in the Teshkepuk Lake region. We used bi-weekly radiotracking data throughout June, July, and August to monitor summer movements and habitat use. Winter and spring radiotracking flights were conducted to determine wintering locations for most of the collared caribou.

Activity: 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 17%, which was lower than last year when it was approximately 25%.

Activity: Collect harvest information through the North Slope Borough (NSB) and the ADF&G Subsistence Division.

The Subsistence Division and the NSB continued to collect harvest data from North Slope villages. Results of harvest estimates and radiocollar distribution data were used to estimate that approximately 4400 caribou were harvested from the TCH during 2003–04.

Activity: 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: 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 10 meetings related to the TCH and spent time on the environmental impact statement process related to oil development, including meetings with federal Bureau of Land Management to address the Northeast and the Northwest Planning Units of the National Petroleum Reserve-Alaska and the Alpine Satellite Development Project.

Activity: Capture bulls and cows to attach satellite, GPS, and conventional radio collars. Up to 28 caribou will be captured.

Using a R-44 helicopter and hand-held net gun, we captured 24 TCH cows and 4 bulls. We attached 16 PTT collars and 12 GPS collars. We removed 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 70, including 37 PTT, 12 GPS, and 21 VHF transmitters. There are 7 collared males in the herd.

Activity: 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 30 caribou that were captured. The blood, fecal, and hair samples are being analyzed as part of a cooperative project with the NSB.

Activity: Conduct fall composition surveys during October.

Fall composition surveys were flown on 2 and 4 November 2005. We located 14 radiocollared cows, and 4 of them had short yearlings (29 surviving calves:100 cows). An additional 1700 caribou were classified in the vicinity of radiocollared caribou, and we found 309 short yearlings (18.2% or 22.2 short yearlings:100 adults).

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

Short yearling surveys were flown on 6, 7, and 11 April 2006. We located 19 radiocollared cows. Four of these had been yearlings when they were collared. Of the 15 mature cows, 5 had short yearlings (33 surviving calves:100 cows). An additional 2177 caribou were classified in the vicinity of radiocollared caribou, and we found 355 short yearlings (16.3% or 19.5 short yearlings:100 adults). This is higher than the 10-year average of 17 short yearlings:100 adults.

Activity: 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 radiotracking flights. Most TCH animals were north of Teshekpuk Lake from mid June until late June; then they gradually moved south during July due to the cool, windy weather.

Activity: Conduct calving location and productivity aerial surveys in June.

Calving surveys were conducted on 6, 7, 8, 9, 10, 11, and 13 June 2006. We located 34 adult cows; 30 of these had calves (88%), and 28 of these calves survived to the end of the calving period (82%). Of the cows that did not have calves, 3 had no antlers and no udder, and 1 had soft antlers. Calves were born on all sides of Teshekpuk Lake, with most calving concentrated southeast of the lake.

Activity: 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 and the Western Arctic herd (WAH) in hunting areas when people are hunting.

Activity: 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 2006. We trained him to conduct radiotracking surveys, he participated in a caribou capture operation, and he learned to analyze data. 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: 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: Deploy approximately 35 radio collars to maintain a year-end sample size of at least 100 operational radio collars on living caribou.

Forty-four radio collars (29 conventional and 15 satellite) were deployed in the WAH during September 2005. A total of 66 caribou (30 males and 36 females) were captured during the collaring effort. One calf was inadvertently killed during the capture operation.

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

We classified 9244 caribou (7727 adults and 1517 calves) during spring 2006 and observed 20 calves:100 adults.

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

We visually located 74 radiocollared female caribou and observed a ratio of 65 neonates:100 cows in June 2006.

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

No fall composition surveys were conducted in 2005 due to conflicts with the November 2005 Board of Game meeting in Kotzebue.

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

We collected a blood sample from 66 caribou during September 2005. Haptoglobin levels were assessed for 58 of the caribou sampled, and 10 (17%) were elevated. This is the highest percentage of caribou with elevated haptoglobins ever recorded and similar to 1998, when 16% of the caribou sampled had elevated levels. Only 2% of the caribou tested had been exposed to *Brucella suis*.

Activity: 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: 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. The Board of Game met in Kotzebue during November 2005, and many residents of Unit 23 attended some portions of the meeting.

Activity: 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 the group's annual meeting in March 2006.

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

Students from Selawik and Barrow high schools participated in the Onion Portage collaring project during September 2005.

Activity: 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 this changed substantially during the 2005–06 regulatory year. However, caribou were scarce in the central and southern Seward Peninsula during fall and winter of 2005–06, and residents of Nome, Golovin, White Mountain, Elim, Teller, Brevig Mission, and Shishmaref probably took fewer caribou than in recent years. In contrast, caribou were abundant in the upper Kobuk and Nulato Hills during this time, and residents of Ambler, Shungnak, Kobuk, Shaktoolik, Koyuk, and Unalakleet easily met their subsistence needs.

**Total Regional Segment Period Project Costs (in thousands): 240.5**

**Submitted by:** Peter Bente. Management Coordinator