

**Alaska Department of Fish and Game  
Wildlife Restoration Grant**

**GRANT NUMBER:** AKW-10 Wildlife Restoration FY2016

**PROJECT NUMBER:** 3.0

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

**PERIOD:** July 1, 2015 – June 30, 2016

**PROJECT LOCATION:** Statewide

**REPORT DESCRIPTION:** This performance report describes caribou survey and inventory activities. Activities are listed by game management unit.

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

**Regionwide:**

Activity 1: Prepare biennial caribou management reports.

Caribou management report was drafted during the last reporting period and was recently published. Staff continue to work on data collection for future reports. The department is transitioning to a 5-year report and plan. The next report will be published in 2017.

Activity 2: Provide information to state and federal regulatory processes on caribou management.

Staff routinely work with Federal biologists to coordinate information needs. In March 2015 staff prepared and presented information on the status of region II caribou populations. No regulatory changes were made.

Activity 3: Conduct fall sex and age population composition surveys to determine status, trend, productivity and mortality of caribou.

Surveys were completed for Kenai Lowland herd, and Kodiak herd. See individual unit activities below.

Activity 4: Monitor the caribou harvest through field observations, hunter harvest reports and contact with hunters.

These are standard activities accomplished in each office. See Area specific activities.

**Activities by Unit:**

**Unit 15 Kenai Lowland and Kenai Mountain Herds:**

Activity 1: A survey was conducted on 16 June 2016 for the Kenai Lowland herd. A total of 80 animals were counted consisting of 2 bulls, 16 calves, and 62 unknown adults. No significant change occurred in adult or calf numbers since the previous composition count in 2015.

A survey was conducted on 4 November 2015 for the Kenai Mountain herd. A total of 194 animals were counted. Animals were not classified by sex or age due to survey conditions. Survey numbers have increased back to levels not seen since 2011.

Activity 2: Capture up to 15 caribou and replace expiring radio collars. Captures were conducted in March 2016 for the Kenai Mountain herd. Only two animals were collared due to darting conditions and the limited amount of time and funds available with which to complete the effort. No efforts were made to collar animals in the Kenai Lowland herd.

Activity 3: Monitor the caribou harvest through field observations, hunter harvest reports and contact with hunters. There was no open hunting season for Kenai Lowlands caribou herd during the reporting period. The number of state issued permits for the Kenai Mountain Herd was reduced by 80% to 50 permits in the 2014-2015 reporting period. The number of state issued permits for the Kenai Mountain Herd was further reduced to 25 permits for this reporting period. Twenty-seven Federal permits were issued. This reduction greatly reduced the overall harvest to only 2 caribou (1 bull, 1 cow), 1 of which was taken under Federal permit.

**Unit 15 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 was conducted on 4 November 2015 for the Killey River Herd and the Fox River Herd. Count numbers were significantly higher for the Killey River Herd compared to the last survey, with 481 total animals and a composition of 53 bulls, 54, cows, 334 unknown adults, and 40 calves. The count for the Fox River Herd was very similar to the previous year's count with 85 total animals and a composition of 8 bulls, 33 cows, 39 unknown adults, and 5 calves.

Activity 2: Monitor the caribou harvest through field observations, hunter harvest reports and contact with hunters. In the previous reporting period, the number of permits issued was increased from 25 to 40. In 2015-2016, an additional 30 permits were issued for the Killey River Herd due to the increasing population trend, almost doubling the number of permits. The increased permits significantly increased the harvest to 25 bulls and 4 cows from the previous year's harvest of 11 bulls. Four animals (3 bulls, 1 cow) were taken in the Fox River Herd during the reporting period.

**Unit 8 Kodiak Herd:**

Activity 1: Conduct fall sex and age population composition surveys to determine status, trend, productivity and mortality of caribou. One structured caribou survey was conducted during this reporting period by biological staff and additional caribou counts were opportunistically conducted during law enforcement flights by the Alaska State Troopers. On May 25, 2016 over 50% of the known caribou range was surveyed yielding 289 adults and 52 calves. All of the

caribou were observed in the Halibut Bay area. We estimate the population is stable at approximately 400 animals.

Activity 2: Monitor the caribou harvest through field observations, hunter harvest reports and contact with hunters. Hunters reported harvesting 39 caribou (24 males and 15 females) during this reporting period, an increase from the 2014–15 reported harvest of 30 caribou, and an increase from the previous 5-year average of 19.6.

**Submitted by:** Cynthia M. Wardlow

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

**Region III:** (Units 12, 19, 20, 21, 24, 25, 26B and 26C)

#### **Region wide Activities:**

1. Prepare biennial caribou management reports.

*Compiled information for 9 Caribou Management Reports and Plans for Units 19, 20, 21, 24, 25, 26B, and 26C. These plans and reports are for the following herds: Macomb, White Mountains, Delta, Galena, Ray, Wolf Mountains, Hodzana Hills, Porcupine, Central Arctic, Chisana, Fortymile, Beaver Mountains, Big River–Farewell, Rainy Pass, Sunshine Mountain, and Tonzona Caribou Herds.*

2. Monitor harvest and analyze harvest data.

Macomb herd: Monitored harvest of caribou during 18-day season.

Delta Herd: *Updated composition and harvest data tables*

Hodzana, Ray Mtn, Wolf Mtn., and Galena Mtn. caribou herds: Monitored hunting seasons of varying lengths in 6 GMUs.

Beaver Mountains, Big River-Farewell, Rainy Pass, Sunshine Mountain, and Tonzona Caribou Herds: Monitored and analyzed harvest using hunter reports from general season hunts.

Central Arctic and Porcupine herds: *Harvest was monitored for the PCH and CAH throughout the year via general harvest tickets.*

3. Capture caribou to deploy radio collars and maintain an adequate sample size of collared animals for surveys.

*Delta Herd: Captures and radio-collared White Mountains caribou (1 event, 5 caribou).*

Hodzana, Ray Mtn, Wolf Mtn., and Galena Mtn. caribou herds: Radio collar retrievals (1 flight)

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Central Arctic and Porcupine herds: *CAH and PCH caribou were captured from a helicopter via netgun during the last week of June 2016. VHF and Satellite collars were deployed on yearling females, adult females, and adult bulls. Two mortalities occurred.*

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

*Regionwide:* Communicated and coordinated with and attended meetings of 15 local Fish and Game Advisory Committee, the Alaska Board of Game, 2 Federal Regional Advisory Councils, the Federal Subsistence Board, numerous local village councils, Native corporations, and the Wrangell-St. Elias Subsistence Resource Commission about caribou management and to review and analyze regulation proposals for the Alaska Board of Game and the Federal Subsistence Board.

5. Conduct aerial surveys to assess population trends, distribution, productivity, and sex and age composition.

Macomb: Radiocollared caribou were monitored via aerial surveys 5 times during FY16, and a prehunt distribution survey was conducted and the information was utilized to assess potential harvest during the motorized access portion of the Macomb caribou hunt. We also conducted a survey on 24 August to determine whether caribou were distributed in high numbers near popular motorized-vehicle access points.

*Conducted fall composition surveys for Delta and White Mountains herds.*

In cooperation with BLM and USFWS, conducted radiotracking flights in the Hodzana (1 flight), Ray Mtn (1 flight), Wolf Mtn. (2 flights), and Galena Mtn. (3 flights) caribou herds.

Beaver Mountains, Big River-Farewell, Rainy Pass, Sunshine Mountain, and Tonzona Caribou Herds: Aerial surveys were not conducted due to weather.

Central Arctic and Porcupine herds: *Conducted parturition and postcalving surveys on PCH and CAH in early and late June 2016, winter radiotracking on CAH and PCH in March and April 2016, and monitored mortality of radiocollared caribou. Retrieved caribou collars from dead caribou.*

6. Conduct photocensus of herds to determine population size.

An aerial census of the Macomb caribou herd was conducted during 1 June 2016.

*Delta & White Mtns herds: Did not complete due to poor weather and herd conditions.*

Central Arctic and Porcupine herds: *caribou were radiotracked in July 2015 to determine photocensus conditions. Caribou herds were too mixed to conduct photocensus.*

7. Conduct radiotelemetry flights to monitor distribution of herds, assess mortality, assess parturition rates and calf:cow ratios, and/or determine calving locations.

*Delta & White Mtns herds: Conducted fixed-wing surveys on roughly monthly basis, except winter months.*

**Prepared by:** Doreen Parker-McNeil, Region III Management Coordinator

### The Status of Alaska Caribou and Factors Influencing Their Populations in Region IV

#### Regionwide:

ACTIVITY 1: Prepare biennial caribou management reports.

The biennial caribou management reports were not due during this reporting period.

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

	<b>Bulls (%)</b>	<b>Cows (%)</b>	<b>Calves (%)</b>	<b>Calves/ 100 Cows</b>	<b>Bulls/ 100 Cows</b>
<i>Mulchatna</i>	21	61	18	29	35
<i>Nelchina</i>	20	55	25	45	36
<i>Northern Alaska Peninsula</i>	23	60	17	29	38
<i>Nushagak Peninsula</i>	31	47	22	46	65
<i>Southern AK Peninsula</i>	No survey	(weather)			
<i>Unimak</i>	No survey	(weather)			

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

	Hunters	Bulls	Cows	Unknown	Total Harvest
<i>Mulchatna</i>	652	159	73	2	234
<i>Nelchina</i>	7,374	2,568	1,560	6	4,134
<i>Northern Alaska Peninsula</i>	0	0	0	0	0
<i>Nushagak Peninsula</i>	0	0	0	0	0
<i>Southern Alaska Peninsula</i>	0	11	1	0	12
<i>Unimak</i>	0	0	0	0	0

The state hunting seasons for the Northern Alaska Peninsula, Nushigak Peninsula, and Unimak caribou herds were not open during this reporting period.

#### Project Activities by Herd:

##### 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.

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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.

Photo-census counts have been only marginally successful since 2008 due to a combination of poor weather conditions and lack of post calving aggregations. Modified photo census' were conducted in early July 2014, and late June 2015, 2016 using the Rivest Method to provide an estimate of caribou numbers. The July 2, 2014 census yielded a population estimate of 26,275 (SE=2832; 95% CI=20,724-31,826) caribou. The June 25, 2015 estimate was 30,736 (SE=3804; 95% CI=23,281-38,190) caribou. The analysis for the June 29, 2016 estimate has not yet been completed.

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

A total of 24 radio-collars were deployed on Mulchatna caribou during April 2016.

**Nelchina Herd:**

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

A total of 47,800 caribou were counted during the post-calving photograph survey. During the post-calving composition survey a total of 5,923 caribou were observed: 654 (11%) bulls, 3,393 (57%) cows, and 1,876 calves (32%).

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

Caribou locations were monitored via fixed-wing flights conducted throughout the year and using satellite collars.

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

In October 2015, 15 caribou calves (4-month old) were captured, weighed, measured, and fitted with radio collars.

**Northern Alaska Peninsula Herd:**

ACTIVITY 1: Conduct parturition survey to estimate pregnancy rates.

A parturition survey conducted in May estimated a 76% pregnancy rate for cows that were 2 years of age or older (n = 167).

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ACTIVITY 2: Conduct an aerial post-calving photocensus to estimate population size in cooperation with the USFWS.

No photocensus was conducted in 2015-16 due to a lack of post-calving aggregations.

**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.

Radio-tracking flights conducted by state and federal staff throughout this fiscal year to note distribution and movements.

**Southern Alaska Peninsula Herd:**

ACTIVITY 1: Conduct parturition survey to estimate pregnancy rates.

A parturition survey conducted in June estimated 89% pregnancy rate for cows that were 2 years of age or older (n = 499).

ACTIVITY 2: Conduct an aerial post-calving photocensus of the herd to estimate population size and a sex and age composition survey.

No photocensus was conducted in 2015-16 due to a lack of post-calving aggregations.

**Unimak Herd:**

ACTIVITY 1: Conduct parturition survey to estimate pregnancy rates.

A parturition survey conducted in June estimated a 91% pregnancy rate for cows that were 2 years of age or older (n = 89).

ACTIVITY 2: Conduct an aerial post-calving photocensus of the herd to estimate population size and a sex and age composition survey.

No photocensus was conducted in 2015-16 due to a lack of post-calving aggregations.

**Submitted by:** Todd A. Rinaldi, Region IV Management Coordinator

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

**Region wide Activities:**

Prepare regional biennial caribou management reports.

A caribou management report was prepared during this reporting period.

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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 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**

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 radio telemetry flights in October 2015 as well as in March, April, and June 2016.

Monitor caribou movements north of the Yukon River.

No flights were made to monitor caribou north of the Yukon during this reporting period.

Conduct fall aerial sex and age composition counts.

We conducted radio telemetry flights in October 2015 to assist the Unit 17 staff in composition flights of the Mulchatna caribou herd (MCH). The results from the composition work will be reported in the MCH section.

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

No recruitment work was completed on this activity during this reporting period due to sparse distribution of caribou and difficult logistics.

Participate in photocensuses of caribou herds that use Unit 18.

We flew three days during July 2016 (census project initiated before end of reporting period) to assist with the photocensus of the MCH. The results from the photocensus will be reported in the MCH report.

Participate in radio collar deployments and sample collections from caribou from herds that use Unit 18. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation "Animal Welfare Policy" and its wildlife capture and restraint manual.)

Mulchatna caribou were collared in Unit 17 during this reporting period. The results from those deployments are listed in the MCH section.

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. Hunting by registration permit RC503 was initiated in RY13 and reported harvest of the MCH (by permit) in RY 15 was 113 caribou in Unit 18.

Continue to improve communication with the public.

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

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

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We discussed issues with other area and regional offices and agency biologists to address common needs related to the MCH, including population objectives.

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

Conduct a photo census to estimate population size of the herd on a projected schedule: a minimum of 3 photo censuses every 5 years.

We conducted a photocensus on July 6, 2015. The minimum count was 35,181; the abundance estimate based on Rivest et al 1998 was 41,542; we have obtained three estimates in the past 5 years.

Monitor distribution, movements, and dispersal using satellite collar data, radiotelemetry data and aerial survey observations.

We prepared distribution maps throughout the year to monitor movements of satellite collared bulls and cows. Satellite collars and VHF radiotracking data revealed that a large proportion of the herd wintered in northwestern Unit 26A, with a smaller proportion wintering in the central Brooks Range. After 4 years of calving in new areas relative to the 1990-2009 period, calving was primarily concentrated in areas near Teshkepuk Lake in this and the last reporting period.

Monitor mortality (causes and rates) through field observations of collared individuals and investigation of large-scale die-off events.

Adult female mortality was 9%; lower than the long term average of 15%, and among the lowest rate observed in the past 15 years. We have not yet summarized causes of mortality for those mortality sites that were visited.

Develop updated population objectives and recommended regulations in cooperation with the public and other agencies.

We discussed population objectives in advisory committee meetings, but did not develop alternative objectives. We discussed alternative harvest strategies, given the likelihood that herd decline could reduce harvestable surplus in the near future.

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

We continue to work cooperatively with BLM, oil companies, and consultants to address management and mitigation concerns.

Capture bulls and cows to attach satellite, GPS, and conventional radio collars. Attempt to maintain a minimum sample of 70 known-aged females. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation "Animal Welfare Policy" and its wildlife capture and restraint manual.)

Using an R-44 helicopter and hand-held net gun, we captured 35 TCH cows and 7 bulls. We attached no VHF collars, 7 PTT collars and 35 GPS collars. We replaced 14 collars (VHF, PTT 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 was one capture mortality.

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.

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We did not collect blood, fecal or hair samples, part of a transition toward using swabs and direct genetic identification of disease, rather than serology. We did collect morphometric measurements from the caribou that were captured, and weights from 8 captured yearlings, which weight 112 lbs, on average.

Conduct sex and age composition surveys during mid-summer and/or October.

We were unable to conduct fall composition surveys due to poor weather.

Conduct aerial surveys during April and May to assess short yearling recruitment and range-wide distribution.

Short yearling surveys were flown on 5-6 April 2016. Data are still being analyzed, however summary data indicate that calf:adult ratios were the highest they have been in the last 15 years (29:100). Spatial distribution of this survey effort was biased toward caribou in the mountains due to poor weather on the coastal plain.

Conduct calving location and productivity aerial surveys in June.

Calving surveys were conducted on 4-7 June 2016. We located 33 adult cows. The parturition rate was 84%. The parturition rate of cows 3 years and older was higher than the long-term average of 67% (2001-2015), and substantially higher than the extreme low of 28% observed in 2014. Calving was concentrated farther north than normal, possibly reflecting the very early snowmelt this year.

Use satellite collar information to assess relative abundance of caribou from differing herds in hunt areas in order to better estimate herd-specific harvest rates.

The lack of recent community harvest data limits our ability to evaluate overall harvest patterns, or spatial relationships that allow prediction of harvest by herd.

**Western Arctic Herd** (Units 22, 23, 24, and 26A):

Conduct a photo census to estimate herd size on a projected schedule of once every two years (2015, 2017, etc.). Censuses may be conducted more frequently if necessary.

A WAH photocensus was attempted in 2015, but was unsuccessful for a variety of reasons, including photography equipment incapable of dealing caribou in deep shadows, as well as smoke from forest fires which prevented radiotracking, and presumably precluded caribou from aggregating sufficiently. We were able to conduct a photocensus on July 1, 2016, straddling the reporting period. The minimum count was 194,863, and the Rinvest-based abundance estimate was 200,928.

Monitor distribution and movements using radiotelemetry data and aerial survey observations.

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

Deploy a sufficient number of radio collars to maintain a year-end sample size of at least 100 operational radio collars on living caribou. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation "Animal Welfare Policy" and its wildlife capture and restraint manual.)

48 satellite radio collars (38 GPS and 10 PTT) were deployed in the WAH during September 2015; 10 collars were deployed on bulls and 38 on cows. An additional 30 coded VHF collars were deployed on calves. There were no capture mortalities during

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this activity. The year-end sample of collars was over 100 on adult caribou.  
Conduct aerial surveys during April and May to assess short yearling recruitment.

We classified 13,197 caribou during spring 2016 and observed 23 short yearlings:100 adults. The spring calf:adult ratio during the 2016 survey was the highest recorded since 2007, and the second highest recorded since 1997

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 85 neonates:100 cows in June 2016.

Conduct helicopter surveys on a scheduled basis during October to assess fall composition and retrieve radio collars. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation “Animal Welfare Policy” and its wildlife capture and restraint manual.)

Fall composition surveys were not attempted in 2015.

Collect blood samples from approximately 50–100 captured caribou (annually) to monitor the incidence of selected diseases and pathogens. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation “Animal Welfare Policy” and its wildlife capture and restraint manual.)

We did not collect blood samples in 2015. Previously, blood collections and serology have been analyzed to assess haptoglobin levels, which indicate inflammation, and to evaluate exposure to *Brucella suis* bacteria. However, in 2010 and 2011 tests used to indicate exposure to brucellosis produced too many questionable results to indicate the prevalence of this disease in the WAH. In addition to these difficulties, the increased length of time required in the field to preserve serum samples and changes in staffing led us to eliminate blood collection from the methods this year.

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

Caribou mandibles were collected from hunters during the reporting period. Caribou were generally available to most communities in Units 22, 23 and 26A during this reporting period, and subsistence and recreational harvest levels were within the range reported for previous years. Some communities, notably Anaktuvuk Pass and Noatak, struggled to meet their needs.

Collect caribou jaws to monitor the age structure for the herd, and assess herd health through morphometric indices of jaw growth. Jaw samples will be collected from harvested caribou as well as natural mortalities.

We collected over 100 WAH mandibles during this reporting period. These jaws have not been processed to date.

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.

Department staff participated in state advisory committee federal advisory committee

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meetings within Game Management Units 22, 23, 24 and 26A summarizing the population status of the WAH during this reporting period. One significant RAC meeting was missed (NWARAC), however multiple additional federal meetings resulted from a series of federal wildlife special actions proposing to close unit 23 to non-federally qualified hunters, and then to reopen it.

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 meeting in November 2015.

Involve students in the Onion Portage collaring project to improve public relations and support wildlife education. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation "Animal Welfare Policy" and its wildlife capture and restraint manual.)

Students from the Noorvik High School (8) participated in the Onion Portage collaring project during September 2015.

Collect and analyze harvest data from selected communities within the range of the Western Arctic Caribou Herd through the Community-based Harvest Assessments program in cooperation with the ADF&G Division of Subsistence, Alaska Native organizations and other resource agencies.

We updated models for estimating harvest levels by communities within the range of the WAH, incorporating community harvest assessment data collected since the original models were created almost 15 years ago. These models indicate that the harvest of WAH caribou by people residing within the range of the herd has been 9,000-15,000 caribou annually. It appears that harvest levels by people who live within the range of this herd have been relatively stable from the late 1990s through this reporting period, despite a more than 50% reduction in herd size and unpredictable fall movement patterns. This is a testament to the critical importance of caribou to subsistence users throughout northwest Alaska.

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

We presented overviews regarding the population status of this herd to the WACH Working Group, the Unit 23 User Conflict Working Group, and several subsistence advisory panels associated with development (e.g. Red Dog Mine, and BLM's NPR-A panels).

Participate with resource management agencies and the Western Arctic Caribou Herd Working Group to maintain a Cooperative Management Plan for the herd.

The Cooperative Management Plan was not modified during this period.

Participate with State interests, resource management agencies, and the Western Arctic Caribou Herd Working Group to evaluate and recommend critical habitat designations for the herd.

Kernel analyses delineating seasonal ranges and line density depictions of WAH movement areas were updated to include data collected during calving.

**Submitted by:** Tony Gorn, Region V Management Coordinator